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{ REPORT  
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**NATIONAL DEFENSE AUTHORIZATION  
ACT FOR FISCAL YEAR 2018**

**R E P O R T**

[TO ACCOMPANY S. 1519]

ON

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2018 FOR  
MILITARY ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR  
MILITARY CONSTRUCTION, AND FOR DEFENSE ACTIVITIES OF  
THE DEPARTMENT OF ENERGY, TO PRESCRIBE MILITARY PER-  
SONNEL STRENGTHS FOR SUCH FISCAL YEAR, AND FOR OTHER  
PURPOSES

TOGETHER WITH

ADDITIONAL VIEWS

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COMMITTEE ON ARMED SERVICES  
UNITED STATES SENATE



JULY 10, 2017.—Ordered to be printed

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U.S. GOVERNMENT PUBLISHING OFFICE

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## Calendar No. 165

115TH CONGRESS }  
*1st Session* }

SENATE

{ REPORT  
115-125

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TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 2018 FOR MILITARY ACTIVITIES OF THE DEPARTMENT OF DEFENSE, FOR MILITARY CONSTRUCTION, AND FOR DEFENSE ACTIVITIES OF THE DEPARTMENT OF ENERGY, TO PRESCRIBE MILITARY PERSONNEL STRENGTHS FOR SUCH FISCAL YEAR, AND FOR OTHER PURPOSES

---

JULY 10, 2017.—Ordered to be printed

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Mr. MCCAIN, from the Committee on Armed Services,  
submitted the following

### R E P O R T

together with

### ADDITIONAL VIEWS

[To accompany S. 1519]

The Committee on Armed Services reports favorably an original bill (S. 1519) to authorize appropriations for fiscal year 2018 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe military personnel strengths for such fiscal year, and for other purposes, and recommends that the bill do pass.

### PURPOSE OF THE BILL

This bill would:

- (1) authorize appropriations for (a) procurement, (b) research, development, test and evaluation, (c) operation and maintenance and the revolving and management funds of the Department of Defense for fiscal year 2018;
- (2) authorize the personnel end strengths for each military active duty component of the Armed Forces for fiscal year 2018;

(3) authorize the personnel end strengths for the Selected Reserve of each of the reserve components of the Armed Forces for fiscal year 2018;

(4) impose certain reporting requirements;

(5) impose certain limitations with regard to specific procurement and research, development, test and evaluation actions and manpower strengths; provide certain additional legislative authority, and make certain changes to existing law;

(6) authorize appropriations for military construction programs of the Department of Defense for fiscal year 2018; and

(7) authorize appropriations for national security programs of the Department of Energy for fiscal year 2018.

### COMMITTEE OVERVIEW

One of Congress' most important constitutional responsibilities is providing for the common defense. To fulfill this fundamental duty, Congress has for the last 55 consecutive years passed the National Defense Authorization Act (NDAA), which authorizes funding and provides authorities for the U.S. military.

The Senate Armed Services Committee takes seriously its obligation to our men and women in uniform and their families, as well as the civilians and contractors who support our Armed Forces. Their service represents the best of our country, and this committee and the Congress honor their sacrifice.

The committee markup of the National Defense Authorization Act for Fiscal Year 2018 contributes to a total of \$640 billion for national defense, which exceeds the President's budget request and the spending cap of the Budget Control Act (BCA). The committee believes this authorization is necessary to help the U.S. military restore readiness, rebuild capacity, and modernize the force for future challenges. The committee markup also builds on the important work of previous legislation to ensure our military is prepared to fulfill the missions of today and rise to the challenges of tomorrow.

The committee markup:

- Authorizes critical funding for the Department of Defense (DOD) to rebuild a ready and capable force by increasing maritime capacity, procuring combat aircraft and munitions, and reducing the shortfall in end strength.
- Ensures the long-term viability of the All-Volunteer Force by improving the quality of life of the men and women of the total force (Active Duty, National Guard, and Reserves), their families, and DOD civilian personnel through fair pay and policies as well as continued reform of the military health system.
- Continues a comprehensive overhaul of the acquisition system to ensure that our men and women in uniform have the equipment they need to succeed and drives innovation by allocating funds for advanced technology development and next-generation capabilities to ensure America's military dominance.
- Advances our ability to protect our allies, partners, and friends.
- Enhances the capability of the U.S. Armed Forces and the security forces of allied and partner nations to defeat ISIS, al Qaeda, and other violent extremist organizations.

- Improves the ability of the U.S. Armed Forces to counter threats in the information domain, including space, cyber, and electronic warfare.
- Reduces the threats from nuclear weapons and materials by strengthening nonproliferation programs, modernizing our nuclear deterrent, and ensuring the safety, security, and reliability of our nuclear stockpile, delivery systems, and infrastructure.
- Terminates troubled or redundant programs and activities, identifies efficiencies, and reduces unnecessary defense expenditures to make the best use of taxpayer dollars.
- Promotes aggressive and thorough oversight of the Department's programs and activities to ensure compliance with relevant laws and regulations and proper stewardship of taxpayer dollars.

#### **SUMMARY OF DISCRETIONARY AUTHORIZATIONS AND BUDGET AUTHORITY IMPLICATION**

The administration's budget request for national defense discretionary programs within the jurisdiction of the Senate Committee on Armed Services for fiscal year 2018 was \$659.8 billion. Of this amount, \$574.7 billion was requested for base Department of Defense (DOD) programs, \$20.5 billion was requested for national security programs in the Department of Energy (DOE) and the Defense Nuclear Facilities Safety Board (DNFSB), and \$64.6 billion was requested for Overseas Contingency Operations (OCO).

The committee recommends an overall discretionary authorization of \$692.1 billion in fiscal year 2018, including \$610.9 billion for base DOD programs, \$21.0 billion for national security programs in the DOE and the DNFSB, and \$60.2 billion for OCO.

The two tables preceding the detailed program adjustments in Division D of this bill summarize the direct discretionary authorizations in the committee recommendation and the equivalent budget authority levels for fiscal year 2018 defense programs. The first table summarizes the committee's recommended discretionary authorizations by appropriation account for fiscal year 2018 and compares these amounts to the request.

The second table summarizes the total budget authority implication for national defense by including national defense funding for items that are not in the jurisdiction of the defense committees or are already authorized.

#### **BUDGETARY EFFECTS OF THIS ACT (SEC. 4)**

The committee recommends a provision that would require that the budgetary effects of this Act be determined in accordance with the procedures established in the Statutory Pay-As-You-Go Act of 2010 (title I of Public Law 111-139).





## **DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS**

### **TITLE I—PROCUREMENT**

#### **Subtitle A—Authorization of Appropriations**

##### **Authorization of appropriations (sec. 101)**

The committee recommends a provision that would authorize the appropriations for procurement activities at the levels identified in section 4101 of division D of this Act.

#### **Subtitle B—Army Programs**

##### **Transfer of excess High Mobility Multipurpose Wheeled Vehicles to foreign countries (sec. 111)**

The committee recommends a provision that would require that High Mobility Multipurpose Wheeled Vehicles (HMMWV) designated for transfer as Excess Defense Articles (EDA) must be modernized and refurbished to like-new conditions by U.S. workers prior to transfer, so as not to create conditions that distort current and future costs to the U.S. Government.

The committee is aware of the existing requirement of section 2321j(b)(1)(E) of title 22, United States Code, that the transfer of EDAs to U.S. allies and partner nations will not harm the U.S. industrial base. The committee is concerned that the current state of practice for proposed EDA transfers of HMMWVs does not comply with the title 22, United States Code, requirement and threatens the long-term viability and affordability of the Army fleet of wheeled vehicles, specifically Light Tactical Wheeled Vehicles.

According to the Army's "Tactical Wheeled Vehicle Strategy," the HMMWV will remain the Army's primary light tactical wheeled vehicle for the foreseeable future. Even after the planned procurement of the Joint Light Tactical Vehicle, the HMMWV is projected to comprise nearly two-thirds of the light tactical wheeled vehicle fleet until at least 2050. To carry out planned sustainment and modernization of the HMMWV fleet over this period, the Army relies upon the original equipment manufacturer and commercial supply chain and Army Organic Industrial Base (AOIB) facilities, including Red River Army Depot, Texas and Rock Island Arsenal, Illinois.

U.S. Government procurement accounts for less than one-quarter of current HMMWV production. As such, per unit costs to the Army for the repair, refurbishment, modernization, and new production of HMMWVs depend directly upon vehicle sales to foreign entities. These foreign sales drive demand signals for the commercial supply chain across 43 states, help meet core workload require-

ments for the AOIB, and are essential for the Army to retain a capable and affordable HMMWV fleet in the future.

The committee strongly supports the transfer of excess HMMWVs to meet the operational needs of U.S. allies and partners and recognizes the potential for circumstances requiring exceptional urgency. Accordingly, the provision would include authority for the Secretary of Defense to waive the requirements of this section if doing so is in the national security interests of the United States, provided that such a waiver is received at least 30 days in advance of any planned transfer and complies with the requirements of section 060403 of volume 3, chapter 6, of the Department of Defense Financial Management Regulation.

**Limitation on availability of funds for Army Air-Land Mobile Tactical Communications and Data Network, including Warfighter Information Network-Tactical (WIN-T) (sec. 112)**

The committee recommends a provision that would require the Secretary of the Army to report to Congress how the Army intends to implement the recommendations of the Director of Cost Assessment and Program Evaluation (CAPE) for the Army's Air-Land Mobile Tactical Communications and Data Network to include the Warfighter Information Network-Tactical (WIN-T) program. In accordance with section 237 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) CAPE conducted a comprehensive assessment of WIN-T to determine the technological feasibility, achievability, suitability, and survivability of a tactical communications and data network. This report is to be submitted with the budget request for Fiscal Year 2019. The provision would also prohibit the Secretary of the Army from obligating any funds available in Other Procurement, Army for the WIN-T, Increment 2 (Inc 2) program subject to the submission of the Army's report.

The committee is aware that the Army's WIN-T is intended to be the foundation to the Army's tactical network modernization strategy and a critical component of the suite of tactical mission command systems being fielded now. The Army assesses this program as essential to warfighter communications capabilities and will continue to deliver incremental increases in command and control superiority over time. WIN-T is to introduce a mobile, self-forming/self-healing network using satellite and terrestrial on-the-move capabilities and high-bandwidth radio systems to keep mobile forces connected, communicating, and synchronized. It has had two increments. WIN-T Increment 1 (Inc 1) provides networking "at the halt." WIN-T Inc 2 is intended to provide the Army with on-the-move networking capability. The WIN-T Inc 2 network retains capabilities delivered by WIN-T Inc 1. WIN-T Inc 2 employs satellite communications while on-the-move to extend the network in maneuver brigade down to the company level for the first time. The program is in full rate production. Total WIN-T procurement costs to date are over \$5.0 billion. The current program is intended to spend an additional \$9.0 billion. The total procurement cost is estimated to be over \$14.0 billion. However, total sunk and projected

costs for the entire network, as estimated by the CAPE study, are in excess of \$66.0 billion.

The committee has observed many problems with the network in general and WIN-T in particular. This is especially so in regard to Inc 2. Many problems have occurred in integrating the “upper tactical network” with the “lower tactical network.” These problems disrupt connectivity between brigade combat teams and battalions with companies. Integrating WIN-T hardware with armored vehicles has yet to be conclusively determined. It is unclear if the Army has fully defined the requirements for tactical close combat forces at company level. The committee understands that the Army is reassessing its total requirement and determining a new course of action in light of the above noted problems.

The committee is concerned about the continued suitability, effectiveness, security, and survivability of Army Air-Land Mobile Tactical Communications and Data Network and WIN-T given demonstrated threat capabilities of peer adversaries in electronic warfare attack, electronic reconnaissance, and massed fire strikes.

The committee continues to encourage the Army to repair identified problems and to more carefully redefine its requirements for the network and WIN-T program. The committee further encourages the Army to leverage its new acquisition authorities to seek non-developmental technologies to repair and improve the network. This effort is key given investments to date.

### **Subtitle C—Navy Programs**

#### **Multiyear procurement authority for Virginia class submarine program (sec. 121)**

The committee recommends a provision that would authorize the Secretary of the Navy to procure up to 13 *Virginia*-class submarines under one or more multiyear contracts subject to section 2306b of title 10, United States Code. The Secretary would also be authorized to enter into one or more contracts for advance procurement associated with such vessels and equipment beginning in fiscal year 2018. These authorities would be subject to the availability of appropriations or funds.

The committee notes this would be the fourth multiyear contract for the *Virginia*-class program. The Navy estimates that the previous three multiyear procurement contracts (fiscal years 2003–2008, 2009–2013, and 2014–2018) achieved savings of greater than 10 percent, as compared to annual procurements. For the fourth contract for fiscal years 2019–2023, the Navy is estimating savings of 14 percent, or in excess of \$5.0 billion, for the multiyear procurement of 10 ships as compared to annual procurement contracts.

The committee believes that should additional funds become available for *Virginia*-class submarines, above what is planned in the fiscal year 2018 future years defense program, the Navy should obtain the benefits and savings of this authority for up to 13 submarines.

#### **Arleigh Burke class destroyers (sec. 122)**

The committee recommends a provision that would authorize the Secretary of the Navy to procure up to 15 *Arleigh Burke*-class

Flight III guided missile destroyers under one or more multiyear contracts subject to section 2306b of title 10, United States Code, beginning no earlier than the fourth quarter of fiscal year 2018. This authority would be subject to the availability of appropriations or funds. The committee also recommends modifying the authority to procure an additional *Arleigh Burke*-class destroyer provided in section 125(a)(1) of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92).

The committee notes this would be the fourth multiyear contract for the *Arleigh Burke*-class program. The Navy estimates that each of the previous three multiyear procurement contracts (fiscal years 1998–2001, 2002–2005, and 2013–2017) achieved savings of greater than \$1.0 billion, as compared to annual procurements. For the fourth contract for fiscal years 2018–2022, the Navy is estimating savings of 9.3 percent, or in excess of \$1.8 billion, for the multiyear procurement of 10 ships as compared to annual procurement contracts.

The committee believes that should additional funds become available for *Arleigh Burke*-class Flight III guided missile destroyers, above what is planned in the fiscal year 2018 future years defense program, the Navy should obtain the benefits and savings of this authority for up to 15 ships.

In authorizing procurement of an additional *Arleigh Burke*-class destroyer in section 125(a)(1) of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), the committee’s intent was and continues to be use of a fixed-price contract with a fair and reasonable cost as determined by the Navy service acquisition executive, which is consistent with the contracts for *Arleigh Burke*-class destroyers awarded in fiscal years 2011–2017 and planned for fiscal year 2018.

#### **Multiyear procurement authority for V–22 joint aircraft program (sec. 123)**

The committee recommends a provision that would provide the Department of Defense authority to enter into multiyear procurement for the V–22 aircraft for up to five years.

#### **Design and construction of amphibious ship replacement designated LX(R) or amphibious transport dock designated LPD–30 (sec. 124)**

The committee recommends a provision that would authorize the Secretary of the Navy to enter into and incrementally fund a contract for design and construction of the amphibious ship replacement designated LX(R) or the amphibious transport dock designated LPD–30.

The committee notes that the Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps support the LX(R) as a derivative of the *San Antonio*-class (LPD–17) hull form. The committee further notes the latest “Navy Force Structure Assessment,” which was published in December 2016, increased the requirement for amphibious ships from 34 to 38.

**Modification of cost limitation baseline for CVN-78 class aircraft carrier program (sec. 125)**

The committee recommends a provision that would establish a \$12.0 billion cost limitation for procurement of aircraft carriers after CVN-79.

The committee notes the contract award and delivery dates of CVN-80 are approximately 3 years after those of CVN-79 and the ship authorizations are 5 years apart. The committee also notes the Secretary of the Navy certified to the congressional defense committees on April 22, 2016, that CVN-80 will repeat the design of CVN-79.

The committee understands the budget request's CVN-80 cost estimate assumed between 2.0 and 2.5 percent in annual economic inflation from CVN-79 to CVN-80. The committee also understands the Navy's aircraft carrier program office is estimating a 9 percent reduction in production man hours from CVN-79 to CVN-80.

The committee views the increase of \$1.6 billion in the procurement cost from CVN-79 (\$11.4 billion) to CVN-80 (\$13.0 billion) as unjustified. The committee believes \$12.0 billion is an achievable procurement end cost for CVN-80, based on 5 years between ship authorizations, inflation, man hour reductions, and other factors.

The committee further believes the Navy should aggressively challenge economic inflation assumptions to drive down costs in each cost category. The committee notes the plans and ordnance cost elements for CVN-80 are less than CVN-79 after accounting for inflation. In contrast, the other cost, basic construction, change orders, and propulsion equipment cost elements are estimated to increase 14.4 percent, 19.8 percent, 27.1 percent, and 30.8 percent from CVN-79 to CVN-80, respectively.

The committee also believes the cost growth between CVN-79 and CVN-80, which the Navy largely attributes to inflation, should be at least partially offset by savings through "design for affordability" initiatives, *Ford*-class learning curve, CVN-80 repeating the design of CVN-79, man hour reductions, and increased competition.

**Extension of limitation on use of sole-source shipbuilding contracts for certain vessels (sec. 126)**

The committee recommends a provision that would extend to include fiscal year 2018 the prohibition on funds from being used to enter into, or prepare to enter into, sole source contracts for one or more Joint High Speed Vessels (JHSV) or Expeditionary Fast Transports (EPF), unless the Secretary of the Navy submits to the congressional defense committees a certification and a report.

The committee notes that since 2011 the Navy requirement for EPFs has been 10 ships, which was most recently validated in December 2016. In 2013, this requirement was met with the procurement of the tenth EPF, and the Navy planned to shut down the production line.

Without an authorization or request in the President's budget request, the Department of Defense Appropriations Act for Fiscal Year 2015 (Public Law 113-235) included procurement of an eleventh EPF at a cost of \$200.0 million. Again, without an authoriza-

tion or request in the President's budget, a twelfth EPF was added at a cost of \$225.0 million into the Department of Defense Appropriations Act for Fiscal Year 2016 (Public Law 114–113). Both of these EPFs were awarded to a single shipbuilder, with no competition, using a sole source contract.

### **Subtitle D—Air Force Programs**

#### **Inventory requirement for Air Force fighter aircraft (sec. 131)**

The committee recommends a provision that would amend section 8062 of title 10, United States Code, by adding a new subsection requiring the Secretary of the Air Force to maintain a minimum total active inventory of 1,970 fighter aircraft, within which the Secretary would also have to maintain a minimum of 1,145 fighter aircraft as primary mission aircraft inventory (combat-coded).

The provision would also provide additional limitations on fighter retirements by requiring the Secretary of the Air Force to certify to the congressional defense committees that:

- (1) The retirement of such fighter aircraft will not increase the operational risk of meeting the National Defense Strategy; and
- (2) The retirement of such aircraft will not reduce the total fighter force structure below 1,970 fighter aircraft or primary mission aircraft inventory below 1,145 and would require a report setting forth the following:
  - (a) The rationale for the retirement of existing fighter aircraft and an operational analysis of replacement fighter aircraft that demonstrates performance of the designated mission at an equal or greater level of effectiveness as the retiring aircraft;
  - (b) An assessment of the implications for the Air Force, the Air National Guard, and the Air Force Reserve of the force mix ratio of fighter aircraft; and
  - (c) Such other matters relating to the retirement of fighter aircraft as the Secretary considers appropriate.

Lastly, the provision would also require a notification at least 90 days prior to the date on which a fighter aircraft is retired that includes the following:

- (1) A list of each fighter aircraft proposed for retirement, including for each such aircraft:
  - (a) The mission design series type;
  - (b) The variant; and
  - (c) The assigned unit and military installation where such aircraft is based, and how such unit and installation is affected.
- (2) For each military installation and unit affected by the proposed retirement, changes, if any, to the designed operational capability (DOC) statement of the unit as a result of a proposed retirement.
- (3) Any anticipated changes in manpower authorizations as a result of a proposed retirement listed under (2) above.

The provision would also provide for exceptions to the reporting requirements for individual fighter aircraft if the Secretary determines, on a case-by-case basis, they are nonoperational because of mishaps, other damage, or being uneconomical to repair.

The committee understands the Air Force previously determined through extensive analysis that a force structure of 1,200 primary mission aircraft and 2,000 total aircraft is required to execute the National Defense Strategy with increased operational risk. On March 29, 2017, in response to a question on the Air Force's actual total fighter aircraft requirement, Lieutenant General Jerry Harris, Deputy Chief of Staff for Strategic Plans, Programs, and Requirements, testified, ". . . we think the 1,900 number is a bare minimum at the floor. We think it's probably closer to 2,100, a little above that for our fighter aircraft." At the same hearing, in response to a question on retiring the F-15C fleet, General Harris testified, "It is something that we're looking at as we continue to bring in more fifth-gen capability, what assets do we push out at the bottom of that chain."

The Air Force currently fields 55 fighter squadrons in fiscal year 2017 and as of May 1, 2017, possesses 1,970 total fighter aircraft inventory and 1,145 primary mission aircraft inventory, otherwise known as "combat-coded" fighter aircraft. The committee is concerned that retiring entire fleets such as the F-15C and the A-10C, without acquiring sufficient replacement aircraft, will drive the fighter aircraft inventory further below the level the Air Force states is required.

The committee believes further reductions in fighter force capacity below the levels that would be required by this provision would: (1) pose excessive risk to the Air Force's ability to execute the National Defense Strategy; (2) cause remaining fighter squadrons to deploy more frequently; and (3) drive readiness rates lower across the combat air forces. In light of ongoing operations in Iraq and Syria against the Islamic State of Iraq and Syria and in Afghanistan, and the increasing military capabilities of China, Russia, North Korea, and Iran, such reductions would be ill-advised.

#### **Comptroller General review of total force integration initiatives for reserve component rescue squadrons (Sec. 132)**

The committee recommends a provision that would direct the Comptroller General of the United States to review the Air Force's plan for fielding HH-60 helicopter replacement programs, and provide a briefing on such review, no later than March 1, 2018, to the congressional defense committees.

#### **Subtitle E—Defense-Wide, Joint, and Multiservice Matters**

#### **F-35 economic order quantity contracting authority (sec. 141)**

The committee recommends a provision that would grant the Department of Defense authority to enter into economic order quantity contracts for the F-35 Joint Strike Fighter.

The committee remains highly supportive of the F-35 Joint Strike Fighter program and of efforts to procure increasing numbers of aircraft at the lowest possible price. However, the program

is still in its System Design and Demonstration (SDD) phase and at least two years until it reaches Milestone C, typically the point at which the full rate production decision is made.

The committee recognizes economic order quantity contracts can produce cost savings. However, the committee believes the Department should provide analysis similar to what is required by a multiyear procurement authority, particularly considering the significant level of funding expected to be expended under this authority.

**Authority for Explosive Ordnance Disposal units to acquire new or emerging technologies and capabilities (sec. 142)**

The committee recommends a provision that would permit the Secretary of Defense to provide Explosive Ordnance Disposal (EOD) units with the authority to acquire new or emerging EOD technologies and capabilities not listed in the Table of Allowance or Table of Equipment.

**Budget Items**

**ARMY**

**AH-64 Apache Block IIIA Remanufacture**

The budget request included \$935.9 million in line number 6 of Aircraft Procurement, Army (APA), for AH-64 Apache Block IIIA Remanufacture. The committee recommends an increase \$39.0 million in AH-64 Apache Block IIIA Remanufacture. This is on the Army unfunded priority list.

**AH-64 Apache Block IIIB New Build**

The budget request included \$446.0 million in line number 8 of Aircraft Procurement, Army (APA), for AH-64 Apache Block IIIB New Build. The committee recommends an increase of \$273.7 million in AH-64 Apache Block IIIB New Build. This is on the Army unfunded priority list.

**Common Missile Warning System (CMWS)**

The budget request included \$166.6 million in line number 33 of Aircraft Procurement, Army (APA), for Common Missile Warning System (CMWS). The committee recommends an increase \$25.0 million in APA for CMWS. This is on the Army unfunded priority list.

**Common Infrared Countermeasure (CIRCM)**

The budget request included \$49.8 million in line number 34 of Aircraft Procurement, Army (APA), for Common Infrared Countermeasure (CIRCM). The committee recommends an increase \$25.0 million in APA for CIRCM. This is on the Army unfunded priority list.

**Indirect Fire Protection Capability**

The budget request included \$57.7 million in line number 3 of Missile Procurement, Army, for Indirect Fire Protection Capability Inc 2-1. The committee notes that there is prior year funds avail-



able that are in excess of program needs. The committee recommends a decrease of \$19.0 million.

#### **Joint Air-to-Ground Missile**

The budget request included \$178.4 million in line number 6 of Missile Procurement, Army, for Joint Air-to-Ground MsIs (JAGM). The committee notes that there are available funds due to a delay in production decision. The committee recommends a decrease of \$45.0 million.

#### **Bradley program**

The budget request included \$200.0 million in line number 1 of Procurement of Weapons and Tracked Combat Vehicles, (WTCV) Army, for Bradley program. The committee notes an Army unfunded requirement. The committee recommends an increase of \$111.0 million in line item number G80718, specifically for the recapitalization of 1 infantry Battalion Set of M2A4 Bradley Fighting Vehicles.

#### **Abrams Upgrade Program**

The budget request included \$275.0 million in line 15 of Procurement of Wheeled and Tracked Combat Vehicles, Army (WTCV), for the Abrams Upgrade Program. The committee recommends an increase of \$561.0 million in the Abrams Upgrade Program. This recapitalization of 29 Abrams tanks into M1A2SEPV3, Trophy Active Protection Systems, and production base support is on the Army unfunded priority list.

#### **Multi-Role Anti-Armor Anti-Personnel Weapon System**

The budget request included \$6.5 million in line item 19 of Procurement of Wheeled and Tracked Combat Vehicles, Army (WTCV), for Multi-Role Anti-Armor Anti-Personnel Weapon System. The committee recommends an increase of \$20.0 million for Multi-Role Anti-Armor Anti-Personnel Weapon System. This is on the Army unfunded priority list.

#### **High Mobility Multi-purpose Wheeled Vehicle (HMMWV)**

The budget request included \$53.0 million in line number 3 of Other Procurement, Army (OPA), for High Mobility Multi-purpose Wheeled Vehicle (HMMWV). The committee recommends an increase of \$15.0 million in OPA for HMMWV. This is on the Army unfunded priority list.

#### **Warfighter Information Network-Tactical**

The budget request included \$420.5 million in line number 19 of Other Procurement, Army (OPA), for Warfighter Information Network-Tactical (WIN-T). The committee notes an early to need requirement in the budget for fiscal year 2018. The committee is also aware that the WIN-T program is significantly challenged by dated requirements, vulnerabilities to electronic warfare, and cyber attacks and reliability issues. The committee recommends a decrease of \$420.5 million in OPA for WIN-T.

### **Distributed Common Ground System-Army (Military Intelligence Program)**

The budget request included \$314.3 million in line item 68 of Other Procurement, Army (OPA), for Distributed Common Ground System-Army (DCGS-A). The committee notes the program has changing tactical requirements for fiscal year 2018. The committee recommends a decrease of \$150.0 million in OPA for DCGS-A.

### **Night Vision Test Equipment**

The budget request included \$166.5 million in Other Procurement, Army (OPA), line number 84, for night vision devices.

The committee urges all services to consider the use of next generation digital night vision test sets with a high-resolution video camera to support mission critical night vision devices. The committee understands that the United States Air Force readily adopted the new digital test sets while continuing to assess the added benefits of the integrated high-resolution camera solution. When combined together, the test set and camera greatly improve test accuracy while eliminating the inherent subjectivity of the legacy test systems. The committee further understands that U.S. Special Operations Command is the first military organization to field the integrated high-resolution camera into the digital test set. The committee encourages the services to procure next generation digital night vision test devices with a high-resolution camera.

Therefore, the committee recommends an increase of \$2.5 million (in conjunction with other budget increases elsewhere in this Act) in OPA, line number 84, for a total of \$231.5 million for the procurement of 50 new night vision testing devices.

### **Data Processing equipment**

The budget request included \$92.0 million in line number 108 of Other Procurement Army, (OPA), for automated data processing equipment. The committee notes that the Army is moving towards adoption of more commercial information technology (IT) solutions, including commercial cloud and networking capabilities, and consolidating more IT purchases with other DOD elements and Services. The committee directs the Army to accelerate these efforts, and therefore recommends a reduction of \$15.0 million for this effort.

### **Warfighter Information Network Tactical (WIN-T) Increment 2 Spares**

The budget request included \$38.3 million in line number 184 of Other Procurement, Army (OPA), for Warfighter Information Network Tactical (WIN-T) Increment 2 Spares. The committee notes an early to need requirement in the budget for fiscal year 2018. The committee recommends a decrease of \$23.9 million in line item number BS9741 of OPA, for WIN-T Increment 2 Spares.

### **Army Unfunded Requirements List**

The budget request included \$18.4 billion for Procurement for the Army.

The committee notes that the Army submitted an extensive Unfunded Requirements List totaling \$12.7 billion. The committee be-

believes that since the passage of the Budget Control Act in 2011, budget requests have been guided by artificial constraints rather than the realities of the global strategic environment. This reality has continued for the fiscal year 2018 budget request, which too relies on an arbitrary number determined six years ago in the Budget Control Act. Such constraints on the budget, along with a sustained high operational tempo, have led to a significant degradation in our military readiness in the near term, and the threat that we will fall behind our adversaries in the long-term. For the last several years military leaders have highlighted these problems in great detail.

In order to address the degraded state of our military and to stop the erosion of U.S. military advantage, the committee believes that the budget should be based on requirements, rather than arbitrary budget caps. The committee recommends an increase of \$6.4 billion to Procurement for the Army for items identified in the Army's Unfunded Requirements List. Some increases include missiles, helicopters, vehicles and equipment to support growth in the Army. Greater details of each increase can be found in the tables in Division D.

## NAVY

### **V-22**

The budget request included \$677.4 million in line number 10 of Aviation Procurement, Navy (APN) for V-22 (Medium Lift).

The committee recommends a decrease of \$10.0 million in line number 10 of APN.

### **Carrier replacement program**

The budget request included \$4.4 billion in line item 2 of Shipbuilding and Conversion, Navy (SCN), for the carrier replacement program.

The committee understands the Comptroller General has identified \$330.3 million in excess CVN-80 inflation costs. The committee also notes Navy officials have indicated an amended fiscal year 2018 budget request will be submitted to reduce the CVN-80 procurement end cost by \$325.0 million. The committee believes further cost reductions are achievable through "design for affordability" initiatives, *Ford*-class learning curve, man hour reductions, and increased competition.

Therefore, the committee recommends a decrease of \$300.0 million for this program.

### **Virginia-class submarine advance procurement**

The budget request included \$1.9 billion in line item 5 of Shipbuilding and Conversion, Navy (SCN), for *Virginia*-class submarine advance procurement.

The committee notes that \$750.0 million in additional economic order quantity funding for the Block V *Virginia*-class submarines that begin procurement in fiscal year 2019 would enable greater cost savings across the program.

The committee recommends an additional \$450.0 million for the Secretary of the Navy to use for (1) procurement of a third *Vir-*

*ginia*-class submarine in fiscal year 2020; or (2) to expand second and third tier contractors in the submarine industrial base to support planned increased production requirements, which may include economic order quantity procurement for existing programs.

If the Secretary pursues option (2), the Secretary shall notify the congressional defense committees within 30 days of obligating funds for such purpose of the: obligation date, contractor name or names, location, description of the shortfall to be addressed, actions to be undertaken, desired end state, usable end items to be procured, period of performance, dollar amount, projected associated savings including business case analysis if applicable, contract name, and contract number.

The committee believes that utilizing economic order quantity procurement, procuring an additional submarine, and expanding the capabilities of the supplier base should lead to greater cost savings and improved efficiency as production increases to meet the *Columbia*-class schedule and higher requirement for attack submarines in the Navy's latest Force Structure Assessment.

The committee also notes *Virginia*-class submarines will benefit from savings associated with missile tube continuous production and economic order quantity authorities. Accordingly, the committee recommends a decrease of \$27.0 million due to the associated savings.

Therefore, the committee recommends a net increase of \$1.2 billion.

### **DDG-1000**

The budget request included \$224.0 million in line item 8 of Shipbuilding and Conversion, Navy (SCN), for the DDG-1000 program. Following a Nunn-McCurdy cost breach in 2010, the committee understands the Navy was directed to fund the DDG-1000 program to the higher cost estimate for fiscal years 2011 through 2015 provided by the Director of the Office of Cost Assessment and Program Evaluation, and to the Navy's cost estimate for fiscal year 2016 and beyond.

While recognizing this cost estimating adjustment increased procurement costs, the committee is concerned by continued significant cost growth in this program across the fiscal year 2016 to 2020 period. In the fiscal year 2016, 2017, and 2018 budget requests, the Navy estimated \$572.9 million, \$914.3 million, and \$1.1 billion, respectively, remaining in procurement costs across the three-ship program. The committee notes the program unit cost has risen above \$6.4 billion and urges the Secretary of the Navy to take further measures to regain cost control.

Therefore, the committee recommends a decrease of \$50.0 million for this program.

### **Arleigh Burke-class destroyers**

The budget request included \$3.5 billion in line item 9 of Shipbuilding and Conversion, Navy (SCN), for *Arleigh Burke*-class destroyers (DDG-51).

The committee notes that the fiscal year 2016 budget request included funding for two Flight IIA DDG-51 ships and a Flight III engineering change proposal (ECP) to be applied to one of these

two ships. The National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) and Department of Defense Appropriations Act for Fiscal Year 2016 (Public Law 114–113) supported the budget request.

The committee further notes that the Navy funded the two requested fiscal year 2016 Flight IIA DDG–51 ships on March 29, 2016. However, the committee is unaware of a plan to award the fiscal year 2016 Flight III ECP.

The committee therefore recommends a decrease of \$225.0 million for this program, because the fiscal year 2016 Flight III ECP funds can be applied to fiscal year 2018 *Arleigh Burke*-class destroyer requirements.

The committee also recommends an increase of \$1.8 billion for one additional Flight III *Arleigh Burke*-class destroyer.

Accordingly, the committee recommends a net increase of \$1.6 billion.

#### **Arleigh Burke-class destroyer advance procurement**

The budget request included \$90.3 million in line item 10 of Shipbuilding and Conversion, Navy (SCN), for *Arleigh Burke*-class destroyer advance procurement.

The committee believes that utilizing economic order quantity procurement across the proposed fiscal year 2018 to 2022 multiyear procurement contract should lead to greater cost savings and improved efficiency.

Therefore, the committee recommends an increase of \$300.0 million.

#### **Littoral Combat Ship**

The budget request included \$636.1 million in line item 11 of Shipbuilding and Conversion, Navy (SCN), for procurement of one Littoral Combat Ship.

The committee notes unjustified unit cost growth in the other cost (\$37.0 million) and other electronics (\$3.0 million) categories.

Therefore, the committee recommends a decrease of \$40.0 million for this program.

#### **Amphibious ship replacement LX(R) or amphibious transport dock designated LPD–30**

The budget request included no funding in line items 12 or 13 for procurement or advance procurement associated with the amphibious ship replacement LX(R) or amphibious transport dock designated LPD–30.

The committee notes that the Secretary of the Navy, the Chief of Naval Operations, and the Commandant of the Marine Corps support the LX(R) as a derivative of the *San Antonio*-class (LPD–17) hull form. The committee further notes the latest Navy Force Structure Assessment, which was published in December 2016, increased the requirement for amphibious ships from 34 to 38.

Therefore, the committee recommends an increase of \$1.0 billion for construction of either an amphibious ship replacement LX(R) or the amphibious transport dock designated LPD–30.

### **Outfitting**

The budget request included \$548.7 million in line item 24 of Shipbuilding and Conversion, Navy (SCN), for outfitting.

Based on planned delivery dates, the committee notes post-delivery funding is early to need for SSN-791, LCS-15, LCS-17, LCS-19, LCS-20, LHA-7, and EPF-11.

Therefore, the committee recommends a decrease of \$38.2 million.

### **Ship to Shore Connector**

The budget request included \$212.6 million in line item 25 of Shipbuilding and Conversion, Navy (SCN), for procurement of 3 Ship to Shore Connectors.

The committee notes unjustified unit cost growth in this program.

Accordingly, the committee recommends a decrease of \$15.0 million.

### **Expeditionary Sea Base**

The budget request included no funding in line item 14 of Shipbuilding and Conversion, Navy (SCN), for Expeditionary Sea Bases.

The committee recommends an increase of \$661.0 million for one additional Expeditionary Sea Base.

### **Cable ship**

The budget request included no funding in line item 32 of Shipbuilding and Conversion, Navy (SCN), for a cable ship.

The committee recommends an increase of \$250.0 million for procurement of one cable ship and directs the Secretary of the Navy to utilize an existing United States or foreign design, with modifications he deems necessary, to maximize affordability and expedite delivery.

### **Hybrid Electric Drive**

The budget request included \$6.3 million in line item 4 of Other Procurement, Navy (OPN), for Hybrid Electric Drive.

The committee had insufficient budget justification to support this request. Specifically, the P-3a budget exhibit was omitted, which details ship modifications.

Therefore, the committee recommends a decrease of \$6.3 million for this program.

### **LCS support equipment**

The budget request included \$48.0 million in line item 17 of Other Procurement, Navy (OPN), for Littoral Combat Ship (LCS) support equipment.

The committee notes this request includes procurement of two MT-30 engines, one *Freedom* variant main propulsion diesel engine (MPDE), and one *Independence* variant MPDE to serve as battle spares.

The committee further notes the Navy has previously procured three MT-30s, two *Freedom* variant MPDEs, and two *Independence* variant MPDEs in this line item. The committee also notes the P-5a and P-21 budget exhibits were omitted, which detail procure-

ment history and production schedules, and requests these exhibits be restored in the fiscal year 2019 budget request.

Therefore, the committee recommends a decrease of \$42.6 million for this program due to procurement early to need.

#### **LCS mine countermeasures mission modules**

The budget request included \$55.9 million in line item 37 of Other Procurement, Navy (OPN), for Littoral Combat Ship (LCS) mine countermeasures (MCM) mission modules.

The committee notes this request included procurement of two Airborne Mine Neutralization Systems (AMNS). The committee further notes that the initial operational capability of the MCM mission module is planned for fiscal year 2021 and believes at least one AMNS is early to need.

Therefore, the committee recommends a decrease of \$5.1 million for this program.

#### **Navy Enterprise Resource Planning (ERP)**

The budget request included \$4.2 million in Other Procurement, Navy (OPN), BLI 8106 for Navy Enterprise Resource Planning (ERP) in Command Support Equipment. The committee is concerned about duplication among the military services in enterprise resource systems. The committee recommends a decrease of \$4.2 million in BLI 8106.

#### **Navy eProcurement System (Navy ePS)**

The budget request included \$3.7 million in Other Procurement, Navy (OPN), BLI 8106 for the Navy eProcurement System in Command Support Equipment. The committee is concerned about duplication among the military services in contract writing systems. The committee recommends a decrease of \$3.7 million in BLI 8106.

#### **Classified project**

The budget request included \$23.7 million in line item 162 of Other Procurement, Navy (OPN), for classified programs.

The committee recommends an increase of \$1.0 billion for project 0428.

#### **Navy Unfunded Requirements List**

The budget request included \$49.5 billion for Procurement for the Department of the Navy.

The committee notes that the Navy and the Marine Corps submitted extensive Unfunded Requirements Lists totaling \$8.5 billion. The committee believes that since the passage of the Budget Control Act in 2011, budget requests have been guided by artificial constraints rather than the realities of the global strategic environment. This reality has continued for the fiscal year 2018 budget request, which too relies on an arbitrary number determined six years ago in the Budget Control Act. Such constraints on the budget, along with a sustained high operational tempo, have led to a significant degradation in our military readiness in the near term, and the threat that we will fall behind our adversaries in the long-term. For the last several years military leaders have highlighted these problems in great detail.

In order to address the degraded state of our military and to stop the erosion of U.S. military advantage, the committee believes that the budget should be based on requirements, rather than arbitrary budget caps. The committee recommends an increase of \$6.0 billion to Procurement for the Department of the Navy for items identified in the Navy and the Marine Corps' Unfunded Requirements Lists. Some increases include ten F/A-18 Super Hornets, four F-35Bs and six F-35Cs, and munitions. Greater details of each increase can be found in the tables in Division D.

## **AIR FORCE**

### **Acquisition of Air Force light attack/observation aircraft fleet**

The budget request included no funds in Aircraft Procurement, Air Force (APAF) for the acquisition of a fleet of light attack/observation aircraft.

The committee believes while sustaining the A-10C fleet for close air support, the Air Force should procure a fleet of 300 low-cost, light-attack/observation aircraft that would require minimal work to develop. These aircraft could conduct counter-terrorism operations, perform close air support and other missions in permissive environments, and help season fighter pilots to mitigate the Air Force's growing and critical fighter pilot shortfall. The aircraft could also provide an affordable path to a light attack capability for allies, partners, and friends with limited financial resources. The Air Force could procure the first 200 of these aircraft by fiscal year 2022.

The committee is concerned that continued reliance on the A-10, B-1, B-52, F-16, and F-15E fleets to conduct armed reconnaissance and close air support (CAS) missions in Afghanistan, Iraq, Syria, and other regions significantly reduces airframe lifespans due to utilization rates that are much higher than planned and programmed. Additionally, these operations will continue to reduce aircrew training focused on their primary designated operational capability tasked missions in high-end contested and degraded operations against near-peer potential adversaries.

Therefore, the committee recommends an increase of \$1.2 billion in APAF, line number to be determined, for a total of \$1.2 billion, for acquisition of a light attack/observation aircraft fleet. This effort will be informed by the Air Force's Light Attack Capabilities Experimentation Campaign conducted in fiscal year 2017 to evaluate capabilities for armed reconnaissance, strike control and reconnaissance, combat search and rescue, CAS, and other combat missions.

### **B-1B Squadrons**

The budget request included \$155.6 million in line number 19 of Aircraft Procurement, Air Force (APAF).

The committee notes that \$34.0 million of that funding was included for F-101 Engine Service Life Extension Program. The committee notes that \$34.0 million was appropriated in fiscal year 2017 for the same purposes and the fiscal year 2018 request is thus excess to need.



Therefore, the committee recommends a decrease of \$34.0 million in line number 19 of APAF.

### **C-130 propulsion upgrades**

The budget request included \$66.3 million in line number 47 of Aircraft Procurement, Air Force (APAF).

The committee recommends an increase of \$26.8 million in line number 47 of APAF.

### **Budget request realignment**

The Air Force requested that the committee make several realignments in their budget to correct various errors in their submission of the Aircraft Procurement, Air Force (APAF). The table below reflects these adjustments:

#### **CHANGES TO CORRECT SUBMISSION ERRORS**

[in millions]

Item	Account	Line Item	Amount	Quantity
C-130J .....	APAF	88	— \$102.1	— 3
C-130J .....	APAF	4	+\$102.1	+3
C-130J .....	APAF	37	— \$10.7	
C-130J Mods .....	APAF	48	+\$10.7	
Compass Call Mods .....	APAF	51	— \$108.173	
Compass Call .....	APAF	17A	+\$108.173	

### **Air Force Unfunded Requirements List**

The budget request included \$24.7 billion for Procurement for the Air Force.

The committee notes that the Air Force submitted an extensive Unfunded Requirements List totaling \$10.7 billion. The committee believes that since the passage of the Budget Control Act in 2011, budget requests have been guided by artificial constraints rather than the realities of the global strategic environment. This reality has continued for the fiscal year 2018 budget request, which too relies on an arbitrary number determined six years ago in the Budget Control Act. Such constraints on the budget, along with a sustained high operational tempo, have led to a significant degradation in our military readiness in the near term, and the threat that we will fall behind our adversaries in the long-term. For the last several years military leaders have highlighted these problems in great detail.

In order to address the degraded state of our military and to stop the erosion of U.S. military advantage, the committee believes that the budget should be based on requirements, rather than arbitrary budget caps. The committee recommends an increase of \$4.6 billion to Procurement for the Air Force for items identified in the Air Force's Unfunded Requirements List. Some increases include 14 F-35As, 2 KC-46s, and additional missiles. Greater details of each increase can be found in the tables in Division D.

### **Defense Wide**

#### **Iron Dome, David's Sling, and Arrow Upper Tier Israeli cooperative missile defense programs**

The budget request included \$42.0 million in Procurement, Defense-wide, PE 208866C, for Israeli Missile Defense Cooperative Programs in support of the Missile Defense Agency. The committee recommends an increase of \$290.0 million in PE 208866C, for a total of \$332.0 million to continue procurement of Israel's multi-tiered missile defense systems. The additional funding shall be apportioned as follows: \$50.0 million for the Iron Dome Defense System (LIN MD83); \$120.0 million for the David's Sling Weapon's System (LIN MD 34); and \$120.0 million for the Arrow Upper Tier (LIN MD20). Additional measures pertaining to this provision are contained in title 16 of this Act.

#### **Silent Knight Terrain Following Terrain Avoidance Radar**

The budget request included \$159.0 million for Procurement, Defense-wide (PDW), Rotary Wing Upgrades and Sustainment, line 49, of which \$44.1 million is for Silent Knight Terrain Following Terrain Avoidance Radar.

The committee notes that during multi-ship interoperability flight testing, U.S. Special Operations Command identified close range formation radar performance issues that will require software modifications. Accordingly, the committee recommends a decrease of \$7.5 million from PDW, Rotary Wing Upgrades and Sustainment, Line 49, for a total of \$36.6 million, and a corresponding increase of \$7.5 million to Research, Development, Test and Evaluation, Defense-wide, Aviation Systems (PE1160403BB), for a total of \$7.5 million, to address suitability and effectiveness issues associated with multi-ship formation interoperability of the Silent Knight Terrain Following Terrain Avoidance Radar program.

#### **Degraded Visual Environment**

The budget request included \$159.0 million for Procurement, Defense-wide (PDW), Rotary Wing Upgrades and Sustainment, line 49, of which \$26.7 million is for the Degraded Visual Environment (DVE) program.

The committee understands that collaboration between U.S. Special Operations Command (SOCOM) and the Department of the Army on the development and fielding of DVE capabilities has resulted in efficiencies. As a result, SOCOM has requested the transfer of \$6.0 million from PDW, Rotary Wing Upgrades and Sustainment to RDT&E (PE1160403BB) Aviation Systems, Line 251, to complete Special Operations Force-unique integration and qualification efforts for additional sensor technologies. Accordingly, the committee recommends a decrease of \$6.0 million to PDW, Rotary Wing Upgrades and Sustainment, Line 49, for a total of \$20.7 million, and a corresponding increase of \$6.0 million to Research, Development, Test and Evaluation, Defense-wide, Aviation Systems (PE1160403BB), for a total of \$6.0 million.

### **Shallow Water Combat Submersible**

The budget request includes \$92.6 million for Procurement, Defense-wide (PDW), Underwater Systems, line 62, of which \$38.8 million is for the Shallow Water Combat Submersible (SWCS).

The committee understands that as a result of an intentional late fiscal year 2017 award to integrate design changes found during development testing, the proposed SWCS buy for fiscal year 2018 has been reduced by one vessel. As a result, U.S. Special Operations Command (SOCOM) has requested the transfer of \$12.8 million from PDW, Underwater Systems, line 62, to Research, Development, Test and Evaluation, Defense-wide, Maritime Systems (PE1160483BB) address developmental challenges with the Dry Combat Submersible (DCS) program. Accordingly, the committee recommends a decrease of \$12.8 million to PDW, Underwater Systems, line 62, for a total of \$26.0 million, and a corresponding increase of \$12.8 million to Research, Development, Test and Evaluation, Defense-wide, Maritime Systems (PE1160483BB), for a total of \$34.3 million, for DCS capability enhancements.

### **Defense-Wide Unfunded Requirements List**

The budget request included \$4.9 billion for Procurement for Defense-Wide.

The committee notes that the Defense-Wide agencies submitted an extensive Unfunded Requirements List totaling \$753.0 million. The committee believes that since the passage of the Budget Control Act in 2011, budget requests have been guided by artificial constraints rather than the realities of the global strategic environment. This reality has continued for the fiscal year 2018 budget request, which too relies on an arbitrary number determined six years ago in the Budget Control Act. Such constraints on the budget, along with a sustained high operational tempo, have led to a significant degradation in our military readiness in the near term, and the threat that we will fall behind our adversaries in the long-term. For the last several years military leaders have highlighted these problems in great detail.

In order to address the degraded state of our military and to stop the erosion of U.S. military advantage, the committee believes that the budget should be based on requirements, rather than arbitrary budget caps. The committee recommends an increase of \$347.5 million to Procurement for Defense-Wide for items identified in the Defense Wide Unfunded Requirements List. Increases include 24 additional THAAD interceptors. Greater details of each increase can be found in the tables in Division D.

### **Items of Special Interest**

#### **Air Force Low Density/High Demand assets**

“Low Density/High Demand” or “LD/HD” assets are defined as “force elements consisting of major platforms, weapons systems, units, and/or personnel that possess unique mission capabilities and are in continual high demand to support worldwide joint military operations”. Air Force LD/HD assets are required by Combatant Commanders around the globe during contingency operations as well as critical to their war plans and include both the Joint

Surveillance Target Attack Radar System (JSTARS) and Airborne Early Warning and Control (AWACS). Currently, the Air Force does not possess enough of these aircraft to meet wartime requirements due to low numbers driving higher required mission capability rates and a high operations tempo due to the constant demand in support of contingency operations around the globe. The committee is concerned that any reduction in these assets before a follow on system is in production puts our national security at high risk and will immediately create gaps in capability. Therefore, the committee recommends that the Secretary of the Air Force ensure replacement assets be in production before retirement of any LD/HD assets.

#### **Aircrew Restraint**

The Committee is aware of aircraft mishaps where helicopter crewmembers have experienced injuries due to the type of restraints in use. The fiscal year 2017 NDAA directed the Secretary of Defense, in partnership with a federally funded research and development center, to study technologies designed to prevent and mitigate helicopter injuries to crewmembers and to improve survivability among individuals involved in such crashes. The Committee is aware of tested, off-the-shelf technology (MARS—Mobile Aircrew Restraint System) currently in use by the U.S. Air Force and planned for use by the U.S. Navy, that meets the goals of the fiscal year 2017 NDAA and provides dramatic reductions in injury probability as compared to the existing tether and gunner’s belt solution. The U.S. Air Force has issued an Air Worthiness Release (AWR) for this device in HH-60 aircraft and while the Committee acknowledges that the Army has taken preliminary steps to publish its own AWR for fielding this technology in UH-60 aircraft, the two platforms are almost identical.

The committee recommends the Army use the tests and approvals of the MARS system from the U.S. Air Force for the UH-60 aircraft and accelerate the issuance of Safe for Flight instructions.

#### **Amphibious assault ship acceleration**

The committee is concerned with the Navy procurement profile for large deck amphibious assault ships, which includes a span of seven years until the next large deck amphibious assault ship (LHA-9) is procured in 2024.

The committee notes efficiencies could be gained by reducing this span and thereby enabling a steadier workforce with an increased learning curve, material and equipment suppliers on more reliable and fixed delivery contracts and a more effective continuous improvement schedule.

Therefore, the committee urges the Secretary of the Navy to accelerate procurement of LHA-9 to not later than 2021.

#### **Apache and Black Hawk Drive Train and Transmission Weapon System Components Rapid Deployment**

The Committee recognizes that the Army has stated that their top aviation priority is the development of a turbine engine, drive train, and transmission, which increases power output and reduces fuel consumption of the engines fitted to Black Hawk and Apache

helicopters. Section 806 of the fiscal year 2017 National Defense Authorization Act provides new funding and acquisition flexibility to experiment with, prototype, and rapidly deploy weapon system components and other technologies in order to outpace rapidly changing technologies and threats. In selecting prototype projects under Section 2447c, of title 10, the Committee urges the Assistant Secretary of the Army for Acquisition Logistics and Technology (ALT), Army Program Executive Officer (PEO) Aviation, and relevant Section 2447b oversight boards, to consult with the domestic drive train and transmission industry concerning innovative drive train and transmission component technologies which address one or more of the elements in subsection (c)(1) of section 2447b as applicable to the two rotorcraft systems.

### **Arctic Search and Rescue**

The committee is aware that growing international interest in the Arctic has led to increasing commercial and security activity in the High North. With this steady surge in demand, the committee remains concerned by the limited capabilities of the United States to conduct search and rescue operations throughout the Arctic region. The committee notes that the Department of Defense's Report to Congress on Strategy to Protect United States National Security Interests in the Arctic Region, a report required by this committee in Section 1068 of the National Defense Authorization Act for Fiscal Year 2016 (P.L. 114–92), identified the need for additional personnel recovery capability in this region. Specifically, the report calls for “forward deployed/based assets in a sustainable location and/or rapidly deployable air drop response/sustainment packages suitable to remote land, cold water, or ice pack operating environments.”

The committee understands that the Alaska National Guard currently possesses two air-dropped, palletized Arctic Sustainment Packages (ASPs) to enable the survival of fifty individuals for three or more days in extreme Arctic conditions. The ASP is rapidly deployable over varied terrain, and allows personnel to survive and operate in the High North. In light of emerging commercial and security requirements in the region, the committee believes that additional ASPs are needed to meet personnel recovery requirements, and urges the Secretary of Defense to prioritize their resourcing.

### **Army Force Structure—Retaining a Full BCT**

Since 2012, the U.S. Army had charted a course to reduce the Active component from 570,000 to 450,000 service members. In 2015, as a part of the reduction in end-strength, the Army recommended that the 4th Brigade Combat Team (Airborne), 25th Infantry Division (4/25 IBCT ABN) be converted to an airborne infantry battalion task force.

The committee is aware that soon following his visit to Alaska, General Mark Milley, Chief of Staff of the U.S. Army, the U.S. Army announced on March 21, 2016, its intentions to “delay the reduction of an Alaska based combat unit [the 4th Brigade Combat Team (Airborne), 25th Infantry Division or 4/25], determining that such a move would continue to degrade its ability to respond to new threats in a rapidly changing global security environment.”

The committee understand that the delayed reduction of 4/25 was the only reduction delayed across the entire Active component of the U.S. Army.

The committee is aware that in December 2016, the actual size of the Active component of the U.S. Army was approximately 470,000. The committee understands that it was the U.S. Army's intention to continue the reduction of the active component by 10,000 soldiers to 460,000 soldiers by the end of Fiscal Year 2017.

In December of 2016, both the House and Senate passed S. 2943, the National Defense Authorization (NDAA) for Fiscal Year 2017 and it was subsequently signed into law. Within this legislation was a new and increased authorized Active component size of 476,000.

On April 7, 2017, the U.S. Army announced its intent to "retain 4/25 as a brigade combat team and not convert it to an airborne task force" due to "emerging mission requirements and increasing Army end strength as authorized in the [FY 2017 NDAA.]"

The committee strongly commends the U.S. Army's decision to first delay and then to fully retain 4/25 as a full brigade combat team. The committee affirms that forward-deployed and rapidly responsive ground forces, including the 4/25 IBC (ABN), help deter aggression and provide reassurance to our allies and partners

#### **Army M4 Modular Rail System Assessment**

The Committee notes that while the Army has made over 90 upgrades to the M4 Carbine since first fielding, it still uses a legacy rail system compared to other readily available, government-provided rail systems that free-float the barrel. In the mid-2000s, SOCOM and the Army Marksmanship Unit fielded free-float rail systems for their M4 Carbines that placed zero weight on the barrel, ensured barrel harmonics are uninhibited, improved rifle accuracy, and increased durability. Over the last decade, the Army has spent over \$2.9 billion dollars funding weapon enhancements (scopes, night vision, lasers, lights, slings, etc.) designed to increase soldier lethality. Utilizing a legacy rail can degrade shooting accuracy regardless of how well equipped and trained a soldier is.

The Committee is aware that an Army unit tested the legacy rail against a free-float rail. In the commercial market, free-float rails have become the industry standard. The committee notes further that the legacy rail remains the baseline Army requirement and that the Army has not developed an acquisition plan to replace the legacy rail. Therefore, the committee requires the Secretary of the Army to provide a briefing to the congressional defense committees by August 31, 2017, on the feasibility of adopting a free-float rail system for the M4 carbine including an update on the Army's rail system requirement.

#### **Army Position Navigation and Timing-GPS (A-PNT) Distribution and Anti-Jam Capability**

Military vehicles depend on precise positioning, navigation, and timing (PNT) data to enable critical command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. Exploitation of global positioning systems (GPS) risks U.S. forces ability to move, shoot, and communicate. The

Army has determined that it must provide an Assured PNT (A-PNT) solution with distributed PNT architecture that support GPS anti-jam antennas and upgraded GPS signals (“M Code”). The committee is concerned that the A-PNT PoR is years from Initial Operating Capability, when technologies exist today that address the near-term requirement and are pathways to the A-PNT program of record (PoR), that will speed the capability to the warfighter, create efficiencies, and save costs.

Specifically, the committee understands that the DAGR Distributed Device (D3/Enhanced D3) was selected by the Army as its lead Military GPS User Equipment (MGUE) platform. The D3 provides near-term capability, supports the A-PNT PoR, anti-jam antenna technology, and is a firm path to fielding MGUE. This solution meets requirements and near-term fielding and upgrade timelines for Stryker CS21, AMPV, JLTV, Patriot Missile System, and efforts by the Rapid Capabilities Office (RCO) to mitigate regional threats.

To address the threat in GPS denied environments, the committee understands that the Army was planning to provide the D3 as Government Furnished Equipment (GFE) to the platforms in the near term to align with platform upgrade efforts. However, the committee has been informed that the Army has revised the A-PNT acquisition program and is no longer planning to provide D3 to the vehicle platforms as GFE. The committee is concerned that this decision would delay fielding of the capability, eliminates the opportunity to establish the distributed architecture required for the upcoming A-PNT PoR, is contrary to the Rapid Capabilities Office PNT program, delays fielding of MGUE which conflicts with the congressional mandate, and does not support rapid implementation of anti-jam antenna technology.

Therefore, the committee directs the Secretary of the Army to submit a report to the congressional defense committees, no later than September 29, 2017, detailing the revised A-PNT PoR acquisition plan, to include a detailed explanation of the current plans to address near-term interim A-PNT integration, test, fielding (as GFE) and follow-on logistics support of a distributed PNT system that supports M-Code in the time-frame required for critical platform upgrade and reset schedules.

#### **AWACS Upgrade to Block 40/50**

The committee fully supports the ongoing efforts by the Air Force to upgrade its fleet of E-3 Airborne Warning and Control System (AWACS) aircraft and strongly encourages the Air Force to fully fund the Block 40/45 upgrade on the entire fleet of AWACS.

#### **C-130H modernization**

The committee remains committed to the Air Force’s Avionics Modernization Program (AMP), and urges the Air Force to pursue the most rapid upgrade possible of the 176 C-130H aircraft. The committee continues to support the current two-increment AMP upgrade strategy, but is concerned that extensive development needlessly delays completion of both AMP increments despite availability of commercial off-the-shelf (COTS) and non-developmental item (NDI) technologies, including glass cockpit and autopilot sys-

tems and components, that are available and in use on C-130 aircraft today.

Achieving the best possible value/capability for the taxpayer and the Air Force is the goal. Therefore, the committee expects the Secretary of the Air Force to maximize efforts to procure COTS and NDI solutions and that minimize use of unnecessary military standard (MIL-STD) systems. This approach must adhere to the intent of Section 2377 of Title 10, United States Code, and comprehensively apply the tenets of DoD's Better Buying Power (BBP) 3.0 policy. COTS/NDI solutions are currently flying on both U.S. Government and civilian C-130 aircraft that are lighter, less expensive, and have proven reliability at or above that of the MIL-STD solutions. Such cost-effective solutions should be embraced to the maximum extent possible and practical.

Therefore, the Secretary of the Air Force is directed to provide a briefing to the congressional defense committees within 180 days of enactment of this Act that details (1) how the intent of Section 2377 of Title 10, United States Code, and the prescribed processes of DoD BBP 3.0 have been vigorously applied to defining both the technical requirements and acquisition strategy for AMP Increments 1 & 2, including the Air Force's creation of incentives to offerors for accelerated and cost-capped implementation; (2) how the standards requirements applied to the C-130 cockpit modernization are not excessive given the operational mission profiles and considering other COTS technologies already operational these aircraft; and (3) how the proposed solution will reduce total ownership cost to the Air National Guard and Air Force Reserve units that must then operate and maintain the aircraft.

#### **Columbia-class submarines**

The budget request included \$842.9 million in line item 1 of Shipbuilding and Conversion, Navy (SCN), for *Columbia*-class submarines advance procurement.

The committee notes the cost estimate for the lead ship non-recurring engineering program support increased from the 2014 Life Cycle Cost Estimate to the 2016 Milestone B cost estimate. The committee asked about this increase, but the Navy did not provide a timely answer to the questions. The committee is disappointed by the Navy's performance and expects the Navy to ensure robust, punctual explanations are provided whenever the committee asks for program clarifications.

In addition, the committee directs the Secretary of the Navy to conduct a comprehensive security classification review of the *Columbia*-class program to ensure all systems and capabilities are properly classified. The Secretary shall submit his findings at the appropriate classification level to the Committees on Armed Services of the Senate and House of Representatives not later December 1, 2017.

#### **Composite technology in submarine construction**

The committee notes that the Navy has successfully integrated composite technology into different submarine classes and that composites can reduce procurement costs and lower overall lifecycle costs for certain components and subsystems. For example, a Feb-



ruary 2016, Navy report to Congress found a composite technology alternative for *Columbia*-class bow domes would save the Navy at least \$6.6 million and avoid an additional \$8.7 million in tooling.

The committee believes the Navy should further explore opportunities to integrate proven composite technology, particularly for *Virginia*-class submarines, including the bow dome and Virginia Payload Module, and *Columbia*-class submarines, including the superstructure.

Therefore, not later than November 1, 2017, the Secretary of the Navy shall deliver a report to the Committees on Armed Services of the Senate and House of Representatives on the feasibility and merits of further integrating proven composite technology into *Virginia*-class and *Columbia*-class submarines. The report shall:

- (1) Identify non-composite systems and components planned for Block V *Virginia*-class submarines and *Columbia*-class submarines for which a proven composite alternative is in development or fielded; and
- (2) For those systems and components identified in paragraph (1), provide the approximate cost and schedule differences if such composite systems and components were substituted for non-composite systems and components.

#### **Domestic supply of submarine missile launcher tubes**

The committee supports the Navy's ongoing efforts to reduce cost and risk in development and production of launcher tubes for both the Virginia Payload Module (VPM) and the *Columbia*-class program, including the Common Missile Compartment (CMC). In written testimony for a hearing of the Strategic Forces Subcommittee on June 7, 2017, Vice Admiral Terry Benedict, Director of the Navy's Strategic Systems Programs, testified to the importance of the CMC as a critical component for both the U.S. *Columbia*-class and United Kingdom *Dreadnought*-class programs, with any delay to the joint CMC effort having the potential to impact the ability of both nations to maintain an effective sea-based deterrent.

Missile tube construction is a critical and fragile subset of the U.S. shipbuilding industrial base that is regenerating after the last *Ohio*-class ballistic missile submarine was built in the 1990s. The committee is aware of the Navy's work to reduce risk in the restart of launcher system production at the surface test launch facility at the Naval Air Warfare Center Weapons Division, China Lake, to demonstrate that the launcher industrial base can replicate the successful performance of the *Ohio*-class Trident II (D5) launcher system.

The committee urges the Navy to take every appropriate measure to ensure a viable supply of launcher tubes are available through the U.S. industrial base to meet the cost and schedule requirements facing both the *Columbia*-class program and the *Virginia*-class guided missile variant through VPM.

#### **Eagle Passive Active Warning and Survivability System (EPAWSS)**

The committee is aware that the U.S. Air Force has reduced funding programmed for the Eagle Passive Active Warning and

Survivability System (EPAWSS) modernization program for the F-15C fleet in future fiscal years. The committee continues to strongly support EPAWSS modernization for both the F-15C and F-15E fleet. The U.S. Air Force requires an integrated electronic warfare system for its air superiority aircraft in order to dominate current and future threats. EPAWSS provides radar warning, geo-location, situational awareness, and self-protection solutions to detect and defeat surface and airborne threats in contested environments. The committee expects the Secretary of the Air Force to execute the EPAWSS modernization program for the F-15C and F-15E as previously planned.

#### **Expedited testing, development and fielding for Paladin Integrated Management**

The committee continues to support the Paladin Integrated Management (PIM) upgrade to the M109A6 Paladin, the primary indirect fire weapons platform in the U.S. Army's Armored Brigade Combat Teams (ABCT), and calls for the Secretary of the Army to prioritize and expedite PIM OT&E to include immediate tasking of a crew with required expertise to execute the OT&E. The PIM program is critical to the U.S. Army. It significantly improves force protection and survivability and reduces logistics burden for the Armored Brigade Combat team field artillery Soldiers.

#### **F-16 Block 40/50 Mission Training Centers**

The Secretary of the Air Force has directed the Air Force to accelerate procurement of additional F-16 Mission Training Centers (MTC) suites for Air National Guard use in order to provide continuity of training between live and virtual scenarios, develop and maintain required combat readiness without dependence on the availability of off-station resources, reduce flight operations tempo and flying hour cost required to gain equal training readiness, reduce travel cost, reduce personnel tempo impacts for pilots, and increase dwell time for wings, allowing more deployment flexibility. Additional MTCs would save travel costs and make the F-16 block 40/50 MTC more available to Active Duty, Reserve, and Air National Guard F-16 block 40/50 pilots, resulting in enhanced readiness.

#### **Future air-to-ground missile capability**

It has come to the committee's attention the Air Force lacks an air-to-ground missile capability sufficient to deter massed armor formations that may be encountered against near-peer adversaries in both Europe and the Asia-Pacific region. Currently fielded air-to-ground missiles lack the ability to be launched en masse from fighter aircraft against multiple maneuvering armored targets.

Therefore, the committee directs the Secretary of the Air Force to provide the congressional defense committees with a briefing 60 days following passage of this Act on the integration activities enabled by this authorization.

#### **Health and Usage Monitoring Systems**

The Fiscal Year 2015 National Defense Authorization Act included directive report language (113-446) "UH-72 Helicopter

health monitoring system.” This section encouraged the Army to engage in a demonstration of the Next Generation Health Monitoring System (NGHMS) on the UH-72 and directed the Secretary of the Army to report to Congress on the potential for integrating and demonstrating NGHMS. The Army response states, if “savings and reduction of contractor logistics support (CSL) costs could be achieved . . . the Army will consider integrating NGHMS on the UH-72 fleet and changing the current aircraft maintenance construct.”

The committee is aware that the Army conducted a preliminary design review (PDR) in December 2016 and a critical design review (CDR) in February 2017. Bench-testing and installation on an experimental aircraft was conducted in March–April 2016. This effort will conclude with installations on 8 Army UH-72 by December 2017. The committee understands that the program is on cost and schedule and that preliminary results are encouraging.

NGHMS can achieve total platform state of awareness. Such advanced maintenance intelligence could enable early warning for failing platform systems, reduce emergency maintenance demands, provide predictable platform maintenance schedules, reduce cost and increase readiness. With this in mind, the committee is aware that Program Office Stryker is reviewing NGHMS for potential application on Ground Combat Vehicles.

Therefore, the committee directs the Secretary of the Army to submit a report to the congressional defense committees by September 15, 2017, that provides the status and available results of the UH-72 NGHMS testing. The report should include the Army’s plan for procuring and integrating NGHMS into the UH-72 fleet; to include a detailed description of the planned changes to the UH-72 aircraft maintenance construct, expected efficiencies and estimated annual cost savings. The report shall also include a summary of Program Office Strykers review of NGHMS for potential application on Ground Combat Vehicles.

#### **HH-60 Combat Rescue Helicopter Program**

The committee understands the need to replace the current HH-60G Pave Hawk fleet to support the demanding personnel recovery missions for the Department. With the limited availability of the current combat rescue helicopter fleet and high usage, the need to accelerate deliveries of this new fleet is well understood. The committee supports incentivizing the contract to accelerate development and first flight, but is concerned that the Department is not taking action to ensure alignment of procurement funding with the activities that would support this acceleration. The committee urges the Department to take all actions necessary to ensure that if the contractor can meet the accelerated schedule to complete development that there is funding in place to transition to production without delaying first flight and early production activities.

#### **HMMWV Rollover Mitigation**

The committee is concerned by the number of High Mobility Multipurpose Wheeled Vehicle (HMMWV) rollover accidents that have occurred in recent years, after the vehicles were up-armored to improve ballistic protection and resistance to mines and improvised

explosive devices. The committee understands that commercial-off-the-shelf solutions are available to mitigate the problem of rollover accidents. The committee encourages the Army and Army National Guard to work expeditiously to mitigate the risk of HMMWV rollover accidents. In particular, HMMWV Modernization activities should be specifically directed to mitigate the risk of rollovers and loss of control accidents in the existing Army and National Guard fleet by supporting retrofit installation of antilock braking systems and electronic stability control kits. The committee requests that the Department of the Army provide a briefing on plans to mitigate rollover accidents within the HMMWV fleet.

#### **Joint Surveillance Target Attack Radar System (JSTARS)**

The E-8C Joint Surveillance Target Attack Radar System (JSTARS) aircraft has long provided significant joint air command and control in both land and maritime arenas. The committee is pleased that the budget request includes some funding to continue this program's essential warfighting function until the JSTARS Recapitalization Program reaches Full Operational Capability (FOC) in 2028. The committee expects that the Department of the Air Force will take no action to prematurely retire E-8C aircraft before the JSTARS Recap program reaches this milestone. The committee is greatly concerned that a lengthy JSTARS Recap acquisition program could result in a capabilities gap which will leave the combatant commanders without an acceptable level of ground moving target indicator and battle management command and control capability for several years. Accordingly, the committee encourages the Secretary of the Air Force to fund all necessary modifications, including, but not limited to, Prime Mission Equipment-Diminishing Manufacturing Sources (PME-DMS) on all 16 E-8C aircraft and to maintain all E-8C aircraft in a singular configuration and deployable state to continue world-wide missions, avoid degradation of mission performance, and meet Combatant Commander requirements for operations during the period.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than November 1, 2017, that describes, in detail, a strategy to sufficiently address manning, sustainment, modernization, and viability deficiencies that would resolve capability gaps, shortfalls, and deficiencies of the E-8C fleet of aircraft. The briefing should include a strategy that addresses right-sizing and balancing unit manning among the Total Force; maintaining proficient and current aircrews to meet operational requirements; resolving obsolescence and diminishing manufacturing sources of parts and supply; necessary mission system upgrades and operational enhancements across the E-8C fleet to keep the aircraft viable and relevant until the JSTARS Recapitalization aircraft is fielded; resolving maintenance deficiencies; standardizing existing aircraft capabilities in areas such as imagery servers and the Automated Information System; and the associated cost, budget, and timeline required to implement the strategy.

### **Light Utility Helicopter Industrial Base**

The committee notes that the Army's Aviation Restructure Initiative repurposed UH-72A Lakota Light Utility Helicopters (LUH) to become the primary entry-level training helicopter at the United States Army Aviation Center of Excellence (USAACE) at Fort Rucker. The committee understands that the Army has a helicopter pilot shortage of about 700 pilots, which generates a need for additional LUHs to meet pilot training requirements.

In addition to USAACE, the Army National Guard also utilizes UH-72A helicopters for Security and Support missions. The committee understands that unmet requirements for UH-72A exist presently at USAACE, Combat Training Centers, and the Army Test and Evaluation Command. The committee understands that the Army issued a Justification and Approval (J&A) for 16 Lakotas without providing for full and open competition in December 2015. The pre-award J&A was subsequently protested in the U.S. Court of Federal Claims (COFC). The committee further understands that the Army appealed the COFC's initial ruling in October 2016, but no exact timeline for a final ruling is known.

The committee further understands that the Fiscal Year 2017 Consolidated Appropriations Act (P.L. 115-31) appropriated funding for the Army to procure 28 UH-72A helicopters "in support of ongoing mission requirements at the Army Aviation Center of Excellence at Fort Rucker, the Combat Training Centers, and the Army Test and Evaluation Center." In testimony before the Senate Armed Services Committee on May 25, 2017, the Acting Secretary of the Army, Robert M. Speer, stated that "the 2017 funding is held up in the same protest". The committee understands the Secretary's statement to mean that the Army does not intend to obligate funding for the 28 Lakotas funded by Congress in P.L. 115-31 in a timely manner.

The committee understands that there is dispute over the Army's interpretation of its obligations pursuant to P.L. 115-31. The committee notes that the language on Lakota procurement contained in P.L. 115-31 is clear, directive, and legally binding. The committee is concerned about the impact of continued contracting delays on the Army's pilot training capability and the UH-72A industrial base.

Therefore, the committee directs the Secretary of the Army to re-examine the Army's position on obligating funding for the 28 Lakota helicopters appropriated in P.L. 115-31. The committee urges the Secretary to avoid conflating issues which may be legally separate and distinct. No later than 30 days after the enactment of this Act, the committee requires the Secretary to provide to congressional defense committees a report which includes a legal analysis on its position regarding obligating funding for Lakotas as directed by Congress in P.L. 115-31. The report shall also include a plan for the Army to mitigate its pilot shortage.

### **Light-weight polymer technologies for ammunition and small arms**

The committee continues to support the Department of Defense's efforts to decrease the weight of metal cartridge cases for ammunition in order to decrease burdens on the warfighter. Notable im-

provements include the potential for increased individual mobility, decreased logistical resupply burdens, and reduced fuel consumption in operations.

In addition to weight reduction, the committee understands that polymers have the potential to act as better heat insulators, enable the firing of more ammunition, and provide cost savings compared to conventional metal cartridge cases. The committee remains encouraged by the ongoing research and potential for cased telescoped 5.56mm ammunition, which could decrease logistical weight by roughly 40 percent and reduce bulk storage volume by at least 12 percent.

Accordingly, the committee strongly encourages the Department to expand its efforts beyond light-weight polymer ammunition casings and explore polymer magazines, ammunition pallets, rounds, and other advancements that could further reduce weight on the warfighter. For example, the Marine Corps estimates that a polymer .50 caliber pallet could reduce weight by 1,000 pounds per pallet.

The committee continues to hold the view that any new ammunition must meet all specifications for pressure, velocity, and accuracy and must be a drop-in replacement in terms of training, weapon function, lethality, storage, and transportation.

#### **Maintaining strategic deterrence**

The committee is concerned with the potential for delays in the development and fielding of *Columbia*-class submarines (SSBNs). The committee understands the *Columbia*-class is planned to replace *Ohio*-class submarines as they decommission to maintain 10 operational SSBNs. Although the Navy's schedule currently shows the *Columbia*-class program meeting required delivery dates, there is little to no margin for delay in the program schedule to address unforeseen first-of-class issues.

The committee believes the strategic deterrence mission that SSBNs perform is too important and the consequences of a gap in SSBN capacity so great that the Department of Defense should develop contingency plans for how the U.S. Strategic Command (STRATCOM) Commander could mitigate the possibility of an insufficient number of SSBNs to perform required patrols.

Therefore, the committee directs the Secretary of Defense to submit a report to the congressional defense committees on the options available to the Department of Defense for mitigating the risk of delays of various lengths, ranging from 6 months to 5 years, in delivery of the 12 boats in the *Columbia*-class. For each of the various delay lengths, the Secretary shall identify specific mitigation options that could be available to STRATCOM or the Navy if the number of operational SSBNs were to drop below the required level. The Secretary shall submit this report no later than February 1, 2018.

#### **Mine Resistant Ambush Protected (MRAP) Vehicle Inventory Review**

The committee notes that the Mine Resistant Ambush Protected (MRAP) program has deployed more than 27,000 vehicles primarily in support of Operation Enduring Freedom, Operation Iraqi Free-

dom, and follow-on operations in Afghanistan and Iraq. In 2013, the Army conducted the MRAP III study, the results of which influenced the Department of Defense's decision to retain about 8,600 vehicles (mostly placed in Army Prepositioned Stocks) and to divest the remainder. The committee believes the security environment in Iraq, Afghanistan, and the Middle East has changed considerably since the MRAP III was conducted and may have changed or invalidated the study's assumptions. In light of the new and emerging security environment, the committee believes that the DOD should thoroughly review the MRAP inventory.

Therefore, not later than 180 days after the enactment of this Act, the committee directs the Secretary of Defense to deliver a report to the congressional defense committees which defines the near-, medium-, and long-term requirements for protected vehicles in Iraq, Afghanistan, and any other areas that the Secretary deems appropriate. The report shall examine the MRAP inventory and make recommendations regarding its continued management. These recommendations should include the number of MRAPs which should be retained in the inventory and whether any of those retained should undergo modifications.

#### **Missile Warning Systems**

The committee is interested in efforts by the Army to field technology that can provide missile warning and laser warning capabilities for rotary and small fixed wing aircraft. As new threats proliferate, it is critical that future aircraft survivability equipment (ASE) be able to detect and defend air crews in a first-encounter scenario. Given the potentially transformational nature of such future ASE procurements, the committee directs the Secretary of the Army or his designee to brief the congressional defense committees on procurement of missile warning systems no later than 30 days after the enactment of this Act. The briefing should cover interim and future solutions, technology readiness, cost estimations, and fielding timeline.

#### **Navy Air-to-Ground Rocket Program**

The Committee recognizes the work performed by the Navy to transform the standard 2.75-inch Hydra rocket into an affordable, laser-guided, precision strike munition. It is now qualified on manned and unmanned, fixed-wing and rotary-wing platforms. According to the Defense Department, the weapon's size, accuracy and weight have made it ideal for target engagements in urban terrain and where low-collateral damage is critical. These attributes have fostered adoption of the weapon system by the rest of the Joint Services. The Hydra rocket has also become a priority of international allies, further highlighting the importance of having a thorough acquisition done right.

Accordingly, the committee encourages the Navy to: (1) consider additional platforms for employing Hydra; (2) streamline Hydra logistics; and (3) continue the program's efforts to qualify and integrate a single software variant for rotary and fixed-wing aircraft.

### **Navy large surface combatants**

The committee notes that the Navy's 2016 Force Structure Assessment (FSA) sets a requirement for 355 ships in the battle force. While the current fleet includes 87 large surface combatants, the committee understands that the FSA calls for 104 large surface combatants. The committee believes that the Navy should maintain the two proven shipbuilding sources of large surface combatants. The committee emphasizes that the acquisition strategy for the next multiyear procurement contract should help sustain the dual-source large surface combatant shipbuilding base.

### **Primary aircraft assigned to Air National Guard rescue squadrons**

The committee finds that National Guard rescue squadrons in Alaska, California, and New York play a critical role in rescue response throughout the United States during times of disaster or crisis, a mission that prepares these units remarkably well for success in combat. The committee notes that certain rescue squadrons, in addition to civilian and deployment requirements conducted by all National Guard rescue squadrons, are tasked with alert requirements in support of active duty missions. Therefore, the committee directs the Secretary of the Air Force to report to the congressional defense committees no later than 180 days after the passage of this Act on the readiness of Air National Guard units to meet active duty alert mission requirements and whether such units have the appropriate number of primary aircraft assigned to fully execute all assigned missions.

### **SUSV Replacement Rapid Acquisition Strategy**

The committee understands that extreme cold weather conditions and difficult terrains like deep snow, tundra, mud, swamps, and wetlands create mobility challenges for U.S. ground forces. In fact, the Chosin Reservoir Campaign during the Korean War realistically depicted the adverse effects that extreme cold weather operating conditions had on U.S. Forces.

The committee is aware that in 1983, the U.S. Army first began to field the M973 Small Unit Support Vehicle (SUSV)—a 14-person, tracked, semi-amphibious vehicle capable of navigating a wide range of otherwise impassable terrain that traditional wheeled and tracked vehicles cannot traverse. The SUSV travels with a footprint of just 1.8 pounds per square inch—less pressure than the human foot exerts—and is much better equipped to traverse difficult terrains like deep snow, tundra, mud, swamps, and wetlands.

The committee is concerned that due to a limited availability of repair parts and no Army program to help support or maintain them, many of these 30-plus year old SUSVs are being cannibalized for parts to keep the few functional one remaining running and the entire fleet has just five years left on their projected life cycle before they will be classified obsolete. Currently there are approximately 200 SUSVs spread across the U.S. Army and the National Guard in states such as Alaska, Colorado, Minnesota, and Vermont, and other states, such as Louisiana, Massachusetts, Michigan, and New Hampshire have an articulated requirement for the SUSV's unique capabilities.



The committee is also aware that on February 12, 2017, Headquarters, Department of the Army, G8, validated the requirement for a Joint All-Terrain/All-Weather Support Vehicle (JAASV). However, the committee is concerned that any program sourcing solution for the SUSV would not be sourced at this time and that the requirement will compete for funding in Program objective Memorandum 2019–2023. The committee is also concerned that allied and near peer Competitor countries are developing extreme cold weather ground transportation capabilities that far exceed U.S. military capabilities, notably the recent advances in all-weather/cross-country mobility being demonstrated by new Russian specialty vehicles.

The committee believes that the U.S. Army, Air Force, Marine Corps, and National Guard forces currently need a tactical vehicle that will provide transportation for a squad-sized element, emergency medical evacuation, command and control capability, and general cargo transportation on- and off-road in a wide range of otherwise impassable terrain, to include ice and extreme cold weather conditions to support year-round training and missions. The committee believes that the newly identified requirement—the JAASV—will enhance joint operations and facilitate interoperability under the adverse conditions that demand all-terrain, all-weather cross-country mobility that traditional wheeled and tracked vehicles cannot traverse.

#### **Total force integration initiatives for rescue squadrons in the reserve component of the U.S. Armed Forces**

The committee is aware that the National Commission on the Structure of the Air Force—a report requested by this committee in the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–329)—recommended that “new equipment will arrive at Air Reserve Component units simultaneously with its arrival at Active Component units in the proportional share of each component . . . The Air Force should no longer recapitalize by cascading equipment from the Active Component to the Reserve Components.” Further, the Commission members testified to this committee that “There is no more significant element to an integrated total force than a fully integrated fielding plan for all equipment, especially aircraft.”

The committee notes that the Air Force concurred with this recommendation without reservation and highlighted the KC–46 and F–35 Lightning II programs as examples of this commitment. While the committee is encouraged that the Air Force has prioritized the fielding of the HH–60G replacement programs, and reaffirms the need to field this critical capability to the total force as rapidly as possible, the committee remains concerned that the Air Force has not observed the principle of concurrent and proportional fielding for the fielding of the HH–60G replacement program.

The committee is aware that the Air Force plans to field the HH–60G Ops Loss Replacement helicopter to National Guard Rescue Squadrons until the HH–60W is fielded to all components in 2030. However, the committee believes the Air Force’s current fielding plan does not fulfill the letter or spirit of the Commission’s

recommendation of concurrent and proportional fielding, and that the Air Force has not provided sufficient grounds to justify an exception to this fundamental component of total force integration.

The committee believes that the Air Force's fielding plan should prioritize the integrated fielding of the HH-60G replacement program to units that are scheduled to deploy overseas in support of contingency operations, that stand alert in support of active-duty missions, and that maintain high levels of readiness to rapidly deploy in support of alert missions overseas.

Therefore, the committee directs the Secretary of the Air Force to review its fielding plan of the HH-60G replacement programs, and urges the Air Force to provide recommendations on how it intends to fulfill its commitment to comply with the Commission's recommendation.

### **Unmanned U-2**

Section 133 of the National Defense Authorization Act for Fiscal Year 2012 (Public Law 112-81) prevents the Air Force from retiring the U-2 aircraft unless the Department of Defense were to meet certain conditions. One of those conditions is that, prior to retirement, the Chairman of the Joint Requirements Oversight Council (JROC) would have to certify in writing that the capability to be fielded at the same time or before the U-2 aircraft retirement would result in equal or greater capability available to the commanders of the combatant commands. While the RQ-4 Global Hawk remotely piloted aircraft (RPA) provides impressive capabilities, the committee believes it has not achieved a level of capability that would permit the Chairman of the JROC to make that certification.

At various times, the Air Force has argued that the level of U-2 operating and support costs, particularly manpower costs, was the reason for wanting to retire the U-2. The committee understands that the Air Force has considered the possibility of modifying the U-2 aircraft to make it an RPA. Under such a plan, the avionics systems would be modified to allow the aircrews to remotely operate the U-2, thereby removing the pilot from the cockpit.

While supportive of enhancing RPA capability, the committee would like to understand the ramifications of pursuing such an option, including the pros and cons of making such a modification. Therefore, the committee directs the Secretary of the Air Force to submit such a report with the budget request for fiscal year 2019.

### **USAF UH-1N Replacement**

The Committee recognizes the urgent need to replace the current Air Force fleet of UH-1N aircraft that protect our inter-continental ballistic missile (ICBM) sites and perform the continuity of government mission for the National Capitol Region (NCR), which are obsolete and inadequate to support their missions. The continued delay and changes in the acquisition approach to support this urgent need have led to a delay in fielding this critical capability to the warfighter. The committee believes that the Air Force user needs are well understood. The program requirements have been discussed since 2001, and even though the Department has been

buying combat aircraft for some time, there continues to be delays to this procurement.

Therefore, the committee directs the Secretary of the Air Force to expedite procurement and delivery of replacement aircraft and urges the Department, if viable, to use existing production lines to field this capability as soon as possible. The committee further directs the Secretary to pursue a rapid acquisition strategy. The committee encourages the Air Force to consider the benefits of a common helicopter airframe across the Air Force to reduce supply, logistics, training, and lifecycle costs.

#### **USNS Navajo**

The committee notes the Navy has a tradition of naming tug boats for Native American tribes. The committee further notes that over the next several years the Navy will be decommissioning all *Powhatan*-class fleet ocean tugs (T-ATF) and *Safeguard*-class salvage ships (T-ARS). The committee understands that these ships will be replaced by a single class of vessels with the designation T-ATS.

In keeping with the tradition of naming U.S. Navy ships after Native American tribes, the committee urges the Secretary of the Navy to name the first T-ATS vessel the USNS *Navajo*.

#### **USS Los Alamos**

The committee notes that 2018 will be the 75th anniversary of Los Alamos National Laboratory. The committee further notes that people of Los Alamos, Los Alamos National Laboratory, and the Navy, have a 74-year relationship that spans the Manhattan Project through the creation of a nuclear Navy and to the sea-based leg of the strategic nuclear triad of the United States. The people of Los Alamos and surrounding communities have contributed to the Navy's offensive edge since World War II, through the Cold War, that continues today.

The committee believes that naming a submarine USS *Los Alamos* will recognize and continue to forge the longstanding relationship between the Navy and Los Alamos. Therefore, the committee urges the Secretary of the Navy to name the next nuclear-powered fast attack submarine the USS *Los Alamos*.

## **TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**

### **Subtitle A—Authorization of Appropriations**

#### **Authorization of appropriations (sec. 201)**

The committee recommends a provision that would authorize the appropriations for research, development, test, and evaluation activities at the levels identified in section 4201 of division D of this Act.

**Subtitle B—Program Requirements, Restrictions, and  
Limitations**

**Mechanisms for expedited access to technical talent and expertise at academic institutions to support Department of Defense missions (sec. 211)**

The committee recommends a provision that would give the Secretary of Defense the authority to establish one or more multi-institution task order contracts, consortia, cooperative agreements, or other arrangements with universities that do not have similar existing constructs to facilitate expedited access to university technical expertise in support of Department of Defense mission areas, such as cybersecurity, explosives detection, modeling and simulation, microelectronics, unmanned systems, advanced materials, machine learning, and myriad others.

The committee is concerned that the Department of Defense is not optimally positioned to capitalize on all cross-functional aspects of emerging technologies that serve multiple purposes. Unfortunately, the majority of technological advancements exist under proprietary agreements unavailable to the academic research community at large. While existing programs are available in part, the committee believes a more streamlined construct must be available for expedited access to combine technical expertise and research efforts, reduce costs, and eliminate duplication of effort.

The committee notes and supports the ongoing basic research activities that are funded by the Department of Defense at universities and government labs, which have led to the development of most of the operational capabilities used by our nation's military today, ranging from stealth to precision munitions to battlefield medicine, aircraft sustainment, and the Internet. The committee intends the authority in the recommended provision to supplement those basic research funding authorities and activities, and it expects the Department to issue guidelines as appropriate that reflect a streamlined, efficient process for components to have increased access to the technical expertise resident in our nation's universities to help address the technical, engineering, and management challenges facing the Department.

In carrying out the mechanisms established in the recommended provision, the committee urges the Department to expand the number of individual institutions actively pursuing and demonstrating technical expertise in academic research that directly supports the efforts of the Department of Defense.

**Codification and enhancement of authorities to provide funds for defense laboratories for research and development of technologies for military missions (sec. 212)**

The committee recommends a provision that would amend chapter 139 of title 10, United States Code, to codify the research authorities of the defense laboratories originally established in section 219 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Public Law 110-417) and improved and made permanent in subsequent legislation. The committee notes that this authority allows Department of Defense laboratory directors to more efficiently and flexibly support innovative in-house research

activities; support transition of technological innovations into operational use; support training and education of laboratory technical staff; and make minor improvements and repairs to critical research infrastructure and equipment.

The committee notes that the House Armed Services Committee received testimony on January 7, 2016, from the Navy Acquisition Executive, Sean Stackley: “Section 219 funding is lifeblood to our warfare centers, our science and technical community, and so everything that you all have done to support that is paying off huge dividends, and it is underpinning our efforts in terms of prototyping and experimentation.” The committee commends the Defense Department on its use of the section 219 authority to date, and it urges the Department to continue to use the authority to support technological innovation and the productivity of the Defense laboratory system.

The committee further encourages the Department to communicate the value of these types of laboratory activities in terms of their support for operational forces and improving outcomes of acquisition programs both to the public and to Pentagon decision-makers. Finally, the committee directs the Secretary to use this authority as one method to support joint research and development activities that connect the skills and expertise of laboratories from multiple services to meet common technical challenges.

#### **Modification of laboratory quality enhancement program (sec. 213)**

The committee recommends a provision that would modify the Laboratory Quality Enhancement Program established in section 211 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). The committee has become aware that certain imprecise wording in the underlying statute has raised confusion within the Department of Defense and that interpretations of the statute different from what was intended by Congress have prevented certain aspects of the Laboratory Quality Enhancement Program from being implemented. The recommended provision would provide the clarifications necessary to proceed with implementation as envisioned in the original statute. The recommended provision would also add some new responsibilities for the panels created in the original statute and establish its relationship to the Under Secretary of Defense for Research and Engineering, established in section 901 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

#### **Prizes for advanced technology achievements (sec. 214)**

The committee recommends a provision that would amend section 2374a of title 10, United States Code, which authorizes the defense research enterprise to carry out programs to award prizes in recognition of outstanding achievements in basic, advanced, and applied research, technology development, and prototype development that have the potential for application to the performance of the military missions of the Department of Defense (DOD). The recommended provision would provide the Department with greater flexibility in conducting prize competitions to enhance the performance of the Department’s military missions.

The provision would expand the types of prizes that can be awarded in prize competitions. Under current law, only cash prizes may be awarded. The provision would remove this limitation, thereby allowing the Department to provide appropriate non-cash prizes. For example, appropriate non-cash prizes could include trophies, medals, plaques, and similar decorations for achievements in prize competitions. Other appropriate prizes could include personal property reasonably related to the purpose of the prize competition, such as a desktop or tablet computer or cellular phone. By providing the Department with the authority to award non-cash prizes, prize competition managers will have increased flexibility to design prize competitions that provide appropriate awards to recognize outstanding achievements that have potential application to the Department's mission.

The provision would also authorize the Department to accept funds from the private sector to help fund prize awards and reduce the overall cost of prize competitions. In doing so, the provision would require that the Department not give any special consideration to a private entity in return for its donation. The added prohibition on giving special consideration to a private entity in consideration for its donation is intended to maintain public trust in the integrity of defense programs and personnel.

**Expansion of definition of competitive procedures to include competitive selection for award of research and development proposals (sec. 215)**

The committee recommends a provision that would amend section 2302 of title 10, United State Code, to expand the definition of competitive procedures to include research and development proposals. The recommended provision would enable broad agency announcements to be used not only for soliciting science and technology (budget activities 1–3) but also other types of research and development, including test and evaluation (budget activities 4–7).

The recommended provision would continue an effort to streamline and expedite acquisition in accordance with the Department's Better Buying Power 3.0 program. The authority that would be provided shall help to prepare research and development projects for solicitation and award of follow-on contracts for budget line items (or programs) funded across the future years defense program.

Use of broad agency announcements across the entire spectrum of research and development will expedite the acquisition process, thereby decreasing the timelines required to make awards and enabling funding to reach those innovating, researching, and developing with increased efficiency, particularly small businesses.

**Inclusion of modeling and simulation in test and evaluation activities for purposes of planning and budget certification (sec. 216)**

The committee recommends a provision that would amend section 196 of title 10, United States Code, to include modeling and simulation activities in the test and evaluation strategic plan and proposed test and evaluation budgets.

The committee is concerned with the continued increasing costs of Department of Defense major weapon systems acquisitions. The committee believes that advanced modeling and simulation (M&S) can moderate the rising costs associated with test and evaluation of complex weapon systems.

In the annual reviews of the test and evaluation infrastructure, undertaken by the committee, there has been no indication that the Department's test and evaluation organizations are involved in any organized effort to reduce the cost of test and evaluation through coordinated modeling and simulation efforts. The committee realizes that significant investments have been made by program offices for their particular weapon systems and training uses, but those models are either proprietary or specifically designed for that weapon system and cannot be easily integrated together in a complete warfighting fashion. The committee is concerned primarily with models being built with non-program-specific funds. The committee recommends that the Department aggressively pursue additional efforts to use modeling and simulation more effectively in the development and operational test and evaluation enterprises within the Department.

The committee notes that using modeling and simulation for test and evaluation activities is a best practice for commercial private sector firms and that such practices can result in significant cost savings. In this regard, the committee expects the Department to incorporate modeling and simulation techniques with the primary goal of reducing overall test and evaluation costs.

#### **Differentiation of research and development activities from service activities (sec. 217)**

The committee recommends a provision that would differentiate between research and development activities and service activities through the establishment of clear definitions for each activity. The recommended provision would update the statute to account for the evolving nature of research and development contracts and eliminate confusion as to what types of contract actions should be included in contract services reports.

Over the last couple decades, the main flow of federal contracting has made a dramatic shift away from supply purchases to the acquisition of services. Though supply acquisitions once comprised the vast majority of federal contracts and government employees performed most of the services necessary to fulfill the government's mission, acquisitions for a variety of support services contracts are now the most common subject of federal contracts.

Unfortunately, no common definition of what constitutes a "service" exists in law or regulation. As statutes have been passed and regulations written to address the myriad issues associated with service contracting, a diverse, and often conflicting, set of definitions has emerged that is creating conflict within the U.S. Government. Nowhere is this more apparent than in the handling of research and development (R&D) activities. For example, in section 2330 of title 10, United States Code, the definition of services specifically excludes research and development, while in 37.101 of the Federal Acquisition Regulation and elsewhere, research and devel-

opment is mentioned in the list of potential activities that could qualify as services.

At the most simplistic level, federal acquisition practice facilitates the acquisition of supplies and services for the direct benefit of the U.S. Government. Since the concept of “supplies” has a long history and is generally well-understood as including all physical property except for land, this analysis would then imply that if something is not an item of “supply,” then it must be a “service.” This conclusion fails to take into account the other possible choices if something is not a supply and fails to consider the government’s implied position on what a service is that can be gleaned from a thorough reading of the statutes and regulations. Once these other sources are examined, it is clear that the guidance and direction on how to acquire services and manage services contracts is almost exclusively focused on service contractors who provide well-defined services directly to agencies to assist those agencies in the internal activities central to their missions. These types of services can include efforts such as maintenance and repair, housekeeping, security, communications, transportation, and advisory and assistance services. The sheer size, complexity, and value of these service contracts have generated a host of oversight activities dedicated to understanding and monitoring award frequency and adequacy of program oversight to ensure that taxpayer dollars are being properly spent and that inherently governmental functions are not being contracted out.

Research and development activities are an entirely different type of endeavor. The government does not contract with research and development performers to support the government’s internal mission but instead treats them akin to program performance efforts. Unlike service contracts, research and development efforts will end with the provision of a physical deliverable. While a typical performance effort would have a physical product that is delivered, research and development deliverables can run the gamut of reports or studies to prototype projects.

Unlike a service contract, where the U.S. Government is effectively buying people’s time to perform a defined function, research and development programs are concerned with the outcome of the research effort and the knowledge that is learned. Service contracts also tend to be quite detailed in the tasks to be performed and what constitutes the acceptable quality level of performance. In contrast, research and development efforts generally have a much more broad work statement, with the area of research and proposed approach outlined but subject to adjustment and evolution as the effort continues.

Including research and development activities in the same category as services can subject such projects to the metrics, reports, and oversight responsibilities intended to give the Department a better picture of how much is being spent on internal support contractors. Including research and development contracts and their dollar value with service contract numbers severely skews those metrics and, in fact, makes it harder to achieve the Department’s goal. While most defense research and development agencies have successfully argued that such work should not be included in these metrics and reports in the service context, it is an annual battle



that consumes valuable agency time and resources with no value added. The simple solution to this problem is to clearly distinguish between research and development activities and services as being separate and distinct efforts, to create uniform definitions of research and development and services, and to include the clear definition of “services” in statute.

**Designation of additional Department of Defense science and technology reinvention laboratories (sec. 218)**

The committee recommends a provision that would clarify the list of labs that are authorized to execute the special hiring, infrastructure recapitalization, technology transfer and industry partnership, research, and other authorities that have been previously authorized by Congress and by the Department of Defense. The committee notes that these authorities are intended to be executed by lab directors at the local lab level, so as to be better used to address local management and bureaucratic challenges and avoid the inefficiency and slowness of centralized control over organizations whose missions require agility and innovation. The committee expects that all authorities designed to ease bureaucratic burdens on the labs will be delegated to local lab directors and used, consistent with congressional intent, to the maximum extent practicable to support research efforts.

**Department of Defense directed energy weapon system prototyping and demonstration program (sec. 219)**

The committee recommends a provision that would designate the Under Secretary of Defense for Research and Engineering as the official with principal responsibility for development and demonstration of directed energy weapons, pursuant to section 219(a)(1) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). The recommended provision would also establish an initiative within the Department of Defense to accelerate the fielding of directed energy weapon systems that would help counter technological advance of potential adversaries of the United States.

The committee remains supportive of directed energy weapon systems and believes that directed energy can fundamentally change warfare, much like precision-guided weapons did. The committee notes that, since 1960, the Department of Defense has invested more than \$6.0 billion in directed energy science and technology initiatives but has limited operational systems to date. While the committee commends the Department for recognizing the potential of directed energy weapon systems by budgeting for the rapid procurement of five high-energy laser weapon systems to be deployed in an operational environment, it continues to urge the Department to resource directed energy initiatives at levels necessary to transition them to full-scale acquisition programs.

The committee realizes that directed energy weapons systems will not replace kinetic weapon systems nor are they an all-purpose solution to every warfighting scenario. However, there are specific scenarios today in which directed energy weapon systems can, and should, provide our military with tactical and strategic advantages. Counter-Rockets, Artillery, and Mortar (C–RAM) and Counter-Un-

manned Aerial Systems (UAS) are specific missions in which directed energy could provide solutions to capability gaps of the military.

A number of directed energy weapon systems have been developed but are awaiting funds in the out-years for testing and demonstration. While additional improvements can be made in the areas of size, weight, and power, the committee believes that many of the systems are fully capable now of providing our military with game-changing capabilities.

The recommended provision would authorize \$200.0 million for the Under Secretary for Research and Engineering to be used exclusively for high energy laser and high power microwave prototyping and demonstrations. As the senior official with principal responsibility for directed energy weapons, the Under Secretary for Research and Engineering would be entrusted with issuing guidelines for the operation of the program based on specific criteria limited to advanced technology development, prototyping, and demonstrations. The committee urges the Under Secretary to place increased priority on funding directed energy programs identified as unfunded priorities by the Services.

The provision would also withhold 50 percent of the authorized funds until the Under Secretary develops the strategic plan required by section 219(a)(2)(A) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328; 10 U.S.C. 2431 note) and submits the strategic plan to the congressional defense committees.

Finally, the committee expects the Department to maintain management of the technical baseline with a primary emphasis on technology transition and evaluating military utility to enhance the likelihood that particular directed energy weapon systems will meet the Department end user's need. The committee encourages the Department, under the program, to develop the tactics, techniques, and procedures for the weapon systems and engage the warfighter in the use of operational systems and produce military utility assessments.

The committee expects that the Under Secretary will keep the congressional defense committees regularly updated on the progress of activities regarding directed energy weapon systems prototyping and demonstration.

**Authority for the Under Secretary of Defense for Research and Engineering to promote innovation in the Department of Defense (sec. 220)**

The committee recommends a provision that would require the establishment of a process under which the Under Secretary of Defense for Research and Engineering would review and modify Department of Defense regulations that would adversely affect the innovative capacity of the DOD. The committee notes that the position of the Under Secretary of Defense for Research and Engineering is charged with nurturing the technological innovative capacities of the Department and that often this capacity is crippled by bureaucratic processes and red tape promulgated by decision makers in organizations in the technology and innovation arena.

**Limitation on availability of funds for F-35 Joint Strike Fighter Follow-On Modernization (sec. 221)**

The committee recommends a provision that would limit the funds available for the F-35 Joint Strike Fighter Follow-On Modernization program until the Secretary of Defense submits the final report containing the basic elements of an acquisition program baseline for Block 4 Modernization as required by section 224 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328).

The committee strongly supports the F-35 Joint Strike Fighter program and recognizes the urgent need to provide our warfighters with the planned capabilities of the Block 4 modernization. However, the committee remains concerned about the executability and affordability of the Department of Defense's plan for Block 4. The country can ill afford a repeat of the substantial cost overruns and schedule slippages that have plagued this program since its inception.

The committee believes the elements of the required report—including cost estimates for development, production, and modifications; projected key schedule dates; technical performance parameters; technology readiness levels; and annual funding profiles—are vital to establishing the transparency, accountability, and oversight necessary for a program as large and as important as Block 4 modernization. Proceeding without those attributes would risk future congressional support of the program and increase the likelihood of repeating past mistakes.

**Improvement of update process for populating mission data files used in advanced combat aircraft (sec. 222)**

The committee recommends a provision that would require the Department of Defense to refine the process of updating mission data files used in advanced combat aircraft so that they may be updated more quickly.

**Subtitle C—Reports and Other Matters**

**Competitive acquisition plan for low probability of detection data link networks (sec. 231)**

The committee recommends a provision that would require the Under Secretary of Defense for Acquisition, Technology and Logistics (or any successor to this position) and the Vice Chairman of the Joint Chiefs of Staff to provide written documentation and a briefing to the congressional defense committees, no later than February 15, 2018, on a plan for a competitive acquisition process to procure a secure, low probability of detection data link network capability, with the ability to effectively operate in hostile jamming environments while preserving the low observability characteristics of the relevant platforms, between existing and planned:

- (1) Fifth-generation combat aircraft;
- (2) Fifth-generation and fourth-generation combat aircraft;
- (3) Fifth-generation and fourth-generation combat aircraft and appropriate support aircraft and other network nodes for command, control, communications, intelligence, surveillance, and reconnaissance purposes; and

(4) Fifth-generation and fourth-generation combat aircraft and their associated network-enabled precision weapons. The provision would also require the plan to include:

(1) A non-proprietary and open systems approach compatible with the Rapid Capabilities Office Open Mission Systems initiative of the Air Force and the Future Airborne Capability Environment initiative of the Navy;

(2) A competitive acquisition process, to include comparative flight demonstrations in realistic airborne environments; and

(3) Low risk and affordable solutions with minimal impact or changes to existing host platforms and minimal overall integration costs.

Finally, the provision would also limit the obligation or expenditure to not more than 85 percent of fiscal year 2018 funds for operations and maintenance for the Office of the Secretary of Defense and the Office of the Chairman of the Joint Chiefs of Staff until 15 days after the Under Secretary and Vice Chairman submit the plan required in the provision.

The committee remains concerned with the adequacy of the Department of Defense's focus on this issue and is disappointed by the failure to provide a sufficient plan for an advanced airborne data link capability as directed by section 239 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92). Meanwhile, Air Force and Navy data link development initiatives have shown limited technical progress, while potential adversary threat capabilities continue to increase. The committee believes a robust low probability of detection and jamming resistant data link network capability will be key to comprehensive situational awareness, cooperative electronic warfare, and cooperative fire control in contested and degraded operations environments.

**Clarification of selection dates for pilot program for the enhancement of the research, development, test, and evaluation centers of the Department of Defense (sec. 232)**

The committee recommends a provision that would make clarifications and edits to the laboratory management demonstration program established in section 233 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328). The provision would clarify the date limitations for consideration of an application to join the pilot program, and it would also clarify that any proposals pursuant to the pilot program shall be submitted to the appropriate assistant secretary. The recommended provision would remove any further technical or legal obstacles to successful implementation of the underlying provision.

**Requirement for a plan to build a prototype for a new ground combat vehicle for the Army (sec. 233)**

The committee recommends a provision that would require the Secretary of the Army to submit a report to the congressional defense committees detailing the Army's plan to build a prototype for a ground combat vehicle. The committee directs the Army to submit this report within 90 days of the enactment of this Act.

The committee is concerned that the Army is operating a family of armored combat vehicles designed over 40 years ago. The com-

mittee is also concerned that the Army does not have a major armored combat vehicle currently under design.

The committee is aware of ongoing efforts between the Tank Automotive Research Development and Engineering Center (TARDEC) and the Maneuver Center of Excellence at Fort Benning, Georgia to identify requirements and existing enabling component technologies. The committee is also aware of the Army's progress in integrating existing active protection systems (APS) on existing combat platforms such as the M1A2 Abrams, the M2A3 Bradley, and the STRYKER.

The committee is interested in how the Army intends to exploit the latest enabling component technologies that have the potential to dramatically change basic combat vehicle design and improve lethality, protection, mobility, range, and sustainment. This should include an analysis of capabilities of the most advanced foreign ground combat vehicles and whether any have characteristics that should inform the development of the Army's prototype vehicle, including whether any U.S. allies or partners have advanced capabilities that could be directly incorporated in the prototype. Such technologies would include APS with hard and soft kill capabilities, reactive armor, composite armor, thermal signature reduction, noise reduction, fuel cell propulsion, opposed-piston engines, 32 speed transmissions, suspension, power generation, voltage management, 3rd generation forward looking infrared sights, integrated hostile fire detection, manned-unmanned teaming, automatic loaders, munitions, and cannons.

The committee is interested in the schedule, cost, key milestones, and leadership plan to rapidly design and build a prototype ground combat vehicle. The committee understands that TARDEC can develop concepts to meet emerging requirements, test developmental concepts with soldier involvement, model designs, virtually test and modify designs, integrate new technologies, manufacture prototypes, test prototypes, and demonstrate prototypes. The committee assesses that if TARDEC is employed to its potential, it may accelerate future efforts in acquisition and reduce developmental costs.

The committee encourages the Secretary of the Army to use all acquisition authorities available to the fullest extent possible to plan to build a prototype for a new ground combat vehicle. In particular, the Secretary should aggressively use the latest authorities granted to him in the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) and the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328).

The committee acknowledges that an aggressive plan to build a prototype is not without risks. The committee fully supports this effort to exploit all available resources to expedite the construction of a combat vehicle prototype incorporating the latest technologies. The committee believes this effort will increase knowledge of available technologies, reduce risk to performance and cost, and set conditions for an accelerated development of a highly lethal and survivable vehicle that will ensure battlefield overmatch against potential adversaries.

**Plan for successfully fielding the Integrated Air and Missile Defense Battle Command System (sec. 234)**

The committee recommends a provision that would require the Secretary of the Army to report to the congressional defense committees a plan on how the Army will successfully field a suitable, survivable, and effective Integrated Air and Missile Defense Battle Command System (IBCS) program. The committee directs the Secretary to submit this plan within 180 days of the enactment of this Act. The provision would prohibit the Secretary from obligating any funds available in Research, Development, Test and Evaluation, Army, for the Army Integrated Air and Missile Defense and the Integrated Air and Missile Defense Battle Command System until the submission of this plan.

The committee is concerned this developmental program is not meeting schedule and performance objectives after having become a program of record over 7 years ago. The committee is aware the Army has delayed a Milestone C decision for limited production, originally scheduled for the 4th quarter of fiscal year 2016, to the 1st quarter of fiscal year 2020. Like the Army's Warfighter Information Network-Tactical and the Air Force's Air Operations Center 10.2, this program is experiencing difficulty with immature software and software integration.

Given that the Army has already expended over \$1.2 billion on this program with the expected requirement to spend much more, the committee is concerned current software will soon become obsolete before a functional IBCS is fielded. Further, having experienced at least two re-baselining, the committee is concerned this program is headed toward a critical change order.

**Sense of the Congress on hypersonic weapons (sec. 235)**

The committee recommends a provision that would express the sense of Congress that the Department of Defense should expedite testing, evaluation, and acquisition of hypersonic weapon systems to meet the stated needs of the warfighter; that the United States cannot afford to lose its advantage over foreign countries in developing hypersonic weapons; and that the Department of Defense should focus on the next generation of weapon systems such as hypersonics. The recommended provision would also make a number of findings regarding the status of hypersonic technology in the Department of Defense and the potential for such weapons to change warfare and provide solutions to strategic problems.

**Budget Items**

**Research, Development, Test & Evaluation Unfunded Requirements List**

The budget request included \$82.7 billion for Research, Development, Test, and Evaluation.

The committee notes that the Department of Defense submitted extensive Unfunded Requirements Lists totaling \$33.1 billion. The committee believes that since the passage of the Budget Control Act in 2011, budget requests have been guided by artificial constraints rather than the realities of the global strategic environment. This reality has continued for the fiscal year 2018 budget re-

quest, which too relies on an arbitrary number determined six years ago in the Budget Control Act. Such constraints on the budget, along with a sustained high operational tempo, have led to a significant degradation in our military readiness in the near term, and the threat that we will fall behind our adversaries in the long-term. For the last several years military leaders have highlighted these problems in great detail.

In order to address the degraded state of our military and to stop the erosion of U.S. military advantage, the committee believes that the budget should be based on requirements, rather than arbitrary budget caps. The committee recommends an increase of \$2.1 billion to Research, Development, Test and Evaluation for items identified in the Unfunded Requirements List. Some increases include acceleration for Cyber and Space capabilities. Greater details of each increase can be found in the tables in Division D.

## **Army**

### **Defense research sciences**

The budget request included \$263.6 million in Research, Development, Test, and Evaluation, Army, PE 61102A, for defense research sciences. The committee notes that basic research activities focused in technical areas of interest to Department of Defense missions lay the foundation upon which other technology development and new defense systems are built. Basic research activities fund efforts at universities, small businesses, and government laboratories. These investments also serve to help train the next generation of scientists and engineers who may work on defense technology problems in government, industry, and academia.

The committee also notes that this particular program builds fundamental scientific knowledge contributing to the sustainment of U.S. Army scientific and technological superiority in land warfighting capability and to solving military problems related to long-term national security needs. It also investigates new concepts and technologies for the Army's future force and provides the means to exploit scientific breakthroughs and avoid technological surprises.

To further bolster basic research funding, the committee recommends an increase of \$10.0 million in PE 61102A for a total of \$273.6 million. The committee directs that these funds be awarded through well-established and competitive processes.

### **University and industry research centers**

The budget request included \$87.4 million in Research, Development, Test, and Evaluation, Army, PE 61104A, for university and industry research centers. The committee notes that basic research activities focused in technical areas of interest to Department of Defense missions lay the foundation upon which other technology development and new defense systems are built. Basic research activities fund efforts at universities, small businesses, and government laboratories. These investments also serve to help train the next generation of scientists and engineers who may work on defense technology problems in government, industry, and academia.

The committee also notes that this particular program fosters university and industry based research to provide a scientific foundation for enabling technologies for future force capabilities. In particular, this program funds collaborative technology alliances, which leverage large investments by the commercial sector in basic research areas that are of great importance interest to the Army.

To further bolster basic research funding, the committee recommends an increase of \$5.0 million in PE 61104A for a total of \$92.4 million. The committee directs that these funds be awarded through well-established and competitive processes.

### **Army basic research**

The budget request included \$430.0 million in Research, Development, Test, and Evaluation, Army, for basic research (budget activity 1). The committee recommends an increase of \$10.0 million in basic research for a total of \$440.0 million to support efforts at modernizing Army capabilities and supporting Third Offset strategies.

### **Strategic materials**

The budget request included \$29.6 million in Research, Development, Test, and Evaluation, Army, PE 62105A, for materials technology research. The committee notes that in order to improve and accelerate the development of new materials, including more sophisticated and productive use of materials by design, and to address modern military needs in materials processing, additive manufacturing, and energy coupling to materials, the Army Research Laboratory has launched its Open Campus Initiative to improve collaboration with research universities and companies. There is a recognized need for targeted materials research and development to advance knowledge and design in materials processing, science and engineering, focused on transforming the affordability, performance, adaptability, and environmental sustainability of materials. The committee recommends an increase of \$10.0 million in PE 62105A for a total of \$39.6 million to support these efforts.

### **Aviation technology**

The budget request included \$65.9 million in Research, Development, Test, and Evaluation, Army, PE 62211A, for aviation technology. The committee notes that several of the programs contained within this program element, such as rotors and vehicle management technology, engine and drives technologies, and platform design and structures technologies, involve research activities that may overlap with aviation research being performed elsewhere in the Department of Defense. Given this potential for redundant work, the committee believes that the level of funds requested for this program element is not entirely justified. Therefore, the committee recommends a general program decrease of \$5.0 million in PE 62211A for a total of \$60.9 million and recommends that the Army look for opportunities to increase collaboration and coordination with other services and research programs on aviation technology.



### **Command, control, communications technology**

The budget request included \$33.1 million in Research, Development, Test, and Evaluation, Army, PE 62782A, for command, control, and communications technology. The committee encourages the Secretary of the Army to support the development and advancement of technologies that address the increasing gaps in position, navigation, and timing architectural and technological development that address GPS vulnerabilities and combatting navigation warfare. Therefore, the committee recommends an increase for position, navigation, and timing technologies of \$5.0 million for these efforts in PE 62782A for a total of \$38.1 million.

### **Army applied research**

The budget request included \$889.2 million in Research, Development, Test, and Evaluation, Army, for applied research (budget activity 2). The committee recommends an increase of \$15.0 million in applied research for a total of \$904.2 million to support efforts at modernizing Army capabilities and supporting Third Offset strategies.

### **Aviation advanced technology**

The budget request included \$160.7 million in Research, Development, Test, and Evaluation, Army, PE 63003A, for aviation advanced technology. The committee notes that of this amount, over \$120.0 million is requested for platform design and structures system, which represents a more than doubling of this project's budget from fiscal year 2017. While the committee supports the continued air vehicle demonstration of critical new technologies, the committee is concerned that the large increase in funds is not justified by the project plans. Therefore, the committee recommends a decrease for platform design and structures system of \$20.0 million in PE 63003A for a total of \$140.7 million.

### **High performance computing modernization program**

The budget request included \$182.3 million in Research, Development, Test, and Evaluation, Army, PE 63461A, for the high performance computing modernization program. The committee notes that this program is a Department-wide asset used by all of the Services and combat support agencies. Additional funding for this program would keep the research and development budget at a similar level to that appropriated in fiscal year 2017. The committee notes that research and development initiatives under this program support Defense supercomputing resource centers, the Defense Research and Engineering Network, and software applications. The U.S. government has spent over \$7 billion to develop and implement this unique, world-class national computing asset for DOD, which delivers approximately 3.2 billion processor hours and over 3.5 quadrillion floating point operations per second, available and configured to support the Department's most challenging problems and analysis of massive and complex datasets. Therefore, the committee recommends a program increase of \$40.0 million in PE 63461A for a total of \$222.3 million.

### **Military engineering advanced technology**

The budget request included \$32.4 million in Research, Development, Test, and Evaluation (RDT&E), Army, PE 63734A, for advanced military engineering advanced technology. The committee notes that of this amount, \$9.6 million is requested for map-based planning services under the combat engineering systems project line. This request represents a more than five-fold increase of this effort's budget over the amount appropriated in fiscal year 2017. The committee is concerned about the ability to absorb such a large increase in funding and believes the request level is an unjustified increase. Therefore, the committee recommends a decrease for map-based planning services of \$5.0 million in PE 63734A for a total of \$27.4 million.

### **Army advanced technology development**

The budget request included \$1,071.0 million in Research, Development, Test, and Evaluation, Army, for advanced technology development (budget activity 3). The committee recommends an increase of \$20.0 million in advanced technology development for a total of \$1,091.0 million to support efforts at modernizing Army capabilities and supporting Third Offset strategies.

### **Army armored systems modernization advanced development of advanced fuel cell prototypes**

The budget request included \$9.4 billion in Research, Development, Test, and Evaluation (RDT&E), Army, of which \$32.7 million was for the PE 63645A Armored System Modernization Advanced Development.

The committee recognizes the importance of the Army's efforts to expedite critical capabilities through rapid prototyping to meet the needs of combatant commanders. The committee believes that advanced fuel cell vehicles could provide to the Army considerable operational benefits, including reduced logistics burden, reduced acoustic and thermal signatures, and increased availability of mobile power for deployed forces. However, a robust program of prototyping and experimentation is required in order to field such tactical systems. The committee notes that the Army's Tank Automotive Research Development and Engineering Center has done significant work with the commercial automotive industry to develop and experiment with advanced fuel cell vehicle technologies and systems. The committee further believes that these activities are best executed through cross functional teams consisting of technology developers, operational users, testers, and commercial sector partners.

Accordingly, the committee recommends an increase of \$70.0 million, for a total of \$102.7 million, in RDT&E Army, PE 63645A, for the Armored System Modernization Advanced Development to prototype and test advanced fuel cell vehicles to support Army missions.

### **Suite of Vehicle Protection Systems—Active Protection System (APS)**

The budget request included \$98.6 million in PE 64852A of Research, Development, Test, and Evaluation (RDT&E) Army, for

Suite of Vehicle Protection Systems—Active Protection System (APS). The committee recommends an increase of \$25.0 million in RDT&E Army for PE 64852A for a total of \$118.6 million.

#### **Army Contract Writing System**

The budget request included \$20.3 million in Research, Development, Test & Evaluation (RDT&E), Army for PE 65047A for Army Contract Writing System. The committee is concerned about duplication among the military services in contract writing systems. The committee recommends a decrease of \$20.3 million in RDT&E, Army for PE 65047A for a total of \$0.0 million.

#### **Army Integrated Air and Missile Defense (AIAMD)**

The budget request included \$336.4 million in PE 65457A of Research, Development, Test, and Evaluation (RDT&E) Army, for Army Integrated Air and Missile Defense. The committee notes an early to need requirement in the budget for fiscal year 2018. The committee recommends a decrease of \$200.0 million in PE 65457A for a total of \$136.4 million.

#### **Accelerated development of the Hercules recovery vehicle**

The budget request included \$343.2 million in PE 23735A of Research, Development, Test, and Evaluation, Army, for Combat Vehicle Improvement Programs. The committee recommends an increase of \$4.0 million in PE 23735A for a total of \$347.2 million for accelerating the development of the M88A2E1 Hercules recovery vehicle. This item is on the Army unfunded priority list.

#### **Combat Vehicle Improvement Programs**

The budget request included \$343.2 million in PE 23735A, Research, Development, Test, and Evaluation, Army (RDTEA), for Combat Vehicle Improvement Programs.

The Committee is concerned with the Army's repeated decision to ignore the articulated requirement for a vehicle laser warning system as part of the Abrams 1B and the Bradley 2B ECP improvements. The laser warning system provides critical protection and enhances current operational capabilities utilized by forward deployed units. Any additional delay in fielding will only continue to undermine effectiveness and prolong an increased risk to the Army's ground combat vehicles.

The committee recommends that the Army realign its procurement plans and integrate the laser warning system onto the M1 Abrams Tank and any other forward deploying ground combat vehicles. The committee encourages the Army to concentrate on survivability and incorporate a laser warning sensor suite system to adequately address the growing threat of anti-tank guided missiles and laser beam riding guidance systems.

The committee believes that by focusing on mature, field-tested protective technology, the APS will provide a balanced framework that both increases lethality and protection for the warfighter. Therefore, as the Army transitions active protection systems (APS) onto ground combat vehicles through the Vehicle Protection System, the committee recommends an increase of \$4.0 million in PE 23735A, RDTEA, for a total of (including other budget increases

elsewhere in this Act) \$351.2 million, for the incorporation of a laser warning sensor suite onto the system.

#### **Missile/Air Defense Product Improvement Program**

The budget request included \$11.2 million in PE 23801A of Research, Development, Test, and Evaluation, Army, for Missile/Air Defense Product Improvement Program. The committee recommends an increase of \$26.0 million in PE 23801A for a total of \$37.2 million. Stinger Product Improvement Program is on the Army unfunded priority list.

#### **Distributed Common Ground/Surface System**

The budget request included \$24.7 million in PE 35208A of Research, Development, Test, and Evaluation (RDT&E) Army, for Distributed Common Ground/Surface System. The committee notes changing tactical requirements. The committee recommends a decrease of \$20.0 million in PE 35208A for a total of \$4.7 million.

#### **Warfighter Information Network-Tactical Increment 2-Initial Networking (WIN-T Inc. 2)**

The budget request included \$4.7 million in PE 0310349A of Research, Development, Test, and Evaluation (RDT&E) Army, for Warfighter Information Network-Tactical Increment 2-Initial Networking. The committee notes changing tactical requirements. The committee recommends a decrease of \$4.0 million in PE 0310349A.

### **Navy**

#### **University research initiatives**

The budget request included \$118.1 million in Research, Development, Test, and Evaluation, Navy, PE 61103N, for university research initiatives. The committee notes that basic research activities focused in technical areas of interest to Department of Defense missions lay the foundation upon which other technology development and new defense systems are built. Basic research activities fund efforts at universities, small businesses, and government laboratories. These investments also serve to help train the next generation of scientists and engineers who may work on defense technology problems in government, industry, and academia.

To further bolster basic research funding, the committee recommends an increase of \$5.0 million in PE 61103N for a total of \$123.1 million. The committee directs that these funds be awarded through well-established and competitive processes.

#### **Ocean warfighting environmental applied research**

The budget request included \$42.4 million in Research, Development, Test, and Evaluation, Navy, PE 62435N, for ocean warfighting environment applied research. The committee notes that large research vessels, such as the AGOR-23 class, are vitally important to the U.S. oceanographic research effort due to their range payload, duration, and ability to effectively conduct scientific operations in remote areas and high-sea states. As the size and capability of the university-laboratory oceanographic laboratory system fleet have generally declined in recent years, the demand for

research vessels like those in the AGOR-23 class has increased and has made that class among the highly-subscribed vessels in the fleet. These vessels and the research they conduct are critical to our national security and central to the Navy's anti-submarine warfare, mine warfare work, and operational warcraft efforts. Therefore, the committee recommends an increase of \$15.0 million in PE 62435N for a total of \$57.2 million.

#### **Undersea warfare applied research**

The budget request included \$56.1 million in Research, Development, Test, and Evaluation, Navy, PE 62747N, for undersea warfare applied research. The committee notes that the Navy has been researching the capacity of the shipyards that build our nation's nuclear submarine forces to maintain higher production rates for the *Virginia*-class submarines while also designing and then beginning construction of the first of the *Columbia*-class submarines in fiscal year 2021.

The committee encourages the Navy to align their efforts with qualified higher education partners focusing on undersea vehicle applications related to several key fabrication and manufacturing process technologies including composites, metals, and electronics. In addition, investments should address the overall affordability challenge faced by current and future submarine and undersea vehicle programs, including fabrication process innovation and the ability to introduce continuous technology improvements at the Navy's existing undersea shipyard industrial base.

The committee directs the Navy to closely coordinate this effort with its industrial base partners to ensure that funded research projects are relevant to specific engineering and manufacturing needs, as well as defined systems capabilities. Partnerships with academia should focus on specific, well-defined short- and long-term submarine and autonomous undersea vehicle research needs and accelerated technology transition, and they should include a strong workforce development component. To bolster this effort, the committee recommends an aggregate increase of \$25.0 million in PE 62747N for a total of \$81.1 million.

#### **Innovative naval prototypes applied research**

The budget request included \$171.1 million in Research, Development, Test, and Evaluation, Navy, PE 62792N, for innovative naval prototypes applied research. The committee notes that this program element is tasked with developing leap ahead technologies in game-changing areas such as cyber, directed energy, electromagnetic warfare, and autonomous systems. While the committee supports efforts in all of these research fields and believes that they are important to maintaining our military technological superiority, the committee notes that the other Services are also focusing research in all of these areas. As such, the committee believes that research costs can be reduced through better coordination and collaboration among the Services. Therefore, the committee recommends an aggregate decrease of \$10.0 million in PE 62792N for a total of \$161.1 million.

### **United States Marine Corps advanced technology demonstration**

The budget request included \$154.4 million in Research, Development, Test, and Evaluation, Navy, PE 63640M, for United States Marine Corps advanced technology demonstration. The committee notes that of this amount, \$59.7 million is requested for the futures directorate, an organization tasked with identifying future challenges and opportunities, developing warfighting concepts, and comprehensively exploring options to inform the combat development process to meet the challenges of the future operating environment. This request represents more than a 25 percent increase over the appropriations for this project in fiscal year 2017. The committee is concerned that such an increase is unjustified and cannot be absorbed through the work identified in the project description. Therefore, the committee recommends an aggregate decrease of \$5.0 million for the futures directorate in PE 63640M for a total of \$149.4 million.

### **Future naval capabilities advanced technology developments**

The budget request included \$231.8 million in Research, Development, Test, and Evaluation (RDT&E), Navy, PE 63673N, for future naval capabilities advanced technology developments. The activities listed under this program element include capable manpower and enterprise and platform enablers. The committee believes that the work plans for fiscal year 2018 overlap significantly with activities and research in other services and in the commercial sector. The committee encourages the Navy to coordinate these research areas more closely with these other entities and, to the extent possible, take advantage of commercial off-the-shelf technologies to achieve these objectives. Therefore, the committee recommends an aggregate decrease of \$5.0 million in PE 63673N for a total of \$226.8 million to be distributed appropriately from capable manpower and enterprise and platform enablers.

### **Mine and expeditionary warfare advanced technology**

The budget request included \$116.0 million in Research, Development, Test, and Evaluation, Navy, PE 63782N, for mine and expeditionary warfare advanced technology. The committee notes that a Navy demonstration for a maritime enhanced sensor would provide the Navy with the capability to assess a full range of anti-surface unit warfare and anti-submarine warfare capabilities, as well as to gather needed intelligence against threats in the United States Pacific Command strategic environment. United States Pacific Command has previously identified a number of mission gaps an enhanced sensor can satisfy, and the Navy has the opportunity to leverage the Air Force's maritime target detection investments and long range imaging solution in a demonstration program to reduce procurement costs and expedite fielding. Therefore, the committee recommends an increase of \$15.0 million for these efforts in PE 63782N for a total of \$131.0 million for maritime intelligence, surveillance, and reconnaissance technology.

### **Innovative naval prototypes advanced technology developments**

The budget request included \$108.3 million in Research, Development, Test, Evaluation, Navy, PE 63801N, for innovative naval prototypes advanced technology developments. The committee notes that undersea warfare capabilities are a key component of Navy modernization plans. Therefore, the committee recommends an increase of \$15.0 million for underwater unmanned vehicle prototypes in PE 63801N for a total of \$123.3 million.

### **Surface and shallow water mine countermeasures**

The budget request contained \$154.1 million in PE 63502N for surface and shallow water mine countermeasures (MCM).

The committee notes that, in the fiscal year 2017 budget request, the Barracuda MCM program was planned to be employed from an aircraft and was included in PE 64373N (Airborne Mine Countermeasures). In the fiscal year 2018 budget request, Barracuda was realigned to PE 63502N for employment from the MCM unmanned surface vessel and potentially other surface platforms. The committee lacks sufficient information on this fundamental change in Barracuda employment to support the budget request. The committee therefore recommends a decrease of \$16.0 million in Barracuda product development (project 2989).

The committee further notes PE 63502N includes the Snakehead large diameter unmanned underwater vehicle in project 2094. Compared to last year's budget request, Snakehead experienced a 1-year delay from fiscal year 2018 to 2019 for the Critical Design Review and planned fabrication start. The committee therefore recommends a decrease of \$20.0 million in Snakehead product development (project 2094).

The committee also notes this program included no funding for Persistent Littoral Undersea Surveillance (PLUS) product development, support, or fleet experimentation. The committee understands that the Office of Naval Research could conduct additional experimentation with an existing government-owned REMUS 1000 unmanned underwater vehicle. The committee supports utilizing this existing proven system for continued risk reduction, technology maturation, and concept development. The committee therefore recommends an increase of \$10.0 million for continued REMUS 1000 activities (project 2094).

Accordingly, the committee recommends an overall decrease of \$26.0 million for a total of \$128.1 million.

### **Aircraft carrier preliminary design**

The budget request included \$12.0 million in PE 63564N for ship preliminary design and feasibility studies.

The committee notes that all three future fleet platform architecture studies required by section 1067 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) recommended the Navy pursue a class of aircraft carriers smaller than the *Ford*-class. The committee concurs and believes smaller aircraft carriers would both increase capacity and provide a more efficient means to conduct a range of missions with lower sortie requirements, including amphibious operations.

The committee believes the Navy should leverage the fleet architecture studies, as well as the report on alternative aircraft carrier options required by section 128 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), to complete preliminary design of a smaller aircraft carrier. The committee further believes that completing preliminary design would provide Department leaders with an option to supplement *Nimitz*- and *Ford*-class aircraft carriers.

The committee understands that when the USS *Midway* (CV–41) was decommissioned in 1992, the ship was conventionally-powered; weighed between 60,000 and 70,000 tons; and contained 2 catapults and arresting gear to support up to 65 fixed wing aircraft. Based on the committee’s review of relevant studies and reports, the committee views these attributes as desirable for a class of smaller aircraft carriers and believes more than one United States shipyard should be capable of building aircraft carriers.

Therefore, the committee recommends an increase of \$30.0 million, for a total of \$42.0 million, in PE 63564N and directs the Secretary of the Navy to complete preliminary design of a smaller aircraft carrier. The Secretary shall submit the preliminary design to the Committees on Armed Services of the Senate and House of Representatives not later September 30, 2019.

#### **Littoral Combat Ship**

The budget request contained \$41.0 million in PE 63581N for Littoral Combat Ships.

The committee notes the Littoral Combat Ship project (3096) included no product development and a reduced level of test and evaluation activity.

Therefore, the committee recommends a reduction of \$7.0 million, for a total of \$34.0 million, to align support costs with program activity.

#### **Marine Corps Rapid Capabilities Office**

The budget request included \$17.8 billion for Research, Development, Test, Evaluation, Navy, of which \$7.1 million was for PE 64320M for Rapid Technology Capability Prototype.

The committee notes the importance of the Marine Corps Rapid Capabilities Office (MCRCO) as part of the larger defense-wide acquisition system reform. The MCRCO will be housed inside the Marine Corps Warfighting Lab and should continue to improve the Corps’ rapid prototyping capabilities.

Accordingly, the committee recommends an increase of \$10.0 million for PE 64320M for Rapid Technology Capability Prototype for a total of \$17.1 million.

#### **Extra large unmanned undersea vehicles**

The budget request included \$66.5 million in PE 64536N for research, development, test, and evaluation of advanced undersea prototyping.

The committee notes the budget request for this program element provides for the prototyping and testing of extra large unmanned undersea vehicles (XLUUV), including procurement of up to five vehicles and the lease of one vehicle, in project 3394. The



committee further notes the contract for fabrication of up to five XLUUVs, battery energy sections, and mine warfare payloads is scheduled to be awarded in fiscal year 2019 with XLUUV deliveries to begin in fiscal year 2020.

The committee is concerned with the Navy's concurrent approach to design, technology development, and integration, as well as the feasibility of the XLUUV concept of employment for envisioned missions.

Therefore, the committee recommends a decrease of \$52.9 million for project 3394, for a total of \$13.6 million, due to fabrication funding being ahead of need and insufficient detail on program milestones necessary to deliver a system capable of achieving desired mission objectives.

### **Air Crew Systems Development**

The budget request included \$13.2 million in PE 64264N of Research, Development, Test, and Evaluation, Navy (RD TEN) for air crew systems development.

The committee is concerned by repeated incidents of physiological episodes occurring in a number of Navy aircraft, particularly the F/A-18 Hornet and Super Hornet, EA-18G Growler, and T-45 Goshawk. Despite being Naval Aviation's number one safety priority and the existence of a physiological episode team since 2010, determining root causes and establishing adequate mitigations remain elusive. The committee is encouraged by the level of attention senior Navy leadership has shown towards this issue, but it believes more must be done to solve this danger to our Naval Aviators and Naval Flight Officers.

Therefore, the committee recommends an increase of \$20.0 million, including \$10.0 million to establish a prize competition designed to accelerate identification of the root cause or causes of physiological episodes, in PE 64264N of RD TEN for a total of \$33.2 million.

### **F-35 System Design and Demonstration—Marine Corps**

The budget request included \$152.9 million in PE 64800M, Research, Development, Test, and Evaluation, Navy (RD TEN), for the Marine Corps contribution to F-35 System Design and Demonstration (SDD).

The committee is concerned that the Department of Defense is not budgeting the resources necessary to ensure that the SDD phase is completed in a timely, efficient, and effective manner. The committee believes that it is essential the program efficiently and effectively completes the SDD phase to ensure that the warfighter receives the required capabilities and that the program is established on a solid foundation, with minimal outstanding deficiencies that need to be corrected in later modifications. The committee further believes post-SDD software updates and testing resources will be necessary prior to introduction of the first increment of Block 4 Follow-on Modernization to correct any deficiencies either left over from SDD or discovered in Initial Operational Test & Evaluation. The committee does not believe these efforts are being properly resourced.

The country can ill afford further delays to the F-35's necessary capabilities. However, it is equally essential to ensure the minimal number of deficiencies are deferred beyond SDD, both to deliver the necessary warfighting capabilities and to avoid further costly modifications later.

Therefore, the committee recommends an increase of \$91.2 million, for a total of \$244.1 million, in PE 64800M, RDTEN, for F-35 SDD. Elsewhere in this Act, the committee recommends additional funding increases for F-35 SDD to aid in the development of this vitally important program.

### **F-35 System Design and Demonstration—Navy**

The budget request included \$109.0 million in PE 64800N, Research, Development, Test, and Evaluation, Navy (RDTEN), for the Navy contribution to F-35 System Design and Demonstration (SDD).

The committee is concerned that the Department of Defense is not budgeting the resources necessary to ensure that the SDD phase is completed in a timely, efficient, and effective manner. The committee believes that it is essential the program efficiently and effectively completes the SDD phase to ensure that the warfighter receives the required capabilities and that the program is established on a solid foundation, with minimal outstanding deficiencies that need to be corrected in later modifications. The committee further believes post-SDD software updates and testing resources will be necessary prior to introduction of the first increment of Block 4 Follow-on Modernization to correct any deficiencies either left over from SDD or discovered in Initial Operational Test and Evaluation. The committee does not believe these efforts are being properly resourced.

The country can ill afford further delays to the F-35's necessary capabilities. However, it is equally essential to ensure the minimal number of deficiencies are deferred beyond SDD, both to deliver the necessary warfighting capabilities and to avoid further costly modifications later.

Therefore, the committee recommends an increase of \$66.7 million, for a total of \$175.6 million, in PE 64800N, RDTEN, for F-35 SDD. Elsewhere in this Act, the committee recommends additional funding increases for F-35 SDD to aid in the development of this vitally important program.

### **Navy eProcurement (Navy ePS)**

The budget request included \$11.2 million in Research, Development, Test & Evaluation (RDT&E), Navy for PE 65013N for Navy eProcurement in Information Technology Development. The committee is concerned about duplication among the military services in contract writing systems. The committee recommends a decrease of \$11.2 million in RDT&E Navy for PE 65013N for a total of \$0.0 million.

### **Navy Standard Integrated Personnel System (NSIPS)**

The budget request included \$23.9 million in Research, Development, Test & Evaluation (RDT&E), Navy for PE 65013N for Navy Standard Integrated Personnel System in Information Technology

Development. The committee is concerned about duplication among the military services in integrated personnel and pay systems. The committee recommends a decrease of \$23.9 million in RDT&E, Navy for PE 65013N for a total of \$0.0 million.

#### **DDG-1000**

The budget request included \$140.5 million in PE 24202N for the DDG-1000 program.

The committee notes the budget request for this program element contains \$121.2 million in cost growth in fiscal year 2018 and \$222.3 million in cost growth over the fiscal year 2018 to 2020 period, as compared to the fiscal year 2017 budget request. The committee urges the Secretary of the Navy to take further measures to regain cost control.

Therefore, the committee recommends a decrease of \$50.0 million in PE 24202N for the DDG-1000 program for a total of \$90.5 million.

#### **Management, technical, and international support**

The budget request included \$94.6 million in PE 65853N of research, development, test, and evaluation, Navy for management, technical, and international support.

The committee notes the following projects contain unjustified growth: 2221 (\$4.0 million) and 3027 (\$1.5 million).

Therefore, the committee recommends a decrease of \$5.5 million for a total of \$89.1 million.

#### **Classified project**

The budget request included \$1.5 billion in PE 99999N of Research, Development, Test, and Evaluation, Navy for classified programs.

The committee recommends an increase of \$200.0 million, for a total of \$1.7 billion, for project 0428.

### **Air Force**

#### **Hypersonic wind tunnels**

The budget request included \$124.7 million in Research, Development, Test, and Evaluation, Air Force, PE 62201F, for aerospace vehicle technologies. The committee recommends an increase of \$5.0 million in PE 62201F to enhance efforts on advanced hypersonic wind tunnel experimentation and applied research for a total of \$129.7 million. The committee notes that hypersonic technologies are a key component of Third Offset strategies but is concerned that investment has been insufficient to support test infrastructure, advanced testing techniques, and the testing workforce. Without these investments, it is unlikely that hypersonic systems will achieve operational status.

#### **Human effectiveness applied research**

The budget request included \$108.8 million in Research, Development, Test, and Evaluation, Air Force, PE 62202F, for human effectiveness applied research. The committee notes that the Air Force Research Laboratory started a multi-year Secure Live-Virtual-Con-

structive Advanced Training Environment Advance Technology Demonstrator to develop and demonstrate a mixed live-and-synthetic air combat environment to train pilots for missions involving current and future anti-access/area denial and asymmetric threats at an affordable cost. Such training systems are higher fidelity, more realistic, and threat-representative training. The introduction of these exercises will offer combat pilots substantially improved battlefield realism, and the committee urges the military services to apply the necessary focus and resources to support LVC training for combat pilots in the near-term.

The committee notes that the demonstration needs additional funding for development activities which include ensuring multiple independent levels of security, encryption certification, development of a fifth generation advanced training waveform, and support for additional platform types. The lack of full funding puts at risk the ability to bridge the developmental effort into a program of record. Therefore, the committee recommends an increase of \$25.0 million in PE 62202F for a total of \$133.8 million to support research on advanced training environments.

#### **Aerospace propulsion**

The budget request included \$192.7 million in Research, Development, Test, and Evaluation, Air Force, PE 62203F, for aerospace propulsion. The committee notes that the Air Force must continue development of critical next-generation engine programs that require both significant research and development funding and long-lead times for propulsion-system development. Advanced propulsion research is critical to meeting the requirement of advanced weapon systems concepts.

Therefore, the committee recommends an increase of \$8.0 million in PE 62203F for a total of \$200.7 million.

#### **Electronic combat technology**

The budget request included \$60.5 million in Research, Development, Test, and Evaluation, Air Force, PE 63270F, for electronic combat technologies. In order to support collaboration between the Defense Digital Service and the Air Force Research Laboratory to improve Air Force software engineering capabilities and to address high priority technical issues plaguing Air Force information technology acquisition programs and deployed systems, the committee recommends an increase of \$5.0 million in PE 63270F for a total of \$65.5 million.

#### **Commercial Space Situational Awareness (SSA) Consortia/Testbed**

The committee is concerned about the increasingly contested environment in space and believes that commercial solutions, in some cases, are available to rapidly fill critical operational gaps and mitigate emerging threats.

Therefore, the committee supports the funding of the Air Force's unfunded requirement of \$15.0 million to establish a commercial Space Situational Awareness (SSA) Consortia/Testbed to help the Air Force field "best of breed" commercial space situational awareness and Battle Management Command and Control (BMC2) soft-

ware. In an effort to normalize and better understand the many SSA investments underway or planned, the committee requests the Air Force provide a report itemizing the amounts the Air Force has requested on development, operations, and sustainment in the fiscal year 2018 budget request for each of the following three components, as well as funding requested in the unfunded requirements process: surveillance sensor systems, SSA software for operations centers, and BMC2 software for operations centers. In the report the Air Force should appropriately delineate investments in commercial capabilities versus Air Force research and development efforts and include a description for each including a discussion of how and where it plans to leverage commercial space situational awareness capabilities. The committee directs the Air Force to provide this information to the congressional defense committees within 30 days.

#### **Air Force Contracting Information Technology System**

The budget request included \$15.9 million in Research, Development, Test & Evaluation (RDT&E), Air Force for PE 91410F for Air Force Contracting Information Technology System. The committee is concerned about duplication among the military services in contract writing systems. The committee recommends a decrease of \$15.9 million in RDT&E, Air Force for PE 91410F for a total of \$0.0 million.

#### **F-35 System Design and Demonstration—Air Force**

The budget request included \$293.0 million in PE 64800F of Research, Development, Test, and Evaluation, Air Force (RDTEAF) for the Air Force contribution to F-35 System Design and Demonstration (SDD).

The committee is concerned that the Department of Defense is not budgeting the resources necessary to ensure that the SDD phase is completed in a timely, efficient, and effective manner. The committee believes that it is essential that the program efficiently and effectively completes the SDD phase to ensure that the warfighter receives the required capabilities and that the program is established on a solid foundation, with minimal outstanding deficiencies that need to be corrected in later modifications. The committee further believes post-SDD software updates and testing resources will be necessary prior to introduction of the first increment of Block 4 Follow-on Modernization to correct any deficiencies either left over from SDD or discovered in Initial Operational Test and Evaluation. The committee does not believe these efforts are being properly resourced.

The country can ill afford further delays to the F-35's necessary capabilities. However, it is equally essential to ensure the minimal number of deficiencies are deferred beyond SDD, both to deliver the necessary warfighting capabilities and to avoid further costly modifications later.

Therefore, the committee recommends an increase of \$172.2 million, for a total of \$465.2 million, in PE 64800F, for F-35 SDD. Elsewhere in this Act, the committee recommends additional funding increases for F-35 SDD to aid in the development of this vitally important program.

### **Restructure of Air and Space Operations Center—Weapons System upgrade program**

The budget request contained \$119.8 million in Research, Development, Test, and Evaluation, Air Force (RDTEAF), PE 65458F, for the Air and Space Operations Center—Weapons System 10.2 upgrade program.

The committee is concerned with the length and cost of the Air and Space Operations Center Weapons System 10.2 upgrade program, especially after the program experienced a critical change in March 2016, where the Milestone C fielding decision was delayed for an additional 3 years and the cost for the development phase was estimated to double over the original estimate, increasing from \$374.0 million to \$745.0 million. This program, while complex in nature and complicated by emerging cyber assurance requirements, was originally established in fiscal year 2007. For such a core Air Force requirement in a system intended to enable its Combined Forces Air Component Commanders to effectively plan and execute air and space campaigns in support of combatant commander warfighting requirements, a 13-year program from inception to fielding is unacceptable.

The committee is also concerned that the treatment of Department of Defense software production and sustainment activities in the same manner as traditional acquisition programs is an impediment to the faster delivery of required capabilities. Software production should be treated primarily as advisory and assistance services under indefinite delivery/indefinite quantity contract structures, with specific contract lines to deliver increments of information technology from appropriate experts in a more rapid fashion. In today's rapidly changing technology environment, software production and sustainment activities represent a continuous and ongoing effort that do not conform well with current acquisition program cycles and milestones.

The committee expects the Secretary of the Air Force, in the pursuit of restructuring how information systems are developed and sustained, to use a pathfinder approach on this program to:

- (1) Establish an Air Force Life Cycle Management Center (AFLCMC)/Defense Innovation Unit—Experimental (DIUx) modernization team;
- (2) Establish a change management initiative to empower AFLCMC to run a multi-phase pathfinder pilot;
- (3) Deliver the initial capability of the pathfinder pilot within 8 to 12 months;
- (4) Transition software management capability, contracting vehicles, and hiring authority from DIUx to the Air and Space Operations Center Program Management Office over the next 24 to 36 months;
- (5) Demonstrate how executive leadership will facilitate agile software production processes; and
- (6) Distribute lessons learned for incorporation into other Department of Defense business information and national security system software production efforts.

Therefore, the committee recommends a decrease of \$104.8 million in RDTEAF, PE 65458F, for the Air and Space Operations Center—Weapons System 10.2 upgrade program, for a total of

\$15.0 million, which is sufficient authorization of funds for residual contract liabilities.

#### **Advanced weapons systems testing capabilities**

The budget request included \$82.9 million in Research, Development, Test, Evaluation, Air Force, PE 64759F, for major test and evaluation investment. The committee notes that this bill supports and accelerates the Department's efforts to modernize military capabilities to meet the threats of the future, especially in advanced weapons systems, such as hypersonic missiles and directed energy. The committee notes that the successful development and deployment of the systems depends on robust testing capabilities including open air ranges with modern instrumentation and highly skilled technical workforce.

Therefore, the committee recommends an additional \$15.0 million in PE 64759F to improve open air range testing capabilities to support development of Third Offset advanced weapons systems, for a total of \$97.9M.

#### **Air Force Integrated Personnel and Pay System (AF-IPPS)**

The budget request included \$21.9 million in Research, Development, Test & Evaluation (RDT&E), Air Force for PE 65018F for Air Force Integrated Personnel and Pay System (AF-IPPS). The committee is concerned about duplication among the military services in integrated personnel and pay systems. The committee recommends a decrease of \$21.9 million in RDT&E, Air Force for PE 65018F for a total of \$0.0 million.

#### **Minuteman III Squadrons**

The budget request included \$210.9 million in Research, Development, Test, and Evaluation, Air Force, PE 11213F, for Minuteman III Squadrons, of which \$20.0 million was incorrectly loaded across the related programs during the budget process. The committee supports the request by the Air Force to transfer funds between these subprograms and therefore recommends a decrease of \$10.0 million in Minuteman Ground and Communication Equipment from \$119.4 million to \$109.4 million, a decrease of \$10.0 million in Minuteman Support Equipment from \$31.6 million to \$21.6 million, and an increase of \$20.0 million in ICBM Cryptography Upgrade II from no funding to \$20.0 million, with the aggregate funding for Minuteman III Squadrons remaining at \$210.9 million.

#### **Pulsed solid rocket motor technology**

The budget request contained \$35.0 million in Research, Development, Test & Evaluation, Air Force (RDTEAF) for PE 27161F for Tactical AIM Missiles.

The committee is aware that substantial advances are being made in the development of pulsed solid rocket motor technologies that could significantly increase the range and probability of kill for existing air-to-air and air-to-surface missiles. With the increasing capabilities of potential adversary air-to-air and air-to-surface munitions, successful transition of such technologies could be rapidly fielded into existing U.S. munitions inventories to maintain

technological overmatch in air dominance against potential adversaries.

Therefore, the committee recommends an increase of \$20.0 million in RDTEAF, for PE 27161F, for a total of \$55.0 million, to support the development of pulsed rocket motor technologies for air-to-air and air-to-surface missiles.

### **Minimum Essential Emergency Communications Network**

The budget request included \$48.8 million in Research, Development, Test, and Evaluation, Air Force, PE 33131F, for the Minimum Essential Emergency Communications Network (MEECN), of which \$10.0 million was requested for Global Aircrew Strategic Network Terminal (ASNT) Increment 1; \$22.5 million was for Common VLF/LF Receiver (CVR) Increment 2; and \$15.4 million was for Global ASNT Increment 2. The committee notes that program delays in Global ASNT Increment 1 have further delayed Increment 2. The committee supports the Air Force's request to transfer funds between these subprograms and therefore recommends that CVR Increment 2 be decreased by \$12.3 million for a total of \$10.3 million; Global ASNT Increment 2 be reduced by \$8.8 million for a total of \$6.5 million; and Global ASNT Increment 1 be increased by \$21.1 million for a total of \$31.1 million, in order to support timely completion of Increment 1, with the aggregate funding for MEECN remaining at \$48.8 million.

### **C-130J**

The budget request included \$26.8 million in PE 41132F, Research, Development, Test & Evaluation, Air Force (RDTEAF) for the C-130J program.

The committee recommends a decrease of \$6.4 million in PE 41132F for RDTEAF, for a total of \$20.4 million, for the C-130J program due to the availability of prior year funds that are excess to program needs.

## **Defense Wide**

### **National defense education program**

The budget request included \$74.3 million in Research, Development, Test, and Evaluation, Defense-wide, PE 61120D8Z, for the national defense education program. The committee notes that the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) authorized a program the Department of Defense to engage in innovative and evidence-based efforts to improve science, technology, engineering and mathematics (STEM) educational opportunities for military children. The committee notes that by this fall, 215 military-connected high schools will be engaged in the program. The committee also notes that this program is yielding significant dividends and tangible results. For example, using the highly rigorous Advanced Placement exam qualifying score (3 or better on a 5-point scale) as the benchmark, program schools have seen an average of a 152 percent increase in successful math and science examinations after 3 years in the program. To support these efforts, the committee recommends an additional



\$5.0 million in PE 61120D8Z for a total of \$79.3 million to support evidence-based military child STEM education.

### **Manufacturing Engineering Education Program**

The budget request included \$74.3 million in Research, Development, Test, and Evaluation, Defense-wide, PE 61120D8Z, for the National Defense Education Program. Improving the quality and availability of manufacturing engineering education is critically important to sustaining and advancing the manufacturing industrial base of the United States, which is vital for the economic and national security of the country, and specifically the Defense Industrial Base, on which the Department of Defense directly depends for its warfighting capabilities. Manufacturing engineering education suffered in proportion to the collapse of manufacturing employment in the last decade, and needs to be revitalized. The committee recommends an increase of \$20.0 million for the Manufacturing Engineering Education Program established under section 2196(a)(1) of title 10, United States Code in PE 61120D8Z for a total of \$94.3 million.

### **Support for minority women in science, technology, engineering, and mathematics fields at historically black colleges and universities**

The budget request includes \$25.9 million in Research, Development, Test, and Evaluation, Defense-wide, PE 61228D8Z, for research activities at Historically Black Colleges and Universities (HBCUs). The committee is aware of the need to increase participation of all American citizens in defense and related national security efforts. Students at HBCUs represent a largely untapped pool of U.S. citizens who have technical training and can obtain the security clearances needed to work on high priority national security challenges. The committee notes that the HBCU program at the Department of Defense has worked both to fund high priority university research, especially through the establishment of centers of excellence in key disciplines and activities, and to strengthen the pipeline of talent from HBCUs into technical positions within the Department. The committee urges the Department to engage HBCUs to support the training and education of minority women in the science, technology, engineering and mathematics (STEM) fields that are of interest to the military, particularly through research funding, fellowships, and internships and cooperative work experiences at Defense laboratories. The committee recommends that the Department considering increasing investments in these kinds of activities in future budgets to support Administration initiatives on HBCUs. Consistent with the spirit and findings of the INSPIRE Women Act (Public Law 115–7), the Promoting Women in Entrepreneurship Act (Public Law 115–6), and Executive Orders promoting excellence and innovation at Historically Black Colleges and Universities (E.O. 13532 and E.O. 13779), the committee recommends an increase of \$2.0 million to support merit-based and competitive awards to HBCUs in PE 61228D8Z for a total of \$27.9 million.

### **Tactical technology**

The budget request included \$343.8 million in Research, Development, Test, and Evaluation (RDT&E), Defense-wide, PE 62702E, for tactical technology, of which \$33.5 million was requested for the multi-azimuth defense fast intercept round engagement system. The committee notes that this system, while potentially capable, faces an uncertain transition future due to the complexity involved with installation deployment, combined with practical limitations on its use. In addition, the committee notes that the Navy has not yet signed on as a transition partner despite the potential application to naval warfare.

The committee also notes that a number of efforts in this program element are proposed for significant growth, at a time when similar activities in the Services and the Strategic Capabilities Office are also growing. At the same time, the committee is concerned that the agency appears to be undertaking some of these efforts without sufficient coordination with the defense research community. Accordingly, the committee recommends a decrease of \$15.0 million in PE 62702E for a total of \$328.8 million and recommends that a portion of the decrease be applied to multi-azimuth defense fast intercept round engagement system.

### **Electronics technology**

The budget request included \$295.4 million in Research, Development, Test, and Evaluation (RDT&E), Defense-wide, PE 62176E, for electronics technology. The committee notes that the request represents an increase of over 33 percent above the amount enacted for fiscal year 2017, which itself was 25 percent above the amount enacted for fiscal year 2016. The committee notes that the completed projects in this program element did not for the most part transition to programs of records. As a result, the committee recommends a general program decrease of \$10.0 million in PE 62176E for a total of \$285.4 million.

### **Analytic assessments**

The budget request included \$13.2 million in Research, Development, Test, and Evaluation (RDT&E), Defense-wide, PE 63288D8Z, for science and technology analytic assessments. The committee recommends a reduction of \$5.0 million in PE 63288D8Z for a total of \$8.2 million, reflecting an interest in supporting higher priority technology development activities. The committee also urges the Department to make use of a broader set of analytic capabilities, including those at not-for-profit research organizations and think tanks, universities, and in-house laboratories to support these types of analyses.

### **Enhancement of Hollings Manufacturing Extension Partnership to Department of Defense**

The budget request included \$136.2 million in Research, Development, Test, and Evaluation, Defense-wide, PE 63680D8Z for Manufacturing Science and Technology Program. The National Institute for Standards and technology (NIST) conducts a nation-wide Manufacturing Extension Partnership (MEP) to support small manufacturing companies to reduce costs, increase productivity, improve

management, enhance their supply chains, and discover and adapt to new market and supply chain opportunities. The MEP already supports a large fraction of the small manufacturers in the Defense Industrial Base, and has already formed relationships with the Manufacturing USA Institutes established by the Department of Defense over the last five years. With additional funding, the MEP could provide services to a larger fraction of the small businesses already serving or seeking to become part of the Defense Industrial Base. In addition, the MEP could play a pivotal role in ensuring the success of the Manufacturing Institutes by using its dense network of small business relationships to promote exposure, networking, and collaboration between small manufacturers, the MEP centers (as defined in section 25(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278k(a)), and the regional institutes of Manufacturing USA.

Accordingly, the committee recommends an increase of \$35.0 million in program element PE 63680D8Z for a total of \$171.2 million. Of this increase, \$20.0 million would be to extend the support of the MEP to improve the productivity of the Defense Industrial Base, and \$15.0 million would be to establish partnerships between MEP centers and the Manufacturing USA Institutes to enhance participation by small manufacturers, disseminate technology and know-how to small businesses, and enhance the supply chains of the Institutes' corporate members.

#### **Sustaining Investment in Manufacturing USA Institutes**

The budget request included \$136.2 million in Research, Development, Test, and Evaluation, Defense-wide, PE 63680D8Z for the Manufacturing Science and Technology Program. Over the last five years, the Department of Defense (DOD) established eight manufacturing technology institutes under the Manufacturing USA Initiative. The institutes are public-private partnerships between the government, industry, and academia to mature new, advanced manufacturing technology (technology readiness levels 3–7) in focused areas that are key to future economic growth and national security. After five years of government co-investment, the institutes must be self-sustaining. Fiscal year 2017 is the fifth and final year of government funding for the original institute, America Makes, which is focused on additive manufacturing and 3D printing. In the next several years, Department of Defense seed funding for the institutes will cease. The committee agrees that the institutes should be self-sustaining, but believes that the institutes represent a valuable research and development resource that the Department should be using to advance its manufacturing technology agenda. The committee recommends an increase of \$20.0 million in PE 63680D8Z for a total of \$156.2 million for the Department to enter into contracts with the institutes to address specific Defense manufacturing technology challenges and opportunities.

The committee notes that there are tensions between elements of the institutes' designs and goals. The institutes bring together companies for collaborative purposes and common interests, but these companies compete with each other and are naturally cautious about exposing ideas about technical solutions that they believe could provide a competitive advantage. The Department of Defense,

as a matter of policy, emphasizes the importance of open access among all institute members to intellectual property developed at the institute, but this can discourage companies from working at the institutes with their vertically aligned supply chains to create proprietary technological advances. More generally, the institutes are intended to mature manufacturing technology while at the same time remaining at the “pre-competitive” phase of maturation.

These constraints deter the institutes from generating distinctive intellectual property or solutions to address specific manufacturing technology requirements. This in turn could limit the value of the institutes’ work to the military services and the corporate members that support the institutes financially. This could handicap the institutes within DOD, because the metric used to evaluate manufacturing technology programs is the successful transition of technology directly to legacy or new programs.

The committee recommends that the Joint Defense Manufacturing Technology Panel become an active participant in guiding the Department’s work and engagement with the institutes and the metrics that are developed to assess them, to ensure greater insights into the military services’ actual defense/supply chain needs. The committee urges the Department to encourage institutes to support institute members desiring to work at the institutes with supply chain partners on proprietary advances. It is vital for the Department to ensure that the companies that financially support the institutes realize measurable returns on their investment. The committee further encourages exploration of new collaborative institute models being explored by the services outside the Manufacturing USA framework, such as the Army Research Laboratory’s new Center for Agile Materials Manufacturing Science.

### **SERDP and ESTCP increases**

The budget request included \$20.4 billion in Research, Development, Test, and Evaluation (RDT&E) Defense-wide, of which \$71.8 million was for the PE 63716D8Z Strategic Environmental Research and Development Program (SERDP) and \$54.5 million for the PE 63851D8Z Environmental Security Technology Certification Program (ESTCP).

The committee notes that both SERDP and ESTCP demonstrate and validate the most promising innovative technologies that can meet the Department’s most urgent environmental requirements, provide a return on investment, and are executed through a free and open competition.

The committee remains very concerned with the rising number of military installations across the country that have tested positive for contaminated drinking water with the presence of per- and polyfluoroalkyl substances, which have a lifetime health advisory of 70 parts per trillion according to the Environmental Protection Agency. Accordingly, the committee recommends an increase of \$10.0 million in RDT&E, PE 63716D8Z, for SERDP, and an increase of \$10.0 million in RDT&E, PE 63851D8Z, for ESTCP, for totals of \$81.8 million and \$64.5 million respectively.

Lastly, the committee directs the Department to use the increases in SERDP and ESTCP to address the following urgent concerns: (1) The safety and welfare of the servicemembers and their

dependents by eliminating or reducing the generation of pollution and use of hazardous materials and reducing the cost of remedial actions and compliance with environmental laws and regulations, specifically as it relates to per- and polyfluoroalkyl substances; (2) Improved munitions response and unexploded ordnance mitigation and removal; and (3) Long-term threats to sustain training and testing ranges.

#### **Microelectronics technology development and support**

The budget request included \$219.8 million in Research, Development, Test, and Evaluation, Defense-wide, PE 63720S for microelectronics technology development and support. The committee remains concerned about manufacturing supply chain assurance against counterfeit parts and ensuring ready access to trusted microelectronics. The committee notes its desire for a long-term strategy for the development of trusted microelectronics that can withstand any future problems with an international supply chain. To support efforts in microelectronics technology development and support, the committee recommends an increase of \$80.0 million in PE 63720S for a total of \$299.8 million.

#### **Operational energy capability improvement**

The budget request included \$20.4 billion in Research, Development, Test, and Evaluation (RDT&E), Defense-wide, of which \$38.4 million was for the PE 64055D8Z Operational Energy Capability Improvement Fund (OECIF).

The committee recognizes the urgent requirement to constantly innovate and improve combat capability and operational effectiveness for the warfighter, via targeted and competitive operational energy science and technology investments.

Accordingly, the committee recommends an increase of \$10.0 million, for a total of \$48.4 million, in RDT&E, PE 64055D8Z, for OECIF.

Specifically, the committee directs the Department to use the OECIF and increase in funding to address the following urgent concerns: deployable technologies that can harvest water from air, tactical microgrids, hybrid energy storage modules, waste to energy technologies given the continual challenge of open-air burn pits, joint infantry company prototypes, long-endurance unmanned aerial vehicles, and other technologies deemed appropriate.

#### **Israeli Cooperative Missile Defense Program**

The budget request included \$105.3 million in Research, Development, Test, and Evaluation, Defense Wide, PE 603913C, for Israeli Cooperative Missile Defense Programs. The committee recommends an increase of \$268.5 million in PE 603913C, for a total of \$373.8 million, to reduce development risk and continue the modernization of Israeli's multi-tiered missile defense systems. The additional funding shall be apportioned as follows: \$28.1 million for the Arrow-3 Upper Tier system; \$105.0 million to conduct flight tests of the Arrow-3 Upper Tier system at a U.S. test range; \$71.5 million for the Arrow System Improvement program; and \$63.9 million for the David's Sling program. The committee urges the Government of Israel to avoid any additional, unnecessary costs in further

tests of the Arrow-3 program and to leverage these and any other U.S. funds already appropriated to plan for such future tests.

#### **Corrosion control and prevention funding increase**

The budget request included \$20.4 billion in Research, Development, Test, and Evaluation (RDT&E), Defense-wide, of which \$3.8 million was for PE 64016D8Z Department of Defense (DOD) Corrosion Program.

The committee continues to be concerned that the Department has consistently underfunded the DOD Corrosion Program since fiscal year 2011. The DOD estimates that the negative effects of corrosion cost approximately \$22.9 billion annually to prevent and mitigate corrosion of its assets, including military equipment, weapons, facilities, and other infrastructure.

Accordingly, the committee recommends an increase of \$10.0 million, for a total of \$13.8 million, in RDT&E Defense-wide, PE 64016D8Z, for the DOD Corrosion Program.

#### **Defense technology offset**

The budget request included \$0.0 million in Research, Development, Test, and Evaluation, Defense-wide, PE 64342D8Z for defense technology offset. The committee notes that insufficient funds have been put towards directed energy, inconsistent with the intent of Congress to bolster directed energy technologies. In addition, a provision elsewhere in this Act establishes a directed energy weapon system prototype and demonstration initiative and authorizes \$200 million for these efforts. The committee underscores that directed energy systems are still critical areas of work in need of greater support and attention. The committee believes that the Department needs to focus in particular on the transition from lab development to deployment and fielding. Consequently, the committee recommends a general increase of \$200.0 million in PE 64342D8Z for a total of \$200.0 million to be used only for the purposes of directed energy weapon systems prototyping and demonstration in conjunction with the new program established elsewhere in this Act. Of this increase, the committee recommends that an appropriate amount be made available for the Joint Directed Energy Transition Office to carry out additional authorities and responsibilities, including the development of the strategic plan, pursuant to section 219 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). The committee notes that this increase builds on the efforts in the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), which established a new technology offset program that included a strong focus on directed energy technologies.

#### **Ground-Launched Intermediate-Range Missile**

The budget request included no funding for a Ground-Launched Intermediate-Range Missile in Research, Development, Test, and Evaluation, Defense-wide. The committee recommends an increase of \$65.0 million for this initiative. A provision related to the authorization for the use of such funds is included in title XVI of this Act.

### **Government-unique Tracking and Reporting Tool**

The budget request included \$21.4 million in Research, Development, Test, and Evaluation, Defense-wide, PE 65027D8Z, for IT Development Initiatives including \$2.0 million for a Financial Management and Certification Tracking and Reporting Tool. Given that colleges and universities exist, and nearly every federal agency, and every company has some kind of mandatory training program for employees, the tracking of certification and reporting for training initiatives is a solved technical problem in the commercial market. The Department does not need to award a contract to develop a new system from scratch, and instead should develop an approach that considers modernizing the existing system to optimize its performance using expertise resident in the Department, or ordering an off-the shelf solution from the commercial market and configuring it. Therefore the committee recommends a reduction of \$2.0 million from this account.

### **Defense-Wide Electronic Procurement Capabilities**

The budget request included \$11.9 million in Research, Development, Test & Evaluation, Defense-Wide (RDT&E DW), for PE 65210D8Z for Defense-Wide Electronic Procurement Capabilities. The committee is concerned about duplication among the military services in contract writing systems. The committee recommends a decrease of \$11.9 million in RDT&E DW for PE 65210D8Z for a total of \$0.0 million.

### **Software developmental testing**

The budget request include \$20.6 million in PE65804D8Z for Development Test and Evaluation in Research, Development, Test, and Evaluation, Defense-Wide.

The committee recommends an increase of \$5.0 million to improve capabilities for the agile testing of software to support more efficient development of advanced information technologies and systems.

### **MQ-9 Unmanned Aerial Vehicles**

The budget request included \$37.9 million in Research, Development, Test, and Evaluation, Defense-wide (RDTEDW), PE 1105219BB, for the development, integration, and testing of special operations-unique mission kits for the Medium Altitude Long Endurance Tactical (MALET) MQ-9 Unmanned Aerial Vehicle (UAV). U.S. Special Operations Command (SOCOM) is responsible for the rapid development and acquisition of special operations capabilities to, among other things, effectively carry out operations against terrorist networks while avoiding collateral damage.

The committee understands that the budget request only partially addresses technology gaps identified by SOCOM on its fleet of MQ-9 UAVs. Therefore, the committee recommends an additional \$13.0 million in RDTEDW for the MQ-9 UAV for a total of \$50.9 million.

The committee strongly supports SOCOM's efforts to accelerate fielding of advanced weapons, sensors, and emerging technologies on its fleet of MQ-9 UAVs. The committee has authorized additional funds above the budget request in each of the last 5 years

to enhance these efforts and understands that SOCOM has successfully developed and acquired a number of new capabilities, including improved weapon effectiveness, target location and tracking, image resolution, and video transmission during that time. The committee expects SOCOM to update the committee periodically on its development efforts under the MALET MQ-9 UAV program.

### **Items of Special Interest**

#### **Active electronically scanned array radar improvements**

The committee notes that Air Force and Navy fighter aircraft are equipped with active electronically scanned array (AESA) types of radars, and all services are actively pursuing retrofit of these types of radars on legacy aircraft. The Air Force has identified threats from adversaries operating at frequencies where AESA radar's capability can be further improved, and has tasked the Air Force Research Laboratory to lead the development of technologies that address these capability gaps, in order to develop hardware that can be used across the services to address spectrum threats to radars, weapons, missile seekers, and other airborne platforms. The Committee encourages the Air Force to continue these efforts and provide resources as needed to develop newer, more capable arrays which will provide significant performance advantages.

#### **Advanced airlift airship technology**

The committee has continuing interest in advanced lighter-than-air (LTA) logistic airship technology and remains eager to see practicability, operating utility, and cost benefits proven, believing that advanced technology in this area can provide a transformational logistic capability for the Department of Defense by adding particular value to a range of airlift missions. Advanced airships have the potential to effect significant changes in atmospheric flight; however, fostering government involvement and leadership remains the vital catalyst to help advanced airships emerge.

To this end, the Senate report accompanying S. 2943 (S. Rept. 114–255) of the National Defense Authorization Act for Fiscal Year 2017 directed the Secretary of Defense to stand up leadership responsibility for an advanced airship initiative. The goal was to encourage the successful development of outsize airlift technology that could release revolutionary capability for defense logistics, particularly with respect to long range “point of need delivery” and outsize or extreme weight airlift to facilitate humanitarian assistance, disaster relief, and non-combatant evacuation operations.

Airship efforts during the past 20 years or more have failed to make a breakthrough as viable cargo carriers. The committee has determined that a more deliberate approach to the development of future airship technology is evidently required. The transformational potential for outsize cargo airlift is not in doubt: the committee notes that the United States Transportation Command has stated previously that airships possess the key to a substantial strengthening of military air mobility. However, effective developmental execution has been missing.

The committee believes that this can be changed and the technology successfully matured through robust engagement by the De-



fense Department. Simple “blimp” technology is not the basis of a successful program. The goal must be an advanced air vehicle that is consistent with 21st century military transportation needs. The demand for structured experimentation and development leading to demonstration appears best suited to be undertaken by the Defense Advanced Research Projects Agency, where there is a history of advanced airship work, notably, the heavy-lift Walrus program.

The introduction of a system of integrated advanced airship lift technologies is the key to addressing the hard issues of in-flight buoyancy control, vertical take-off and landing capability, and ballast generation. In this way, airships operating with extreme outsize payloads can achieve the operating standards that are typical of modern air transportation. The Defense Advanced Research Projects Agency, working with the military, industry, and commercial sector, is uniquely agile and fitted to manage this type of approach.

The Department must take the lead to explore advanced airship outsize cross-modal airlift to meet the emerging needs of the Air Force, United States Transportation Command, and the other combatant commands. In this regard, the committee directs that, not later than 180 days after the date of enactment of this Act, the Secretary of Defense shall:

- (1) Identify a senior leader to reaffirm defense leadership and responsibilities for airship technical initiatives;
- (2) Provide an outline for a future Department of Defense airship technology strategy that takes ownership of maturation efforts consistent with military outsize airlift capability to identify:
  - (a) Critical technology challenges and demonstrations required to provide proof of viability;
  - (b) Development risks and important lessons learned; and
  - (c) Impediments to successful demonstration, including gaps in Department of Defense understanding of airship technology; and
- (3) Lay out notional estimates for time, costs, and other necessary resources to conduct an incremental demonstration for technical viability with suitable decision points and off-ramps.

#### **Aircraft battery cost-savings technology improvements**

The committee believes all proven and relevant technologies should be investigated for application to existing platforms if such an application would greatly reduce the cost to the government. In particular, lithium-ion battery technology, a proven commercial technology, would bring better, more efficient power storage capability to military aircraft.

Because all military aircraft rely on effective batteries for systems starting and emergency power, a durable and reliable battery is a key component to an effective fighting asset. Any power-density increases or battery life improvements lead directly to cost savings through reductions in maintenance cycles, purchasing costs, and space and weight requirements. Estimates show that leading lithium-ion batteries can offer 2 to 3 times the service life of tradi-

tional nickel-cadmium aircraft batteries at 50 percent of the weight.

Given these circumstances surrounding the latest battery technology improvements, the committee recommends all service aviation program research offices review available battery solutions for cost savings through alternate battery sourcing options, capitalizing on available lithium-ion battery technologies for longer battery life and reduced costs.

#### **Botulinum Toxin Type A countermeasures**

The committee notes that the Department of Defense and more specifically DTRA is managing efforts to develop a vaccine to counter botulinum toxin types A and B. There is evidence and discussion in the scientific community stating that the use of the BoNT/A vaccine which the department is pursuing can limit future medical treatments for military personnel in that it would prevent immunized warfighters and veterans from receiving the benefit of the rapidly growing number of important medical uses of botulinum toxin type A. Several of these medical uses are critically important to the military veteran population, including treatments for PTSD-associated migraine and amputation pain.

Within 60 days of enactment of this act, DTRA shall brief the congressional defense committees on their research and development plans to counter botulinum toxin type A. This would include any projected impact and/or potential drawbacks in using the BoNT/A vaccine.

#### **Briefings on autonomy, robotics, and artificial intelligence**

The committee recognizes the importance of technologies such as autonomy, robotics, and artificial intelligence for the future of military capabilities. Accordingly, the committee requests that the secretary of each military service and offices of the Department of Defense as selected by the Secretary of Defense provide briefings to the Committees on Armed Services of the House and the Senate on planned and potential research, development, testing, and evaluation of such technologies. The briefings should discuss what entities within the service or office have responsibility for robotics, autonomy, and artificial intelligence issues and existing plans for research, development, testing, and engineering of these technologies as well as plans to incorporate these technologies into doctrine and strategy.

#### **Clarification of definition of small business for purposes of prototype project authority**

The committee notes that Other Transactions authority has proven to be successful in helping the Department of Defense attract nontraditional performers, including small businesses. These performers carry out prototype projects that enhance the mission effectiveness of military personnel. The committee encourages and supports the Department of Defense to expand its use of Other Transactions authority for funding agreements under the Small Business Innovative Research program and Small Business Technology Transfer program.

The mission of these two small business programs is to support scientific excellence and technological innovation through the investment of federal research funds in critical American priorities to build a strong national economy. Encouraging and supporting the Department of Defense to use proven innovative procurement processes such as Other Transactions authority for funding agreements under the small business programs will both enhance the mission effectiveness of the Department of Defense and help accomplish the mission of the programs.

#### **Common data environment for modeling and simulation**

Modeling, training, and simulation efforts require significant amounts and different types of data in order to adequately simulate the operational environment. Each community and military service within the Department of Defense currently independently develops data for modeling and simulation purposes to support their own training, operations, analysis, test and development. The committee believes that this approach is not optimal, with independent data solutions increasing costs and inhibiting interoperability across the Department. The committee recognizes that some investment has been made to create capability to improve data sharing, reduce costs, and eliminate duplicative data collection and processing efforts. The committee further recognizes that additional investment and coordinated strategy may be needed to maintain and advance better use of data by the modeling and simulation community. The committee directs the Secretary of Defense to take actions to identify and address data collection, analysis, and sharing issues that are limiting development of more robust modeling and simulation capabilities.

#### **Comptroller General review of Next Generation Air Dominance**

The Navy and Air Force are both in the process of analyzing alternative system concepts to address future capability gaps described in the Next Generation Air Dominance (NGAD) Initial Capabilities Document. The NGAD analysis of alternatives is expected to be completed in fiscal year 2018. At that time, the Services will have identified their preferred system concept(s) and will likely begin significantly increasing investments to mature critical technologies, begin early design work, and refine system requirements with the expectation of fielding an NGAD system capable of penetrating anti-access/area-denial operating environments by the 2030 timeframe. Both services are considering a family of systems approach with the potential acquisition of a new advanced fighter aircraft for replacing F/A-18, EA-18, F-15C, and F-22 as a major element of their NGAD investment plans. Given the likely size of the potential future investment for this capability, the complexity and risk inherent in the family of systems approach, and the strategic importance of successfully acquiring next generation air dominance capabilities, independent perspective and oversight will be vital to achieving a successful effort.

Therefore, the committee directs the Comptroller General of the United States, on an annual basis until the Milestone C or full rate production decision for any resulting program of record, to review

the Department's NGAD investment plans and associated acquisition program(s) and to provide periodic briefings to the congressional defense committees on the findings of the reviews. The Government Accountability Office's (GAO) initial review should include an assessment of the Department's NGAD requirements, concept alternatives, and risk reduction efforts. Future reviews should also include an assessment of the relevant NGAD acquisition programs': (1) acquisition strategies; (2) technology, design, and production readiness; (3) development, testing, and fielding progress; and (4) overall cost, schedule, and technical performance.

The committee believes that in order to support the GAO's efforts, it is necessary to ensure timely access to program information including, but not limited to, cost and budget information, detailed schedules, contractor data, program management reports, decision briefings, risk and technology readiness assessments, and technical performance measures. Given the classified nature of some of the information, the GAO is directed to advise the committee of any assistance GAO personnel will need to secure access to information related to this review.

#### **Executive agent for printed circuit board technology**

The committee is aware of ongoing efforts through the Department of Defense Executive Agent for Printed Circuit Board Technology (PrCB EA) to develop and execute a strategy to address the declining printed circuit board industrial base and gaps identified in the 2015 Department of Defense Executive Agent for Printed Circuit Board and Interconnect Technology Roadmap. According to a PrCB EA industrial base capability assessment, between 1980 and 2014, the printed circuit board manufacturing base declined 86 percent from over 2,000 manufacturers to just 280. The committee is concerned that what remains of the U.S. printed circuit board industrial base is becoming less capable of sustaining the superiority of Department of Defense systems and growing increasingly dependent on foreign suppliers, particularly China. This poses a risk to the Defense supply chain in terms of the quality and trustworthiness of the products it acquires. The committee supports continued execution of PrCB EA functions addressing trust, supply chain, organic capability, and research activities, including the continued development of a network of trusted suppliers and leveraging the DoD Trusted Supplier Program to include PrCB designers, manufacturers, and electronic assemblers.

#### **Facility leasing authority for Department of Defense science and technology laboratories and test and evaluation centers**

The committee notes that a lack of modern and adequate facilities and infrastructure is likely the single biggest challenge facing Department of Defense science and technology laboratories and test and evaluation centers. Being forced to work in old, outdated, and potentially dangerous laboratories and facilities not only affects the pace and output of scientific achievement, but it also harms morale and retention among a highly-skilled group of government employees. In addition, aging facilities often present serious safety considerations that further impact the ability of the laboratories and cen-

ters to carry out their missions. All of these issues hamper the productivity and efficiency of the defense research, development, test, and evaluation enterprise and ultimately hurt the development of technology for our Armed Forces.

The committee further notes that section 2812 of title 10, United States Code, authorizes the secretary of a military service or the Secretary of Defense to enter into lease agreements for a wide range of facilities. However, this authority has seldom been used for defense laboratories and test centers, despite the obvious need for newer and more modern laboratory facilities.

In recognition of the existing needs and authorities, the committee directs the secretary of each military service to delegate down the authority to enter into lease agreements to the respective director of each Department of Defense science and technology laboratory and test and evaluation center. By delegating this authority, the committee expects that the directors of laboratories and centers would have the authority to enter into lease agreements with private contractors for certain kinds of facilities, pursuant to section 2812 of title 10, United States Code. The committee further expects that use of the authority by respective directors would significantly expedite the usage of modern and safe facilities.

### **Human simulation**

The Committee recognizes a foundational research effort that couples applied research in human simulation with physics-based survivability analysis models will lead to substantial information and insight that lowers costs to enhance warfighter mobility, survivability, welfare and training. The committee believes that funding for research and integration of physics-based human simulation with existing government models of survivability/lethality analysis and human performance to create a holistic model will support: (1) the research and development of more realistic avatars that can “feel” the forces of the environment, have strength, can exhibit fatigue, and have natural behavior like their human counterparts; (2) integration of the models; and (3) model verification and validation.

### **Improved Turbine Engine Program (ITEP)**

The committee commends the Army for moving forward with research and development of the Improved Turbine Engine Program (ITEP), the service’s stated top aviation modernization program. The Army is further commended for its efforts in exploring initial ways to accelerate development and fielding of this critical program that is intended to develop a more fuel efficient and powerful engine for the current UH-60 and AH-64 helicopter fleets. This new engine will substantially increase operational capabilities in high or hot environments, increase range, and improve fuel efficiency while reducing the logistics footprint, resulting in dramatically reduced operating and support costs. Given the positive progress of this key program, the Committee fully funds ITEP in fiscal year 2018 and encourages the Army to ensure ITEP is robustly funded in future years.

### **Improving aerospace materials performance**

The committee supports the Department of Defense's efforts to develop new capabilities to improve structural metallic materials used in high priority aerospace and other defense missions. The committee notes that advanced materials processing and characterization techniques, available in industry, academia, and government labs, including using high-energy X-rays and other techniques, can help design engineers better understand which materials are best suited for stressing military performance requirements and develop optimal and efficient manufacturing processes for these unique materials. It is critical that Department of Defense scientists engage in hands-on experiential learning to train a new generation of materials scientists and engineers in these new capabilities, including the creation and implementation of high-fidelity simulations and advanced data-science methods to support development of next generation weapons systems. The committee recommends that the Department encourage and establish partnerships with industry and academic centers of technical expertise, as well as leveraging unique, world-class research infrastructure best suited to support Department of Defense technology goals.

### **Joint directed energy test center**

The committee notes that next generation weapon systems are being developed by the Department of Defense and industry, but the nation's infrastructure for testing those weapon systems is antiquated and in need of modernization. The Department of Defense established the nation's first High Energy Laser System Test Facility (HELSTF) in 1975, but the technology has seen significant advancements over the course of four decades. As directed energy weapon systems mature, the need to validate their performance becomes increasingly important.

The committee applauds the Air Force for proposing a Joint Directed Energy Test Center, which could potentially concentrate government expertise and reduce duplication of effort across the Department of Defense in order to support more rapid and cost effective testing and fielding of directed energy weapon systems. The committee believes that doing so could also allow the broad, standardized collection and evaluation of data to establish test references and support policy decisions in a more reliable fashion.

The committee is aware that the Test Resource Management Center and the High Energy Laser Joint Technology Office produced a report in 2009 recommending funding over the future years defense program to develop and maintain adequate personnel, resources, and facilities to test current and future high energy laser systems. Despite these recommendations, the Department has submitted budget requests that have resulted in a 75 percent cut in budget and personnel at HELSTF. With this in mind, the committee directs the Director of Operational Testing and Evaluation to review and update the 2009 report and to identify infrastructure and personnel needs at HELSTF to accommodate the growth and maturity of directed energy weapon systems across the military services. The Director should consult with the services and reference the Air Force Directed Energy Flight Plan when updating the report. The committee directs the Department

to submit and brief the updated to the defense committees on the updated report within 90 days.

### **Live, Virtual, and Constructive Training**

The ability of the services to effectively and efficiently train to real world threats in realistic environments is being increasingly challenged by a variety of factors, including security concerns, airspace limitations, and a lack of representative threats. As the gap widens between what our forces would likely face in a conflict with a near-peer adversary and what they can train to, U.S. combat effectiveness will atrophy. However, advances in technology for simulator systems, including fidelity, synthetic inputs, and other technologies, have allowed the services to expand opportunities for realistic and effective training. The migration to more live, virtual, and constructive (LVC) training has the potential to fill training gaps and enhance the services' overall training programs. While strongly supportive of the services' efforts to develop LVC capabilities, the committee is concerned the services are executing the various development programs to deliver training solutions that are insufficiently integrated and interoperable, inhibiting the potential for taking full advantage of these systems for invaluable joint force training.

Therefore, the committee directs the Secretaries of the Air Force, Army, and Navy, not later than March 1, 2018, to provide to the congressional defense committees a report on their respective plans for LVC training. The reports should include: (1) a description of the warfighter requirement(s) that LVC training programs are meant to fulfill; (2) a description of programs for fielding LVC training; (3) an identification of costs associated with each of the LVC programs; (4) an estimate of the projected timelines for fielding the LVC training systems; (5) a discussion of any challenges to development, integration, and fielding of LVC capabilities; (6) a description of the extent to which interoperability with the LVC architectures of the other services has been included in the requirements, development, integration, and fielding of their respective LVC programs; and (7) an identification of who in the services' organization is responsible for ensuring the interoperability of their LVC capabilities with the other services. The required report shall be unclassified, but may include a classified annex.

### **Low cost unmanned aerospace systems development**

Future anticipated military threats and tighter defense budgets combine to drive the need for new and innovative solutions towards the development of future low cost unmanned aerospace systems (UAS). As manned aircraft costs have continued to escalate, so has the need for UAS concepts that offer dramatic reductions in cost in order to bring "mass" to the engagement and to achieve a cost imposing effect on future adversaries, has grown. UAS performance, design life reliability and maintainability drive the cost of today's systems, and need to be traded to achieve the optimum capability and cost effects. Thus, the committee believes the development of an attritable UAS, with fighter like capability, whereby virtue of its cost, loss of aircraft could be tolerated, is necessary in order to change the cost curve of war. This concept should provide long

range, runway independent launch and recovery, transonic, strike capability in remote, contested regions where forward basing is difficult or prohibited. Therefore, the committee urges the Department of Defense to further research and development activities into fighter-like, low-cost, attritable UAS with the intent of creating a program of record and encourages the Joint Requirements Oversight Council to consider this capability when updating UAS related requirements.

### **Machine learning for national security**

The committee commends the Department's focus on machine learning in its Third Offset Strategy as a means of enhancing the safety of our men and women in uniform, lowering costs, streamlining processes, and informing strategic decision making. The committee is aware that the exponential growth in data available for collection globally as well as the evolving machine learning techniques and growing computational resources are both an opportunity and a necessity. Countries that make effective use of these data and tools will have strategic and tactical advantages over those that do not. As such, the committee urges the Department to continue to expand its exploration of commercial machine learning offerings and, in particular, to consider the promise of machine learning applied to non-traditional data sets, including financial markets, the Internet of things, and global supply chains. These and other like data sets encapsulate the actions and decisions of wide swaths of the world's population and thus may provide enhanced situational awareness as well as anticipatory signals of future events.

### **Management innovation at Department of Defense labs and test ranges**

On May 3, 2017, the committee received testimony indicating that bureaucratic processes, procedures, regulations, and other internal hurdles are stifling the innovative capacity of the Department of Defense laboratories and test centers. Former officials from all three service research enterprises, as well as from the Office of the Secretary of Defense, indicated that these challenges were pervasive in their services and organizations. The committee was frustrated to learn not only that innovation is being stifled but also that authorities granted by this committee in previous years have not yet been utilized.

This situation both drives up costs and slows the development of advanced technologies and systems to support operational needs. The committee is concerned that Department general counsels and other management officials are narrowly interpreting authorized flexibilities and policies that would streamline bureaucratic processes and increase the effectiveness and efficiency of labs and test ranges. Furthermore, the committee notes that some organizations, such as the Defense Innovation Unit Experimental, the Defense Advanced Research Projects Agency, and the Strategic Capabilities Office, have been given special management attention to overcome bureaucratic barriers and support their mission execution.

The committee expects the Department to create incentives for its workforce. The committee highlights that authorities to increase



local control of management processes at its laboratories and test ranges, identify and eliminate burdensome processes and policies, and streamline internal business practices to support innovation missions have already been granted in section 233 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). As such, the committee reiterates its expectation that these authorities will be implemented this fiscal year.

The committee expects the Secretary of Defense to pay similar attention to the needs of the vast majority of the Department's innovation workforce, namely the personnel at the labs and test ranges, and provide them with similar support and relief from bureaucratic barriers. Further, the committee expects the Secretary to develop a set of awards and other incentives for personnel or teams who identify bureaucratic issues in the Department's innovation organizations and develop solutions to address them.

#### **Marine Corps nano-sized vertical takeoff and landing small unmanned aircraft**

The committee supports the United States Marine Corps (USMC) Requirements Oversight Council's (MROC) nano-sized and Vertical Takeoff and Landing (VTOL) Small Unmanned Aircraft Systems (SUAS) approved program, and the MROC's determination that nano-sized VTOL SUAS are critical at the squad level to help Marines in small units enhance situational awareness. This capability has received the support of the Commandant of the Marine Corps and was further supported in the 2017 USMC Land Systems Investment Plan. The committee is also supportive of the USMC \$14.2 million unfunded request in fiscal year 2017 for this effort. For squad level missions, pocket-sized sensors provide soldiers with improved intelligence, situational awareness, and enhanced targeting capability. The committee understands that this technology has been successfully demonstrated by allies during operations and believes it holds promising potential for USMC operations.

The committee urges the Commandant of the Marine Corps to advance development and implementation of nano-sized VTOL SUAS capability at the squad level. The committee directs the Commandant of the Marine Corps to submit a report to the congressional defense committees by December 15, 2017 providing the status of the nano-sized and Vertical Takeoff and Landing Small Unmanned Aircraft Systems program, a detailed discussion of the technologies being reviewed, and the acquisition plan for implementing this capability into the standard USMC squad inventory.

#### **Maritime barriers**

The Secretary of the Navy provided a report on May 10, 2016 in response to the Senate report accompanying S. 1376 (S. Rept. 114–49) of the National Defense Authorization Act for Fiscal Year 2016. The Navy concluded that a commercial-off-the-shelf maritime security barrier “has the potential to provide greater operational capability compared to the current port security barriers against current and projected threats.” The business case analysis showed a significant decrease in sustainment cost for a commercial system.

Accordingly, the committee encourages the Secretary of the Navy to continue development, testing, and evaluation of next generation water barriers.

#### **Minerva special interest area on information operations**

The committee notes that the Minerva Research Initiative provides the Department of Defense with valuable research that enhances the Department's understanding of the social forces shaping national security challenges. The committee also notes that the Department's understanding of information operations, such as those detailed in the Director of National Intelligence's report titled, "Assessing Russian Activities and Intentions in Recent U.S. Elections," would benefit from additional research and findings. Therefore, the committee encourages the Secretary of Defense to provide the Minerva Research Initiative with additional support to preform greater research on information operations, including ways to identify and counter fake media, identify automated misinformation spreading techniques, and other technical aspects to include short-term factors. The committee directs the Secretary to provide a report on the status of this new research area to the Committees on Armed Services of the Senate and the House of Representatives no later than 180 days after the enactment of this Act.

#### **Next Generation Jammer**

The committee believes the Navy's Next Generation Jammer (NGJ) is a critical element of Airborne Electronic Attack that is required to meet both current and emerging electronic warfare gaps. The committee understands that the Navy will field NGJ capabilities in three increments covering different radio frequency bands. Each increment will be designed as separate podded systems and each system will cover a different segment of the electromagnetic spectrum. Increment 1 focuses on the mid-band threat and Increment 2 will cover low-end frequency ranges to counter emerging threats from "low band" radar systems. While the Increment 1 program is well underway, the Navy's request for fiscal year 2018 includes \$66.7 million for Increment 2 (low band). The FY18 funding will be used to collect data from technology demonstrations to confirm assertions of technical maturity that may be used in the Increment 2 podded solution in order to support potential program entry at Milestone B.

While the committee supports the Navy's plan to thoroughly examine options early in the program, the committee believes the Navy should investigate whether Increment 1 hardware could be leveraged to reduce the overall cost of Increment 2 and reduce schedule risk.

Therefore, the committee encourages the Secretary of the Navy to consider leveraging Increment 1 investments and design elements for Increment 2. The committee believes that, if it were possible to do so, leveraging proven technology may allow unique Increment 2 development efforts to focus on items specific to the low band jamming capability, such as antenna development and other discriminating technology.

### **Radiation detection technology**

The committee remains concerned that shortfalls in fielding the most current radiation detection devices, specifically personal dosimeters, continue to exist, and most notably within the Active Army force structure. To ensure our troops and domestic first responders are provided with the best possible protection to monitor against nuclear exposure, the committee strongly encourages the Department to expedite and complete the fielding of modern radiation detection equipment, specifically personal dosimeters, across the force.

### **Report on defense manufacturing and technology supply chain**

The committee is concerned that the domestic manufacturing and industrial base has weakened to the point that it may no longer be able to support the needs of the Department of Defense, especially in delivering low cost goods and systems to operational forces, responding to demands for surge production, and manufacturing next generation military technologies. The committee notes that the Defense Innovation Unit Experimental and the Pentagon's Office of Manufacturing and Industrial Base Policy have both begun analyses on coordinated foreign investment strategies in U.S. defense manufacturing sectors and in those U.S. companies developing military-relevant emerging technologies. Combined with the United States' own lack of strategies, industrial policies, and funded programs to address existing and developing weaknesses in the domestic technological and industrial base, this situation presents a clear threat to the national security interests of the United States.

The committee directs the Comptroller General of the United States to prepare a report examining the extent to which large-scale outsourcing of manufacturing activities to China, Chinese investments in manufacturing capabilities, and Chinese investments in emerging technologies are leading to the hollowing out of the U.S. defense industrial and technology base. This report should also detail the national security implications of a diminished domestic industrial base, including assessing any impact on U.S. military readiness, compromised U.S. military supply chains, and reduced capability to manufacture and develop new state-of-the-art military systems and equipment. The committee directs the Comptroller General to submit this report to the congressional defense committees no later than 1 year after the enactment of this Act.

### **Review of policies on use of directed energy weapon systems**

The committee notes that Department of Defense policies exist that limit the use of high energy lasers (HEL) and high power microwaves (HPM) in testing and in combat. While it is necessary to examine unintended consequences of potential weapon systems, current restrictions and approval processes for directed energy weapon systems may be overly burdensome and prevent the deployment and usage of those systems. The committee therefore directs the Department of Defense to identify policies that may hinder the approval process and usage of directed energy weapon

systems, intentional and unintentional, and to propose possible remedies. The committee encourages the Department to place an emphasis on risk mitigation measures as opposed to risk avoidance when proposing solutions, similar to other weapon systems, and to brief the congressional defense committees on its findings.

#### **Small engine technologies**

The committee encourages the Department of Defense to adequately resource efforts to identify low-cost, efficient, small engine technologies capable of powering missiles and unmanned aerial vehicles, and directs the Secretary of Defense, or an appropriate subordinate in the Department of Defense, to provide a briefing to the defense committees on current research and development efforts and the industrial base that supports this technology not later than 180 days after enactment of this Act.

#### **Streamlined acquisition practices to support innovation at Department of Defense laboratories**

The committee notes that expert witnesses during a Subcommittee on Emerging Threats and Capabilities hearing on May 3, 2017, identified a number of acquisition management and bureaucratic burdens that both slowed the process of incorporating new technologies into Department of Defense systems and drove up costs of development and adoption. Similarly, the leadership of the Defense Innovation Board has indicated that the Department does not have “an innovation problem” but rather “an innovation adoption problem.”

The committee is concerned that acquisition processes hinder the ability of the defense laboratories to invest in leading edge research and technology development efforts at small business and commercial companies and also to execute the contracting transactions necessary to run the laboratories themselves in the most efficient manner. Therefore, the committee directs the Secretary of Defense, working through the Under Secretary of Defense for Research and Engineering and the Laboratory Quality Enhancement Panel, to develop a set of recommendations for a pilot program on streamlined acquisition that could be executed by the defense laboratories. The pilot could include waivers of processes, regulations, and directives, as well as recommendations on relief from statutory restrictions and requirements. The committee directs that these recommendations be delivered to the Committees on Armed Services of the Senate and the House of Representatives no later than one year after the date of enactment of this Act.

#### **Ultra Low Power Deployable Radar**

The Committee is aware of efforts undertaken by U.S. Special Operations Command (SOCOM) to develop an ultra-low power, rapidly deployable radar to enhance surveillance and reconnaissance missions and to provide small team force protection in austere locations such as mountainous, foliage, and riverine environments. The Committee understands that requirements for such a capability may be finalized in the near future and looks forward to the results of SOCOM's deliberations.

**University science, technology, engineering, and mathematics programs with the Junior Reserve Officer Training Corps**

The committee is aware that many Junior Reserve Officer Training Corps (JROTC) programs have developed summer leadership camps focusing on science, technology, engineering and mathematics (STEM). These residential programs offer a unique exposure to and hands on experience in technology focused fields for many students in school districts with limited STEM education. The committee understands that partnerships with local universities have been critical to provide the infrastructure, curriculum, and connections with industry and STEM educators needed for these programs to be a success. The committee strongly supports the continuation of the JROTC STEM leadership camps and other STEM learning opportunities that promote STEM education experiences that prioritize hands-on learning to increase student engagement and achievement. Furthermore, the services are encouraged to develop ways to share best practices for STEM curriculum across the JROTC regions.



## **TITLE III—OPERATION AND MAINTENANCE**

### **Subtitle A—Authorization of Appropriations**

#### **Authorization of appropriations (sec. 301)**

The committee recommends a provision that would authorize the appropriations for operation and maintenance activities at the levels identified in section 4301 of division D of this Act.

### **Subtitle B—Logistics and Sustainment**

#### **Sentinel Landscapes Partnership (sec. 311)**

The committee recommends a provision that would authorize the Department of Defense to participate in Sentinel Landscapes. The committee encourages the Department of Defense, Departments of Agriculture, and the Department of Interior to work together to align resources and implement a comprehensive, multiple-tool approach to promoting and sustaining compatible land uses in a manner that protects nearby military test and training needs and can benefit landowners and partners.

#### **Increased percentage of sustainment funds authorized for realignment to restoration and modernization at each installation (sec. 312)**

The committee recommends a provision that would grant temporary permissive authority to the Secretary of Defense to authorize an installation commander to realign up to 7.5 percent of that installation's sustainment funds to restoration and modernization. The committee notes that this authority would expire on September 30, 2022.

### **Subtitle C—Reports**

#### **Plan for modernized, dedicated Department of the Navy adversary air training enterprise (sec. 321)**

The committee recommends a provision that would direct the Chief of Naval Operations and Commandant of the Marine Corps to submit to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2018, a resource ready and executable plan for developing and emplacing a modernized dedicated adversary air training enterprise to support the full spectrum air combat readiness of the United States Navy and Marine Corps.

The committee believes the threat that our combat air forces face is steadily increasing, both in capacity and advanced capability. Potential foes have made rapid technological advances, increased the size of their air forces, and postured those forces more aggressively. As a result, air superiority is no longer a given for U.S. forces, re-

newing the urgency for high-end adversary air training. However, the committee is concerned the Navy and Marine Corps are not currently positioned to provide the necessary training in either an effective or efficient manner. While the Navy Fleet Fighter Composite and Marine Fighter Training Squadrons provide invaluable training to the fleet, they are limited in capacity and their aircraft are old, limiting their ability to replicate high-end threat representations that our forces are likely to encounter in any conflict with a near-peer adversary. Indeed, the 2017 Marine Aviation Plan states the adversary capacity gap is growing and the F-5s flown by the adversary squadrons do not meet the requirements for F/A-18 and F-35 aircraft. The training gap will only increase as the Navy and Marine Corps transition to the F-35, increasing the need for high-end threat representations.

To meet training requirements, Navy and Marine Corps squadrons are forced to rely on organic adversary (or “red”) air, using up valuable hours on operational aircraft and providing limited training for pilots who are already receiving insufficient flight hours. While the committee believes that advances in Live, Virtual, and Constructive training will help alleviate some of the training gaps, no amount of constructive or simulated training can match actual flying against real world airborne threats with advanced sensors, electronic warfare, and advanced performance parameters.

The Department of the Navy needs to develop a comprehensive plan to provide our aviators the advanced adversary air training they need to ensure the United States’ ability to control the air when and where it chooses.

#### **Subtitle D—Other Matters**

##### **Defense Siting Clearinghouse (sec. 331)**

The committee recommends a provision that would amend chapter 7 of title 10, United States Code, to ensure the proper assessment of energy projects by the Department of Defense’s Siting Clearinghouse.

##### **Temporary installation reutilization authority for arsenals, depots, and plants (sec. 332)**

The committee recommends a provision that would establish a pilot program to grant permissive authority to the Secretary of the Army to authorize leases and contracts up to 25 years under section 2667 of title 10, United States Code, if the Secretary determines that a lease or contract will promote the national defense to maintain the viability of an arsenal, depot, plant, or military installation on which such facility is located. The committee further notes that any lease is subject to a 90-day hold period for the purposes of review by the Army real property manager. The committee finally notes that this authority would expire on September 30, 2020.

##### **Pilot program for operation and maintenance budget presentation (sec. 333)**

The committee recommends a provision that would establish a 3-year pilot program for the operating tempo, flying hour, depot



maintenance, and base operating support subactivity groups for each service to be submitted as an annex or annexes in conjunction with the President's budget requests beginning with fiscal year 2019 and ending with the submission for fiscal year 2021. The committee believes that the operation and maintenance budget, which comprises about 40 percent of the Department of Defense's annual budget submissions, requires additional transparency.

**Servicewomen's commemorative partnerships (sec. 334)**

The committee recommends a provision that would authorize the Secretary of Defense to provide not more than \$5.0 million for the acquisition, installation, and maintenance of exhibits, facilities, historical displays, and programs at military service memorials and museums that highlight the role of women in the military.

**Authority for agreements to reimburse states for costs of suppressing wildfires on State lands caused by Department of Defense activities under leases and other grants of access to state lands (sec. 335)**

The committee recommends a provision that would amend section 2691 of title 10, United States Code, to grant permissive authority to the Secretary of Defense to reimburse a state for reasonable costs when that state incurs costs to suppress wildland fires that were caused by the activities of the Department of Defense.

**Repurposing and reuse of surplus Army firearms (sec. 336)**

The committee recommends a provision that would require the Secretary of the Army to transfer all excess firearms, related spare parts and components, small arms ammunition, and ammunition components currently stored at Defense Distribution Depot, Anniston, Alabama that are no longer actively issued for military service and not commercially available to Rock Island Arsenal for melting and to be reformed into new firearms and force protection barriers.

The committee notes that M-1 Garand rifles, caliber .45 M1911/M1911A1 pistols, and caliber .22 rimfire rifles are exempt.

**Department of the Navy marksmanship awards (sec. 337)**

The committee recommends a provision that would amend section 40728 of title 36, United States Code, to grant permissive authority to the Secretary of the Navy to transfer to the Corporation for the Promotion of Rifle Practice & Firearms Safety M-1 Garand and caliber .22 rimfire rifles within the inventories of the Navy and Marine Corps stores at Defense Distribution Depot, Anniston or Naval Surface Warfare Center, Crane for the sole purpose as awards for competitors in marksmanship competitions held by the Navy or Marine Corps. The committee notes these awards cannot be resold.

**Subtitle E—Energy and Environment**

**Authority to carry out environmental restoration activities at National Guard and Reserve locations (sec. 341)**

The committee recommends a provision that would amend section 2701(a) of title 10, United States Code, to authorize the sec-

retary to carry out environmental restoration activities at the National Guard and Reserve locations, in light of the cleanup challenges with respect to perfluorooctane sulfonate and perfluorooctanoic acid.

**Special considerations for energy performance goals (sec. 342)**

The committee recommends a provision that would amend section 2911(c) of title 10, United States Code, to include goals to reduce the future demand and the requirements for the use of energy, to enhance energy resilience to ensure the Department has the ability to prepare for and recover from energy disruptions that impact mission assurance on military installations, and leverage third-party financing to address installation energy needs.

**Centers for Disease Control study on health implications of per- and polyfluoroalkyl substances contamination in drinking water (sec. 343)**

The committee recommends a provision that would direct the Secretary of Health and Human Services in consultation with the Department of Defense to conduct a human health study through the Centers for Disease Control and Prevention to assess the human health effects of per- and polyfluoroalkyl substances in sources of drinking water.

**Environmental oversight and remediation at Red Hill Bulk Fuel Storage Facility (sec. 344)**

The committee recommends a provision that would provide the sense of Congress that the Red Hill Bulk Fuel Storage Facility is a national strategic asset.

**Budget Items**

**Army support reduction**

The budget request included \$38.9 billion in Operation & Maintenance, Army (OMA), of which \$1.0 billion was for SAG 435 Other Service Support.

Based on analysis by the Government Accountability Office, the committee understands this subactivity group has historically under executed its appropriated funding.

Accordingly, the committee recommends a decrease of \$45.0 million in OMA to SAG 435 Other Service Support.

**Navy information technology reduction**

The budget request included \$45.4 billion in Operation and Maintenance, Navy (OMN), of which \$914. million was for SAG BSIT Enterprise Information.

Based on analysis by the Government Accountability Office, the committee understands this subactivity group has historically under executed its appropriated funding.

Accordingly, the committee recommends a decrease of \$32.0 million to SAG BSIT Enterprise Information due to low execution in prior years.

### **Naval History and Heritage Command reduction**

The budget request included \$45.4 billion in Operation & Maintenance, Navy (OMN), of which \$1.9 billion was for SAG BSM1 Sustainment, Restoration and Modernization.

The committee understands that within this request was \$29.0 million for an increase to the Naval History and Heritage Command. The committee believes these funds can be better aligned for other sustainment, restoration, and modernization priorities.

Accordingly, the committee recommends a decrease of \$29.0 million in OMN to SAG BSM1 Sustainment, Restoration and Modernization.

### **Air and Space Operations Center—Weapons System**

The budget request included \$39.4 billion in Operation & Maintenance, Air Force (OMAF), of which \$1.3 billion was for SAG 011C Combat Enhancement Forces.

The committee recommends an increase of \$104.8 million in OMAF, SAG 011C Combat Enhancement Forces, for a total of \$1.4 billion, for the purpose of software production and sustainment activities for rapid incremental improvements to the Air and Space Operations Center—Weapons System.

### **Air National Guard advertising reduction**

The budget request included \$6.9 billion in Operation & Maintenance, Air National Guard (OMANG), of which \$97.2 million was for SAG 042J Recruiting and Advertising.

The committee understands that within the Recruiting and Advertising request was an increase of \$60.5 million to fund additional marketing and advertising efforts. The committee notes this request would nearly triple the Air National Guard's advertising budget. The committee believes these funds can be better aligned for other readiness priorities.

Accordingly, the committee recommends a decrease of \$45.0 million in OMANG to SAG 042J Recruiting and Advertising.

### **Defense Acquisition University**

The budget request included \$42.4 billion for Operation and Maintenance, Defense-Wide (OMDW), of which \$145.0 million was for SAG 3EV2 for the Defense Acquisition University (DAU).

The committee notes that of this request, \$7.9 million is requested for curriculum development. This amount is almost \$5.0 million lower than the reported estimate for fiscal year 2017, which is \$12.5 million. In light of the committee's recent acquisition reforms and the reforms included in this Act, the committee believes it is important that DAU have the resources necessary to engage with ongoing efforts to improve the acquisition system, culture, and workforce and to be better equipped to manage the reforms in this Act. Specifically there are provisions in this Act that task DAU with creating or collaborating on new curricula related to Other Transaction Authority and procurement of commercial items.

Accordingly, the committee recommends an increase in OMDW of \$5.0 million to SAG 3EV2 Defense Acquisition University.

### **STARBASE increase**

The budget request included \$34.7 billion for Operation and Maintenance, Defense-Wide (OMDW), of which \$183.0 million was for SAG 4GT3 Civil Military Programs.

The committee notes the STARBASE Program is a highly effective program that improves the knowledge and skills of students in kindergarten through 12th grades in science, technology, engineering, and mathematics.

The committee recommends an increase of \$25.0 million for SAG 4GT3 Civil Military Programs for the STARBASE program.

### **Funding for impact aid**

The budget request included \$2.7 billion in the Operation and Maintenance, Defense-wide (OMDW) for the Office of the Secretary of Defense (SAG 4GTJ) for the operations of the Department of Defense Education Activity. The amount authorized to be appropriated for OMDW includes the following changes from the budget request. The provisions underlying these changes in funding levels are discussed in greater detail in title V of this committee report.

(Changes in millions of dollars)

Impact aid for schools with military dependent students .....	+25.0
Impact aid for children with severe disabilities .....	+10.0
Total .....	+35.0

### **Defense environmental international cooperation program**

The budget request included \$34.7 billion in Operation and Maintenance, Defense-Wide (OMDW) 030, of which \$960,000 was for the Defense Environmental International Cooperation (DEIC) program.

The committee notes that the Army National Guard and other military units are frequently called upon to respond to humanitarian assistance and disaster relief (HA/DR) crises around the world. The DEIC enables the Army National Guard to share best practices and lessons learned from its own HA/DR missions and promote the sustainment of mission capability among our allies, in order to develop and enhance their own self-sufficient HA/DR capabilities with a limited amount of funding.

For example, given the ongoing readiness challenges of the United States Southern Command and its limited resources to conduct its HA/DR mission, the Army National Guard has used the DEIC to provide training and capability development to countries within the region so that they can remove debris and otherwise respond in the event of an earthquake or hurricane.

Accordingly, in order to continue the enhancement of the Department's readiness and HA/DR capabilities, including those of the Army National Guard, the committee recommends an increase of \$1.0 million in OMDW for the DEIC program.

### **Studies on aircraft inventories for the Air Force**

The budget request included \$1.6 billion for Operation and Maintenance, Defense-Wide (OMDW) for SAG 4GTN Administration and Service-wide Activities.

Elsewhere in this Act, the committee recommends a provision that would direct the Secretary of Defense to commission three studies to be submitted to the congressional defense committees on potential future aircraft inventories and capability mixtures no later than March 1, 2019. These studies would provide competing visions and alternatives for a future set of choices regarding Air Force aircraft capabilities and capacities. One study would be performed by the Department of the Air Force, with the participation of the Office of the Secretary of Defense, Office of Net Assessment. The second study would be performed by a federally funded research and development center. The third study would be conducted by a qualified independent, non-governmental institute selected by the Secretary of Defense.

Accordingly, the committee recommends an increase of \$1.0 million in OMDW for SAG 4GTN Administration and Service-wide Activities for the performance of these studies, for a total of \$1.6 billion.

#### **CDC study increase**

The budget request included \$34.7 billion in Operation and Maintenance, Defense-Wide (OMDW), of which \$1.6 billion was for SAG 4GTN Office of the Secretary of Defense.

The committee recommends a provision that would require the Office of the Secretary of Defense to conduct a Center for Disease Control (CDC) nationwide health study on PFAS for contamination in drinking water.

Accordingly, the committee recommends an increase of \$7.0 million in OMDW to SAG 4GTN Office of the Secretary of Defense for the CDC study.

#### **Bulk fuel savings**

The budget request included \$38.9 billion for Operation and Maintenance, Army (OMA), \$45.4 billion for Operation and Maintenance, Navy (OMN), \$6.9 billion for Operation and Maintenance, Marine Corps (OMMC), \$39.4 billion for Operation and Maintenance, Air Force (OMAF), and \$69.2 billion for Operation and Maintenance, Defense-Wide (OMDW).

The committee understands that as of May 2017, the Department has overstated its projected bulk fuel costs for fiscal year 2018.

Accordingly, the committee recommends an undistributed decrease of \$396.3 million for excess projections in fuel costs.

#### **Foreign currency fluctuations**

The budget request included \$38.9 billion for Operation and Maintenance, Army (OMA), \$45.4 billion for Operation and Maintenance, Navy (OMN), \$6.9 billion for Operation and Maintenance, Marine Corps (OMMC), \$39.4 billion for Operation and Maintenance, Air Force (OMAF), and \$34.7 billion for Operation and Maintenance, Defense-wide (OMDW).

The committee believes that when foreign currency fluctuation (FCF) rates are determined by the Department of Defense, the balance of the FCF funds should be considered, particularly if the balance is close to the cap of \$970.0 million. The Government Account-

ability Office (GAO) has informed the committee that as of March 2017, the Department does not plan to transfer in any prior year unobligated balances to replenish the account for fiscal year 2017. GAO analysis projects that the Department will experience a net gain in fiscal year 2018 due to favorable foreign exchange rates.

Accordingly, the committee recommends an undistributed decrease of \$313.3 million for FCF.

### **Operation and Maintenance Unfunded Requirements List**

The budget request included \$223.3 billion for Operation and Maintenance.

The committee notes that the Department of Defense submitted extensive Unfunded Requirements Lists totaling \$33.1 billion. The committee believes that since the passage of the Budget Control Act in 2011, budget requests have been guided by artificial constraints rather than the realities of the global strategic environment. This reality has continued for the fiscal year 2018 budget request, which too relies on an arbitrary number determined 6 years ago in the Budget Control Act. Such constraints on the budget, along with a sustained high operational tempo, have led to a significant degradation in our military readiness in the near term, and the threat that we will fall behind our adversaries in the long-term. For the last several years military leaders have highlighted these problems in great detail.

In order to address the degraded state of our military and to stop the erosion of U.S. military advantage, the committee believes that the budget should be based on requirements, rather than arbitrary budget caps. The committee recommends an increase of \$4.8 billion to Operation and Maintenance for items identified in the Unfunded Requirements List. Some increases include funding greater home station training and depot maintenance. Greater details of each increase can be found in the tables in Division D.

### **Items of Special Interest**

#### **Availability and Readiness of Special Operations Forces to Support Geographic Combatant Commander Requirements**

The Department of Defense (DOD) continues to rely heavily upon U.S. Special Operations Forces (SOF) in the effort to counter violent extremist groups including ISIS and al Qaeda. According to testimony by General Raymond Thomas, Commander of U.S. Special Operations Command (SOCOM), there are approximately 8,000 SOF forces deployed across over 80 countries at any given time, the majority of whom are deployed to the U.S. Central Command (CENTCOM) area of responsibility. General Thomas also testified that most SOF units are employed to their sustainable limit and reiterated the importance of preserving SOF's high state of full-spectrum readiness to support a range of missions.

The high rate of deployments has raised concerns regarding the readiness and availability of SOF to conduct operations other than those focused on counterterrorism and in support of Geographic Combatant Commands (GCC) other than CENTCOM. Accordingly,

the committee directs the Comptroller General of the United States to evaluate the following issues:

1. What challenges, if any, has DOD faced in providing SOF to meet the requirements of the Geographic Combatant Commands?
2. To what extent does DOD consider operational tempo in prioritizing and tasking SOF deployments in support of CENTCOM operations, including determining tradeoffs between conventional and SOF capabilities and the requirements of other GCCs?
3. What challenges, if any, has DOD faced in providing deployed SOF forces with key enablers including, but not limited to, airlift, medical evacuation, intelligence, expeditionary base operating support, logistics, and airfield operations?
4. To what extent has DOD assessed the impact of SOF mission and deployment rates on unit readiness and the availability of SOF forces to conduct other missions and support the requirements of other GCCs?
5. To what extent has the reliance on Overseas Contingency Operations (OCO) funding impacted the readiness of SOF and how will it continue to impact SOF if funding isn't shifted to the base defense budget in future years?
6. Any other issues the Comptroller General determines appropriate.

The committee further directs the Comptroller General to provide a briefing to the Senate Committee on Armed Services not later than November 1, 2017, on the Comptroller General's preliminary findings and submit a final report to the congressional defense committees on a date agreed to at the time of the briefing.

### **Basic Expeditionary Airmen Skills Training and Base Camp Integration Lab**

The committee remains encouraged by efforts of the Air Force and Army Research Laboratories, and is strongly supportive of their commitment to improving combat capabilities for the warfighter through projects like the Basic Expeditionary Airman Skills Training (BEAST) site at Joint Base San Antonio-Lackland in Texas, and the Basic Camp Integration Lab (BCIL) and Force Provider at Fort Devens and Natick Soldier Systems Center in Massachusetts. Notably, the BEAST site in Texas allows roughly 39,000 recruits per year to train and experience the program, while Natick scientists continue to demonstrate and evaluate new advanced, energy-efficient shelters and shelter components. Efforts like BEAST and BCIL leverage existing and openly competed technologies to demonstrate the "FOB of the future", to improve combat capabilities with items like deployable and secure microgrids, smart power controllers, advanced batteries, better shelter insulation, light emitting diode lighting systems, and others. The committee notes that these kinds of advanced technologies when combined into a deployable package can lead to proven increases in capability as well as cost decreased, not only in combat zones, but in support of humanitarian assistance and disaster response missions, such as when the Army deployed to Africa during its Ebola response mission.

Consequently, the committee strongly encourages the Department to continue the progress made towards improving combat capabilities through its investments in FOB efficiencies that reduce logistical burdens on the warfighter, like BEAST and BCIL.

#### **Cyber-secure microgrids and energy resilience for installations**

The committee remains concerned regarding the vulnerabilities of cyber-attacks, physical attacks, and severe weather, which threaten the Department of Defense's (DOD) ability to recover from multi-day utility disruptions on its installations. Improving energy resilience helps decrease utility disruptions and grid outages that negatively impact operations and compromise readiness.

Accordingly, the committee believes the Department could better utilize and integrate existing authorities such as military construction, facilities sustainment restoration and modernization accounts, energy savings performance contracts (ESPCs), power purchase agreements (PPAs), and utility energy saving contracts (UESCs) to ensure installations have resilient, reliable, and continuous power during disruptions to the electrical supply through deployment of cyber-secure technologies like microgrids. Notably, microgrids are fuel agnostic, so they can operate on fossil fuels, fuel cells, batteries, combined heat and power, and renewables. When distributed energy generation is combined with control systems like cyber-secure microgrids, DOD has a significant opportunity to maintain readiness.

In pursuing such actions and investments the Department should recognize and factor in the current costs of achieving energy assurance. In assessing a microgrid's cost effectiveness, the Department should view the life cycle costs of stand-alone backup generators that could produce equivalent energy resilience and assurance as an avoided cost and thus available for financing third party investments through ESPCs, PPAs, or UESCs. For example, recent analysis has shown that replacing standalone generators with a microgrid could save \$8.0 to \$20.0 million over the life cycle, depending on location. As such, the committee directs the Secretary of Defense to provide a summary of actions taken to pursue microgrid deployments through third party financing in the Department's next Annual Energy Management Report.

Additionally, the committee notes that DOD continues to experience multiple utility grid outages every year. The committee strongly urges the Secretary of Defense to consider the appropriate use of the Department's existing exemption from section 591 of title 40, United States Code to address frequent utility outages and negative impacts to readiness, especially as it relates to the use of cyber-secure microgrids and advanced infrastructure controls.

#### **Cybersecurity risk to Department of Defense facilities**

The committee remains concerned that as Department of Defense facilities are transitioning to smart buildings increasingly utilizing wireless controls for heating, ventilation and air conditioning, security systems, lighting, electrical power, fire alarms, elevators, visitor controls, cellular communications, Wi-Fi networks, first responder communications, and other systems are increasing inter-



connected and online. This higher connectivity has increased the threat and vulnerability to cyber attacks, particularly in ways existing DOD regulations were not designed to consider.

Therefore, the committee encourages the Secretary of Defense to deliver to the congressional defense committees a report, as was specified in the Senate report on the National Defense Authorization Act for Fiscal Year 2017 that: (1) Delineates the structural risks inherent in control systems and networks, and the potential consequences associated with a system compromise through a cyber event; (2) Assesses the current vulnerabilities to cyber attack initiated through Industrial Control Systems (ICS) at Department of Defense installations worldwide, for the purpose of determining risk mitigation actions for current and future implementation; (3) Proposes a common, Department-wide implementation plan to upgrade and improve the security of control systems and networks to mitigate identified risks; (4) Assesses the extent to which existing Department of Defense military construction directives, regulations, and instructions require the consideration of cybersecurity vulnerabilities and cyber risk in preconstruction design processes and requirements development processes for military construction projects; and (5) the capabilities of the Army Corps of Engineers, the Naval Facilities Engineering Command, the Air Force Civil Engineer Center, and other construction agents, as well as participating stakeholders, to identify and mitigate full-spectrum cyber-enabled risk to new facilities and major renovations.

For the purposes of this legislation, ICS include, but are not limited to, Supervisory Control and Data Acquisition Systems, Building Automation Systems Utility Monitoring, and Energy Management and Control Systems. Such report shall include an estimated budget for the implementation plan.

#### **Defense Media Activity IP Streaming**

The committee notes the pilot program by Defense Media Activity (DMA) to transition from an antiquated satellite-based media delivery system to an Internet-based “IP streaming” platform. The committee is supportive of this enhanced distribution of media and the associated delivery of expanded programming and reduction of the costs associated with delivering this content. The committee encourages DMA to utilize private sector methods to track the outcomes (e.g., viewership) associated with this pilot, and the rest of its programming, to better understand the Department’s demand for programming and to be responsive to this feedback.

#### **Defense threat assessment and master plan for climate**

The committee notes that the Department of Defense (DOD) must be able to execute its missions effectively and efficiently by adapting to the full spectrum of current and future threats. Secretary Mattis stated to the committee, “where climate change contributes to regional instability, the Department of Defense must be aware of any potential adverse impacts”, “climate change is impacting stability in areas of the world where our troops are operating today” and “the Department should be prepared to mitigate any consequences of a changing climate, including ensuring that our shipyards and installations will continue to function as required.”

The committee notes that a series of climate-related events have cost DOD significant resources, measured in funding and negative impacts on readiness. Specifically, the committee notes that in January, a tornado caused over \$320.0 million in damages at Marine Corps Depot at Albany, Georgia. At Lackland Air Force Base in Texas, there were 81 black flag training days in 2012, and 226 in 2016. In Alaska, three locations of early warning radar infrastructure have been damaged and moved due to coastal erosion that was not expected to occur until 2030. Wildfires postponed the launch of a satellite in California and led to training range closures for multiple months in North Carolina, South Carolina, Idaho, Florida, and New Mexico. Researchers at the University of Nebraska at Lincoln found that wildfires have tripled between 1985 and 2014, growing from 33 to 117 per year. At Laughlin Air Force Base, a hail storm damaged 39 pilot training aircraft, costing roughly \$80.0 million in repairs which won't be completed until June of 2018. Warehouses containing hazardous materials flood 24 inches on a regular basis in Norfolk and Portsmouth, Virginia. In South Carolina, private citizens near Fort Jackson have filed seven lawsuits seeking \$20.0 million in damages, alleging the Army failed to maintain a dam that ruptured during historic rainfall and flooding. In Louisiana, the railroad system at Fort Polk's Joint Regional Training Center requires major repairs due to "epic rains." In Virginia, high water flooding creates "significant damage" to pier infrastructure at Norfolk Naval Shipyard creating reliability and safety issues. Warming Arctic temperatures at Thule Air Force Base in Greenland have caused extensive airfield pavement repairs at over \$30.0 million, which is roughly the cost of one Army Combat Training Center rotation. In Arizona, a heat wave caused over 40 flights to be canceled, with clear implications that DOD aircraft, ships, and vehicles must be able to continue to operate in extreme hot and cold temperatures. The Congressional Budget Office has concluded "costs associated with hurricane damage will increase more rapidly than the economy will grow" resulting in \$39.0 billion annually by 2075. Lastly, the Government Accountability Office found that "weather effects associated with climate change pose operational and budgetary risks" to DOD.

Accordingly, the Secretary of Defense shall submit to the congressional defense committees a comprehensive threat assessment and implementation master plan no later than March 1, 2018 on the risks and vulnerabilities to DOD missions and infrastructure associated with climate-related events. The assessment and master adaptation plan shall include: (1) Effects and mission impacts of a changing climate, if any, on DOD operations, testing and training ranges, readiness, basing, acquisition, contingency basing, command and control, supply chain, logistics, stockpiles, and the associated costs; (2) Plans and procedures to continue missions in the event of loss or damage to critical energy and water infrastructure; (3) Guidance for combatant commanders to address regional-specific theater campaign plan impacts in order to mitigate climate-related events that contribute to instability; (4) Anticipated impacts from increased global operations tempo as a result of greater numbers of humanitarian assistance and disaster response events; (5) Guidance for the military services and Joint Staff to integrate cli-

mate impact scenarios and long-term projections into planning; (6) Adaptation plans and procedures to ensure military investments with taxpayer dollars are constructed to better withstand flooding and extreme weather events; (7) Updates to built and natural infrastructure design, changes to military construction standards, Unified Facilities Code, and encroachment procedures; (8) Improved modeling techniques and data sources to better predict future erosion, flooding, and other extreme weather events; (9) Opportunities to pursue public-private partnerships under existing authorities with any non-DOD entity in order to mitigate climate-related impacts; (10) Adaptation progress metrics and recommendations for further research and development; (11) Strategies and recommendations to alleviate climate vulnerabilities, including timelines and resource requirements; and (12) Any other aspects deemed appropriate.

The threat assessment and implementation master plan may include a classified annex, if necessary.

#### **Defense-wide Working Capital Fund cash management practices**

The committee notes that recent analysis of the Defense-wide Working Capital Fund (DWWCF) cash management practices conducted by the Government Accountability Office (GAO) found that the Department of Defense needs to improve its cash management practices. Notably, the DWWCF monthly cash balances were outside the upper and lower cash requirements as defined by the Department's Financial Management Regulation for 87 of 120 months during fiscal years 2007 through 2016 and for more than a year on 3 separate occasions.

The committee commends the Department for taking actions outside the normal budget process during the 10-year period to bring the monthly cash balances within the cash requirements such as cash transfers and fuel price adjustments. However, these actions were not sufficient to bring the monthly cash balances within the cash requirements. The GAO found this occurred because the Department's Financial Management Regulation did not contain guidance on when managers should use available cash management tools.

Accordingly, no later than October 1, 2017, the committee directs the Under Secretary of Defense (Comptroller) to provide guidance in the Department's Financial Management Regulation on the timing of when managers should use available cash management tools and provide the congressional defense committees with the guidance once it is developed.

#### **Department of Defense and Department of Energy collaboration to improve energy resilience**

Earlier this year, the Secretary of Defense told the committee during combat operations in Iraq "our efforts to resupply the force with fuel made us vulnerable in ways that were exploited by the enemy." The Secretary also stated the importance of "relieving the dependence of deployed forces on vulnerable fuel supplies" and "the purpose of such efforts should be to increase the readiness and reach of our forces."

Accordingly, the committee strongly encourages the Department of Defense (DOD) and the Department of Energy (DOE) to continue to exercise the existing Memorandum of Understanding (MOU) signed by both parties in 2010 by partnering to enhance DOD's energy resilience. The partnership between DOD and DOE has successfully driven the research and development of technologies that have improved DOD's energy resilience posture at military installations. For example, under a research agreement the Army, an aerospace laboratory, and the DOE's National Renewable Energy Laboratory developed the Consolidated Utility Base Energy (CUBE) system.

The CUBE system is an integrated power distribution platform that delivers power for a solar-battery-diesel hybrid system to reduce the use of diesel-fueled generators at forward operating bases (FOBs). Roughly 40 percent of a FOB's total energy demand is typically powered by diesel generators.

The committee notes the CUBE system has demonstrated to decrease fuel use by 31 percent and diesel generator run time by 42 percent when compared to diesel-only, while maintaining reliable and high-quality power output. When combined with other advanced and efficient FOB technologies like rigid wall and net zero shelters, solar roofs, and solar-powered targeting systems for fire control missions, the potential to save fuel consumption adds up to another 50 percent in reduced demand.

Notably, the CUBE system is suitable for off-the-grid operations in remote areas, like FOBs, as well as humanitarian assistance and disaster relief operations in Africa and elsewhere around the world.

The committee strongly encourages the DOD to continue the development and fielding of technologies like the CUBE system which can help reduce the risk of lives lost transporting fueling a combat zone, enhance combat capability, all with the added benefit of reducing costs to the taxpayer.

### **Eastern Gulf Test and Training Range**

The committee notes that the Air Force Development Test Center's mission is to plan, conduct, and evaluate testing of U.S. and allied non-nuclear munitions, electronic combat, target acquisition, weapon delivery, base intrusion protection, and supporting systems. That mission is executed at Eglin Air Force Base in Florida, whose land test areas encompass 463,000 acres and water test areas, including the Eastern Gulf Test and Training Range (EGTTR), which cover 86,500 square miles in the Gulf of Mexico, making it the Department of Defense's (DOD) largest test and training area in the world.

The committee is concerned that the open-air range test-data gathering instrumentation infrastructure on EGTTR is not keeping pace with the advanced capabilities of modern weapons systems and munitions. The committee is further concerned that, with a growing volume of test and training requirements, more instrumentation throughout the EGTTR is required for efficient use of air, surface, and subsurface test areas to reduce the competition for range space between operational readiness priorities and fielding new system capabilities.

The committee understands that emerging technologies such as hypersonics, autonomous systems, and advanced sub-surface systems could require enlarged testing and training footprints. The committee further understands that the potential development of energy projects have the potential to encroach and negatively impact military training and operations. The committee also supports the Department's view that "national security and energy security are inextricably linked and the DOD fully supports the development of our nation's domestic energy resources in a manner that is compatible with military testing, training, and operations." The committee is also aware of the Department's current position that "[t]he moratorium on oil and gas 'leasing, preleasing, and other related activities' ensures that these vital military readiness activities may be conducted without interference and is critical to their continuation."

Accordingly, the committee encourages the Secretary of Defense to modernize and expand open-air range test capabilities operation and maintenance in the EGTTR and continue to work with the other Departments to ensure that the test and training missions conducted in EGTTR are protected from activities incompatible with successful mission completion.

#### **Encouraging the use of the Innovative Readiness Training program**

The committee is aware that readiness challenges continue to face the Armed Forces due to budgetary constraints. The committee continues to recognize the value of the Innovative Readiness Training (IRT) program, which allows Military Services realistic, joint training opportunities for National Guard, Reserve, and Active-Duty members.

The committee values the IRT program for its low cost and high benefit to achieving measurable military readiness. The committee strongly encourages the Department of Defense to continue utilizing IRT programs to provide mission-essential training, prioritizing programs that directly support Active-Duty missions.

Examples of IRT activities include, but are not limited to, constructing rural roads and airplane runways, small building and warehouse construction in remote areas, transportation of medical supplies, and military readiness training in the areas of engineering, health care and transportation for under-served communities.

The committee understands the IRT program offers complex and challenging training opportunities for domestic and international crises. The committee is also aware that states that utilize the IRT program include Alaska, Arizona, Arkansas, California, Colorado, Hawaii, Indiana, Kentucky, Louisiana, Maine, Minnesota, Missouri, Montana, Nebraska, North Carolina, North Dakota, Wyoming, New Jersey, New Mexico, New York, North Dakota, South Dakota, Texas, Virginia, and West Virginia.

The committee strongly encourages the Department of Defense to continue to fully utilize IRT programs that provide hands-on and mission-essential training and that are available to active, reserve, and National Guard forces.

### **Energy assurance on military installations**

In order to assess the current statutory authorities and their appropriateness and flexibility to support energy resilience on military installations, the Secretary of Defense is directed to report to the defense committees within 180 days of enactment of this Act the following: (1) authorities used in award of energy resilience projects during fiscal years 2015–2017 and (2) challenges experienced during fiscal years 2015–2017 in the execution of energy resilience projects due to limitations in existing statutory authorities.

### **Energy efficient military shelters**

The committee is aware of requirements that the Department of Defense has to leverage current technologies that will deliver energy efficient returns on investments. The committee believes that such efficient technologies will reduce the tactical demand on the warfighter while also make current billeting structures more energy efficient. Additionally, these efficiencies mean greater reduction in fuel consumption, and can ultimately lead to improved quality of life conditions for our warfighters.

The committee also understands that these efficient technologies can lead to a 35 percent reduction in demand for heating ventilation and air conditioning requirements, in order to maintain 70 degree interior temperatures in extreme cold and hot environments. The committee notes that by ensuring that our deployed warfighters have adequate living conditions, the Department also ensures that our forces are more combat effective, more prepared on the battlefield, and better able to perform their mission.

The committee further encourages the Department of the Air Force to leverage currently available energy-saving supplemental insulation technologies that will lead to reduced environmental control units in a deployed environment, further leading to cost savings with respect to total cost of ownership of billeting and shelters in the Basic Expeditionary Airfield Resources (BEAR) Base program. Accordingly, the committee recommends the Department continue to support and allocate the appropriate resources for energy efficient insulation systems, solar protection, and more efficient medium shelters procured through the BEAR Base program.

### **Energy savings performance contracts and combined heat and power**

The committee notes the importance for the Department of Defense (DOD) to enhance installation readiness and resilience through energy infrastructure improvements. The committee recognizes the efforts by the DOD to use third-party financing, such as Energy Savings Performance Contracts (ESPC), to provide cost-effective efficiency improvements to military installations.

The committee is strongly supportive of these efforts by the DOD and strongly encourages the use of these contracts and other third-party financing methods to improve energy infrastructure, resilience, and facilities important to the mission on military installations.

For example, the committee is very supportive of the ESPC task order which will build a site-wide and secure microgrid integrating 10 megawatts of new onsite power generation and battery storage

at Marine Corps Recruit Depot (MCRD) Parris Island, South Carolina. The committee is encouraged that the ESPC will reduce MCRD's energy demand by 79 percent and water consumption by 27 percent through infrastructure upgrades that will improve installation resilience, and provide the ability to operate in island-mode during the event of a commercial grid outage, or simply reduce utility purchases during peak demand periods. The ESPC upgrades at 121 buildings on Parris Island will also reduce operation and sustainment costs, address potentially cost-intensive military construction requirements, include a solar carport array, a battery storage system, and replace the currently end-of-life steam plant with a new fully automated natural gas-fueled combined heat and power (CHP) plant.

More broadly, the committee is also strongly supportive of the Army's goal to double the amount of energy production from combined heat and power (CHP) facilities on its installations in the next two years to 200 MW, and to triple it by the end of 2020 to 300 MW. The committee looks forward to the forthcoming development and release of the Army's overarching CHP deployment strategy that appropriately considers CHP and other ESPC methods as a key element of the Army's energy and sustainability strategy. Similarly, the committee strongly encourages the Department of the Navy to exceed its current inventory of nine CHP projects at roughly 90 MW and for the Air Force to exceed its roughly 15–20 MW of CHP.

#### **Energy savings performance contracts assessment**

The committee directs the Secretary of Defense to provide an assessment to the congressional defense committees no later than 90 days after the date of enactment of this Act. The assessment shall include but not be limited to: (1) recommendations on the use of energy savings performance contracts (ESPCs) for savings achieved through training improvements; (2) identification of potential savings that could be achieved through improvements to training; (3) pros and cons of using those savings as part of a long term ESPC; (4) any new authorities that would be needed if a decision was made to use savings as part of additional ESPC; and (5) any other recommendations deemed appropriate.

#### **Fabric and membrane technology**

The committee expresses its ongoing support for Department of Defense research and testing of cutting-edge fabric and membrane technologies to improve service members' comfort, effectiveness and mission readiness. The Senate report accompanying S. 1376 (S. Rpt. 114–49) of the National Defense Authorization Act for Fiscal Year 2016 included a requirement for the Secretary of Defense to submit a report to the committee on fabric-based respiratory protective equipment, including evaluations of emerging technologies to minimize service member exposure to inhalation of particulate and pollutants. Additionally, in the Senate report accompanying S. 2943 (S. Rpt. 114–255) of the National Defense Authorization Act for Fiscal Year 2017, the committee further directed the Secretary of the Army to report similarly on footwear technologies that incorporate new polytetrafluoroethylene (ePTFE) and other membrane

technologies. In light of these directives, the committee understands that the Army is currently evaluating the referenced technologies and that the evaluations are yielding positive results.

Recognizing the importance of these technologies to warfighter readiness, the committee directs the Secretary of the Army to submit a report to the Committees on Armed Services of the Senate and the House of Representatives, no later December 15, 2017, on the suitability of the above-mentioned technologies to military applications. Specifically, the report should provide an evaluation of the fabric-based respiratory protective equipment technologies reviewed under the requirement in Senate Report 114-49, identification of specific applications for integration of the technology, and a plan for transitioning the technology into such applications and programs. In line with the Army's review of footwear technologies as required in Senate Report 114-255, the report should provide a detailed evaluation of new ePTFE membranes, laminates, and other membrane technologies. Additionally, the report should include suggested revisions to current requirements and product descriptions that could be implemented to expand access to these membrane technology advancements. Finally, the report should include a plan for transitioning membrane technologies into military applications, including the Army Boot Modernization Programs such as the jungle combat boot program, the cold weather and extreme cold weather boot programs, and future cold weather clothing systems.

#### **Foreign language training**

The committee encourages the Department of Defense to continue placing a high priority on foreign language proficiency programs to ensure warfighters and national security professionals receive the language and culture training needed to complete their missions effectively, to include partnerships with K-12 schools and universities.

The committee is also aware of efforts already underway across the Department of Defense (DOD) and the intelligence community to review language training platforms in an effort to develop a more streamlined, efficient, customizable, and economic way to provide foreign language training DOD-wide. In order to achieve these goals, the committee directs the Secretary of Defense, in consultation with agency directors and the intelligence community to review current language training platforms and explore options to jointly develop a single language training platform to increase efficiency and cost savings.

#### **Implementation of Defense Science Board Task Force on energy systems for forward/remote operating bases**

The committee notes the Defense Science Board (DSB) Task Force on Energy Systems for Forward/Remote Operating Bases recently identified a number of recommendations to help the Department "meet this challenge of providing reliable, abundant, and continuous energy."

Accordingly, the committee directs the Secretary of Defense and the military departments to implement a number of the DSB's recommendations: (1) Conduct a gap analysis of energy requirements



for future capabilities; (2) In conjunction with the Joint Staff, ensure that future operational energy requirements are an explicit part of the Joint Requirements Oversight Council process and Defense Acquisition Board process; (3) Ensure operational units are involved in developing and managing energy requirements and standards for their mission in order that requirements and standards are both realistic and meaningful for improved operations; (4) Ensure the Combatant Commands include in their future requirements the need for abundant, reliable, and efficient energy technologies to enable future capabilities; (5) Incentivize the military services to collaboratively develop future considerations for remote and forward operating bases and expeditionary forces that address energy demands and the alternative sources to meet demand, reduce risk, and improve efficiency; (6) Establish metrics to evaluate effectiveness to improve efficiency of current deployable energy systems and drive efficiencies for future deployable energy systems through standards and integration, contracting, measuring data, training, and operating behavior; (7) Establish evaluation criteria to determine an enduring or non-enduring base; (8) Invest in research, development, test, and evaluation of alternative energy technologies with the potential to offer improved combat capabilities in remote and forward areas—in particular—technologies should be measured in terms of reduced logistics and reduced tactical signature during operations, reduced health and safety risk to warfighters, reliability and cost; (9) Establish a policy requiring all wargames, major unit field training, and joint exercises to include fuel and fuel logistics; (10) The DOD shall work with the DOE's Office of Nuclear Energy to engage in research, development, demonstration, and deployment of micro-reactor concepts, also known as very small reactor concepts, with electric power generation of 10 megawatts or less, for meeting the strategic needs of the DOD, including, where appropriate, powering remote bases and forward operating bases, and for commercial applications in remote areas. In conjunction with the DOE's Office of Nuclear Energy, the DOD should produce a manufacturability feasibility report within 24 months, and should focus efforts to enable the deployment of a functioning prototype reactor within 7 years; and (11) Any other recommendations deemed relevant and appropriate.

The committee further directs the Department to update the committee no later than February 1, 2018, on the status of implementing these DSB recommendations.

#### **Implementation of per- and polyfluoroalkyl substances cleanup**

Earlier this year, the Government Accountability Office (GAO) reported that the Department of Defense (DOD) has improved its reporting on the cost of environmental cleanup for installations closed under the Base Realignment and Closure process, but recommended that DOD include estimates of cleaning emerging contaminants in future reports to Congress and develop a process for collecting and sharing lessons learned on environmental cleanup.

The committee is encouraged that DOD concurred with both recommendations and identified specific actions the Department will take to implement the recommendations. The committee looks for-

ward to receiving the more detailed environmental remediation cost estimates that will include remediation cost for per- and polyfluoroalkyl substances compounds and other emerging contaminants to help ensure that adequate resources are being devoted to this important initiative.

Additionally, the committee directs the Secretary of Defense to implement the GAO's recommendation to share lessons learned from environmental remediation among the military services to promote the redevelopment of closed military bases.

#### **Increasing contracting efficiency through commercial off-the-shelf solutions for personal protective equipment**

The committee commends the Department of Defense (DOD) for continuing efforts to make acquisition and procurement of personal protective equipment (PPE) and organizational clothing and individual equipment (OCIE) more efficient. Programs such as the Army's Rapid Equipping Force (REF) and Soldier Enhancement Program result in shorter procurement processes to field critical items of PPE and OCIE faster and more effectively. Approved items such as ballistic eye protection, armor plate carriers, load carriage, footwear, helmets, clothing items, and replacement parts and supplies are often readily available as commercial-off-the-shelf (COTS) solutions.

The committee is concerned that PPE and OCIE procurements continue to be slower than necessary due to administrative delays and burdensome requirements processes. Therefore, the committee believes that DOD and the military departments, as part of the broader acquisition reform effort, should accelerate the use of COTS solutions to meet the evolving PPE and OCIE needs of our servicemembers.

#### **Individual soldier equipment acquisition strategy**

The committee is aware and supportive of recent determinations by the Secretary of Defense have opened all combat positions to female warfighters. This significant change to Department policy creates several opportunities to better serve the needs of both female and male warfighters.

For many years, the Department of Defense has acquired individual equipment for soldiers, sailors, airmen, and Marines in a piecemeal manner, purchasing equipment such as boots, helmets, combat clothing, and body armor with insufficient focus on the seamless integration of these essential, lifesaving products. The committee is concerned that currently available items of personal protective equipment (PPE) and organizational clothing and individual equipment (OCIE) do not meet the specific and unique requirements for female warfighters and further improvements could be made to reduce the weight of PPE and OCIE.

The committee believes that the new Department of Defense policy presents an opportunity for the military departments to focus on the "Warfighter as a System" and properly address the unique needs of our female warfighters through a holistic acquisition strategy. Accordingly, the committee directs the Secretary of Defense to produce a report delivered to the Senate Armed Services Committee no later than 90 days after the enactment of this Act out-

lining plans to provide innovative, lifesaving PPE and OCIE developed specifically for female warfighters. The report should include plans for budgeting, requirements, and procurement of female-specific equipment including helmets, combat uniforms, body armor, footwear, and other critical equipment categories. The report should include detailed plans on integrating the latest commercially available materials and advanced product design to lighten the load for all warfighters.

#### **Item unique identification implementation and verification**

The committee remains very concerned that the Department of Defense (DOD) has failed to enforce its own policy and strategy for improving asset tracking and in-transit visibility. Furthermore, the committee remains concerned that the DOD has failed to deliver its required report to the committee on the Defense Contract Management Agency's (DCMA) plan to foster the adoption, implementation, and verification of the Department's revised item unique identification (IUID) policy across the Department and the defense industrial base.

The committee continues to support the DOD's goal of enhancing asset visibility with IUID, automatic identification technology, and automatic identification and data capture processes.

Accordingly, the committee directs the Secretary of Defense to certify to the Committees on Armed Services of the Senate and the House of Representatives no later than September 1, 2018, that the DCMA is complying with its own new policies, timelines, procedures, staff training, and equipment issuance to ensure contract compliance with the IUID policy for all items that require unique item level traceability at any time in their life cycle, to support counterfeit material risk reduction, and to provide for systematic assessment and accuracy of IUID marks as set forth by DOD Instruction 8320.04.

#### **KC-46A aerial refueling tanker emergent requirements**

The KC-46A will serve as the backbone of the Air Force's critical aerial refueling mission for the next several decades, replacing the aging 1950s-era KC-135 Stratotanker fleet. The committee is aware that the Air Force has provided funding for numerous military construction projects at installations across the country to prepare for the delivery and bed down of the aircraft.

However, the committee is concerned that as the KC-46A program matures and requirements become better defined, additional military construction and facilities, sustainment, restoration and modernization (FSRM) funding is necessary to properly support the fielding of the aircraft, house additional personnel, and meet unforeseen requirements of the tanker mission. The committee strongly encourages the Air Force to review and validate new and emergent requirements and prepare to provide additional military construction and FSRM funding in its budget request for fiscal year 2019.

#### **Lithium-ion powered devices**

The committee commends the Navy's steps to limit the possession, use, and stowage of certain devices containing lithium-ion bat-

teries aboard ships, submarines, aircraft, boats, craft, and heavy equipment. This policy change is in response to reports of lithium-ion batteries overheating and igniting—causing dangerous explosions that lead to physical harm and material damage. The committee encourages the Secretary of Defense to extend the Navy’s policy, which prohibits the possession, use, and stowage of certain lithium-ion powered devices aboard ships, submarines, aircraft, boats, craft, and heavy equipment, across the services to include other relevant weapon systems to ensure servicemembers’ and equipment are protected from unnecessary harm. The committee recommends that the Department establish similar policies for other potentially damaging lithium-ion powered devices that may threaten readiness.

### **Marine Corps cold-weather and high altitude training**

The committee understands the United States Marine Corps has a nearly 70-year history with cold-weather and mountain warfare training at the Marine Corps Mountain Warfare Training Center (MCMWTC) at Bridgeport, California. The committee further understands that the MCMWTC—which spans 46,000 acres in the Toiyabe National Forest—provides U.S. servicemembers and allied partners with the critical training and basic skills needed to conduct combat operations as a component of a Marine Air Ground Task Force or other task force in mountainous, high altitude, and cold weather environments. The committee notes that in a first of its kind operation in January of 2017, the Marine Corps deployed approximately 300 Marines to Norway to, among other things, improve their ability to fight in the Arctic cold.

Following a visit in July of 2016 by General Robert Neller, the Commandant of the Marine Corps, the committee is aware that the Marine Corps is now examining the rotational deployment of up to a battalion of U.S. Marines to Alaska for similar cold-weather, high-altitude, and mountainous training. The committee is aware that the Joint Pacific Alaska Range Complex (JPARC) has 2,490 square miles of land space, 65,000 square miles of available airspace, and 1.5 million acres of maneuver land. The committee is further aware that the JPARC allows for robust ground training including Air Assault, Deploy/Redeploy, Electronic Warfare, Full Spectrum, Individual and Small Unit, Large-Scale Joint Force, Live Fire, and Mounted and Dismounted Maneuver operations, among many others. The committee recognizes that Alaska’s unique strategic location and its existing aerial ports of debarkation/seaports of debarkation provide deployed and stationed forces with power projection and rapid contingency response capabilities into three geographic combatant commands—U.S. Northern Command, U.S. European Command, and U.S. Pacific Command.

The committee, recognizing the unique training opportunities offered in the JPARC, applauds this effort by the Marine Corps to augment and diversify its existing cold-weather, high-altitude, and mountainous training.

Accordingly, the committee strongly encourages the Marine Corps to complete its examination of the deployment of Marines to Alaska and directs the Marine Corps to brief the congressional defense committees upon completion of its examination.

**Master plan and investment strategy for the modernization of public shipyards under jurisdiction of the Department of the Navy**

The committee notes that in April 2013, the Department of the Navy submitted a report to Congress pursuant to the requirements in section 2865 of the Fiscal Year 2012 National Defense Authorization Act (Public Law 112–81) with an investment plan to address the facilities and infrastructure requirements at each public shipyard under the jurisdiction of the Department of the Navy.

The report included analysis that the \$3.5 billion total maintenance backlog consisted of over 1,000 buildings at the four public shipyards. Of those, 53 mission-essential facilities were in poor condition and consisted of \$1.2 billion of the total value, with an additional 30 mission-essential facilities on the verge of being rated as in poor condition. The committee also notes that the \$3.5 billion facility maintenance backlog does not include the cost of modernizing shipyard utilities, which have been experiencing unplanned outages that can disrupt aircraft carrier and submarine availability schedules.

The committee notes that the Department of the Navy is investing in existing facilities that may not be ideally designed, placed, sized, or configured to support the current work processes, leading to inefficiencies in ship repair functions. The 2013 Navy report states that, “Much of the naval shipyard infrastructure was designed for World War II-era ship construction rather than modern nuclear-powered ship repair processes, which reduce their efficiency in repairing today’s ships.” Yet, 27 of the 29 projects listed for the Naval shipyards are repairs of existing, inefficient facilities. More than half are simple repairs that address only one component of a building without addressing overall renovations to improve the mission effectiveness of the facility. In order for resources to be expended prudently for maximum benefit for shipyard operations, the Department must first review industrial processes, logistics streams, and workload distribution to develop a facilities plan, which consolidates and optimizes ship repair processes.

Therefore, the committee directs the Secretary of the Navy to submit a report by February 1, 2018, on an engineering master plan for the optimal placement and consolidation of facilities and major equipment to support ship repair functions at each shipyard and an investment strategy to address the facilities, major equipment, and infrastructure requirements at each public shipyard under the jurisdiction of the Department of the Navy. The report shall include, but not be limited to, the following elements: (1) A review of current and projected workload requirements for ship repairs to assess efficiencies in the use of existing facilities including consideration of new ship characteristics, obsolescence of facilities, siting of facilities and equipment, and various constrained process flows; (2) An analysis of life-cycle costs to repair and modernize existing mission-essential facilities versus the cost to consolidate functions into modern, right-sized waterfront facilities to meet current and programmed future mission requirements; (3) A review of the progress made in prioritizing and funding projects that facilitate implementation of the hub concept for ship repair in order to improve process efficiencies, consolidate, and contribute to avail-

ability cost and schedule reductions; (4) A master plan for each shipyard incorporating the results of a review of industrial processes, logistics streams and workload distribution required to support ship repairs at each shipyard and the facilities requirements to support optimized processes; and (5) An updated investment strategy planned for each public shipyard, including timelines to complete the master plan for each shipyard, a list of projects and brief scopes of work, and cost estimates necessary to complete projects for mission essential facilities.

#### **Military training for operations in densely populated urban terrain**

The committee directs the Secretary of Defense to submit to the congressional defense committees a report no later than March 1, 2018 on plans and initiatives to enhance existing urban training concepts, capabilities, and facilities that could provide for new training opportunities that would more closely resemble large, dense, heavily populated urban environments. The report shall include specific plans and efforts to provide for a realistic environment for the training of large units with joint assets and recently fielded technologies to exercise new tactics, techniques, and procedures, including consideration of anticipated urban military operations in or near the littoral environment and any relevant cyber vulnerabilities.

The report shall also include consideration of multiple training facility options and the costs and benefits associated therewith, including non-traditional options, such as leased facilities and National Guard facilities or other facilities owned or operated by a state government. The committee notes that there has been sustained congressional interest in improving joint urban training strategies and capabilities for more than two decades and encourages the Department to draw upon the results of past studies on this matter.

The report shall be submitted in unclassified form but may include a classified annex.

#### **Navy dry dock capacity**

No later than September 30, 2018, the committee directs the Secretary of the Navy to provide a report to the congressional defense committees that assesses depot-level ship maintenance capacity in the public shipyards. The report should capture any projected capacity shortfall and evaluate potential strategies to match the industrial capacity of the public shipyards to future fleet maintenance requirements. Further, the report should recommend courses of action that include timeframes and funding requirements.

#### **Organic depot capacity and interoperability**

The committee remains concerned that significant maintenance backlogs exist in the organic industrial base, particularly in the case of the F/A-18 Hornet A-D legacy models. The committee believes that additional capacity for such backlogs could be achieved through the expansion of cross-service depot maintenance operations.

Accordingly, the committee directs the Secretary of Defense to assess the feasibility of expanding cross-service depot maintenance within the organic industrial base to avoid future backlogs, particularly in the case of the F/A-18 Super Hornet E-F models. The committee recommends the Department to consider using the F/A-18 Hornet A-D legacy models as a test case for this assessment, along with any other platforms the Department deems appropriate.

### **Paint training programs**

The committee believes that maximum efficiency is critical for more than 350 military paint facilities that perform painting and coating operations, including corrosion prevention and control, radar absorption, and camouflage. The committee understands that the Department's operations require stringent specifications for the coating of each piece of equipment.

The committee understands paint training programs provide training for military painters and coating operations. The committee notes paint training programs can save the Department time and funding resources by using advanced technology and equipment along with hands-on training to effectively apply coatings and reduce waste. Additionally, increasing coating transfer efficiency and preventing corrosion and rework can improve asset readiness. Furthermore, the committee understands that paint training programs consistently update to the latest advancements in coatings, application equipment, and technology. Lastly, the committee notes that the paint training programs have trained hundreds of military and contract painters, serving all of the military departments.

### **Processes for translating strategy into force structure and readiness decisions**

The committee notes that the Defense Planning Guidance (DPG) outlines the Department of Defense's (DOD) priority missions, force-sizing construct, major force planning assumptions, and key capabilities to help size and shape the future joint force to meet the National Military Strategy. The DPG's main objectives are to ensure that sufficient capabilities essential to the success of future operations are being developed by the components and reflected in the President's budget request.

In 2010, DOD began bundling scenarios into Integrated Security Constructs (ISCs), which were intended to allow the services to make trade-off decisions when faced with competing demands. The 2015 National Military Strategy suggested that DOD has consumed readiness as quickly as it has been generated for nearly a generation and that DOD is taking action to better balance achieving immediate operational goals with improving readiness for future operations. Over time, DOD has varied the way it applies plans and scenarios to determine readiness requirements. These different approaches to making force structure and readiness decisions can directly affect, among other things, the funding for weapons systems, maintenance, personnel, and training that are needed.

Accordingly, the committee directs the Comptroller General of the United States not later than May 1, 2018 to evaluate the extent to which DOD is translating strategy into guidance and force

structure from a joint versus service-specific approach. The Government Accountability Office review should assess: (1) In the absence of approved ISCs and scenarios, what approaches are the military services using for force structure planning and sizing; (2) How are the military services applying plans and scenarios to determine readiness requirements and what are the associated assumptions and business rules; (3) To what extent do DOD and the Joint Staff have visibility over the services' approaches for making force structure and readiness decisions in order to weigh potential tradeoffs, mitigate risks, and become more efficient across the joint force; and (4) How the DPG gives guidance on doctrine, required capabilities and shortfalls, force structure, and training to ensure the service secretaries are meeting their title 10 responsibilities of man, train, and equip.

The committee directs the Comptroller General of the United States to brief the Committee on Armed Services of the Senate and House of Representatives, not later than March 1, 2018, on its preliminary findings.

#### **Report on F-35 Joint Strike Fighter sustainment affordability and transparency**

The committee is concerned that the Department of Defense's (DOD) sustainment strategy for the Joint Strike Fighter is not linked closely to the military services' budgets that provide the necessary funding for the projected \$1.0 trillion in operating and support costs of the program, thus contributing to the lack of transparency and misalignment of responsibility and accountability that has plagued the program from its inception. In 2014, the Government Accountability Office (GAO) reported that while DOD has begun some cost-savings efforts and established sustainment affordability targets for the F-35 program, DOD did not use the military services' budgets to set these targets. Therefore, these targets may not be representative of what the services can realistically afford and do not provide a clear benchmark for DOD's cost-savings efforts. While the committee is encouraged by the Department's attention on cost reduction efforts, until the budgets of the services actually inform the affordability targets the Department is trying to achieve, there is no way to ensure that any cost savings will actually result in a sustainment strategy that will be affordable. The current strategy lacks the transparency necessary for an efficient and effective use of taxpayer dollars by the services that are actually operating and funding sustainment. Continuing the current practice of having the F-35 Joint Program Office handing a bill to the services during execution fails to incorporate the services' budgetary input to guide sustainment decisions, prioritize requirements, and identify potential areas for savings.

Therefore, the committee directs the Secretary of Defense to provide the Committees on Armed Services of the Senate and House of Representatives, not later than March 1, 2018, a report on the Department's plan for improving the transparency and affordability of the sustainment strategy for the F-35 Joint Strike Fighter. The required report shall include the following elements: (1) a description of affordability constraints linked to, and informed by, military service budgets to help guide sustainment decisions, prioritize re-



quirements, and identify additional areas of savings; (2) an explanation of the processes in place and steps taken to ensure that the Department of the Navy and the Department of the Air Force have full transparency of the F-35 sustainment costs that they are funding, and the corresponding capabilities provided, in order to support their own affordability initiatives; and (3) any other matter deemed relevant by the Secretary of Defense.

### **Report on required training capabilities of the Fallon Range Training Complex**

The committee recognizes the undeniably vital contribution the Fallon Range Training Complex (FRTC) makes to the readiness of our nation's forces, especially our Naval Strike Warfare and Naval Special Warfare units. As the only location where an entire carrier air wing can train together as they fight, the Fallon ranges are irreplaceable for Naval Aviation. However, current land and airspace restrictions limit the realism of the training environment. The Navy is in the early stages of developing a plan to address the looming 2021 expiration of the current Fallon Range land withdrawal. During this transition, the committee believes that it is necessary to modernize the FRTC, particularly the expansion of usable land and airspace.

Therefore, the committee directs the Chief of Naval Operations to submit a report to the congressional defense committees, by February 1, 2018, describing the required training capabilities of the Fallon Range Training Complex. The required report should include: (1) an overview of current training capabilities of the FRTC; (2) the training requirements that need to be met by the FRTC; (3) proposed improvements to the land and airspace of the FRTC; (4) proposed capability upgrades for the FRTC; and (5) the impacts of not modernizing the FRTC, in terms of both space and capabilities. The required report shall be unclassified, but may contain a classified annex.

### **Report on small arms industrial base**

In 2010, the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 repealed section 2473 of title 10, United States Code, which had required the Department of Defense to only procure certain small arms repair parts and components from a limited number of industry sources that the Department had identified as comprising the small arms production industrial base (SAPIB).

In 2015, the committee included directive report language entitled "Small Arms Production Industrial Base" within the report to accompany the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92). This directed the Secretary of Defense in coordination with the senior military services acquisition executives, to provide a briefing to the Committees on Armed Services on the current state of the SAPIB, as well as on the effect the repeal is having on the current SAPIB.

The committee believes the briefing provided by the Army was insufficient. Therefore, the committee directs the Secretary of Defense, in coordination with senior military services acquisition executives, to submit a report to the Armed Services Committees of the Senate and the House of Representatives no later than January

15, 2018, on the state of the SAPIB. At a minimum, this report shall: (1) identify critical small arms systems and items; (2) describe the department's strategy for preserving a stable SAPIB in the areas of development, production, maintenance and competitive contracting; (3) describe the use of science and technology, small business programs, and organic depot activities to improve and enhance quality, delivery, competition, engineering and capability.

#### **Review of corrosion control and prevention in the Department of Defense**

The committee notes that the negative effects of corrosion continue to cost the Department of Defense (DOD) over \$22.0 billion annually. The committee is concerned that the military departments have not adequately funded their corrosion control and prevention activities nor have all the military services placed the appropriate emphasis on their corrosion executives.

Accordingly, the committee directs the Comptroller General of the United States to evaluate the: (1) Results of resourcing efforts for corrosion executives in the military departments; (2) Corrosion prevention office and the corrosion control and prevention executives' oversight roles in implementing corrosion prevention and control planning on acquisition and sustainment programs; (3) Extent of interagency working groups to include DOD that are focused on the potential application and implementation of infrastructure corrosion prevention and mitigation technologies government-wide.

The committee directs the Comptroller General of the United States to brief the committee not later than March 1, 2018, on its preliminary findings.

#### **Review of minimum capital investment for certain depots**

The committee notes that section 2476 of title 10, United States Code, requires that each fiscal year, the Secretary of a military department shall invest in the capital budgets of the covered depots of that military department a total amount equal to not less than 6 percent of the average total combined maintenance, repair, and overhaul workload funded at all the depots of that military department for the preceding three fiscal years. Under the statute, the capital budget of a depot includes investment funds spent to modernize or improve the efficiency of depot facilities, equipment, work environment, or processes in direct support of depot operations, but does not include funds spent for sustainment of existing facilities, infrastructure, or equipment.

However, exactly how the military departments determine the funds available for both investment and sustainment is unclear to the committee. If they are, for example, using the capital budget on sustainment, the military services may be substantially underfunding both their investment and sustainment requirements at the depots. The committee notes that the military depots should be receiving not less than 6 percent of their total workload funding for investment actions alone; and funding for sustainment actions should be budgeted separately.

Accordingly, the committee directs the Comptroller General of the United States to evaluate to what extent the military departments are complying with the requirement in section 2476 of title

10, United States Code, to invest in the capital budgets of covered depots a total amount equal to not less than 6 percent of the average total combined maintenance, repair, and overhaul workload funded at all the depots for a military department for the preceding three fiscal years; and the extent to which the amounts identified for capital budget activities by the military departments were spent on sustainment of existing facilities, infrastructure, or equipment. The Comptroller General may also include other related matters as appropriate.

The committee directs the Comptroller General of the United States to brief the committee not later than March 30, 2018, on its findings.

#### **Review of training for commanders that consult and interact with federally recognized tribes**

The committee recognizes the significant effort and institutional knowledge required to maintain healthy working relationships between many domestic Department of Defense installations and the federally recognized tribes in the communities in which these installations are based.

The committee recommends that the Department review the preparation given to Command Select List Designees, Installation Commanders, Garrison Commanders, and General Officers with assignment at installations that regularly engage with at least one geographically proximate federally recognized tribe.

Specifically, the committee recommends that the Department review the pre-command course training provided to these leaders, specifically the training pertaining to the cultural history of any relevant federally recognized tribes to the installation, the treaty rights, if any, of such tribes and the legal implications for the installation, and the history of military and United States Government engagement with such tribes, and best practice communication and engagement strategies used for maintaining healthy working relationships with these tribes.

#### **Ship and submarine depot maintenance**

The committee is concerned by challenges with maintaining the current Navy fleet of 276 ships. For example, the committee notes the USS *George H.W. Bush* (CVN-77) availability was scheduled for an eight-month availability that required 13 months in 2016; USS *Albany* (SSN-753) took over 48 months to complete its 22-month maintenance availability and missed a deployment as a result; and the USS *Boise* (SSN-764) was originally scheduled for a 2016 public shipyard availability that was recently shifted to a 2019 private shipyard availability. In addition to the USS *Boise*, the Navy has also recently shifted the USS *Montpelier* (SSN-765) and USS *Columbus* (SSN-762) availabilities from public shipyards to private shipyards.

The committee understands insufficient public shipyard capacity has led to cost inefficiency and delay, and the rescheduling of some submarine maintenance availabilities to private shipyards. The committee further understands the Navy does not anticipate eliminating the current maintenance backlog of 5.5 million man-days at public shipyards until 2023. The committee notes the latest Navy

shipbuilding plan indicates the fleet will grow by 33 ships to 309 ships in 2023. The committee is concerned by the task of accomplishing the increased maintenance requirements while simultaneously eliminating a maintenance backlog that has continued to grow since 2011.

Therefore, the committee directs the Secretary of the Navy to submit to the Committees on Armed Services of the Senate and House of Representatives a detailed plan to accomplish surface ship and submarine maintenance through fiscal year 2023. For this period, by fiscal year, this plan shall include: the planned maintenance workload by ship class, public and private shipyard workforce capacity based on recent demonstrated performance (i.e., performance factor), comparison of workload to workforce (adjusted for performance) for public and private shipyards by ship class, plans to shift maintenance from public to private shipyards, estimated costs, and budgeted costs in the fiscal year 2018 budget request. This plan shall be submitted with the fiscal year 2019 budget request.

#### **Technology roadmap and comprehensive water strategy**

The committee remains concerned that the Department will continue to face long-term challenges related to its water requirements, coupled with the increased potential for security risks and destabilization impacts requiring the Department's response around the globe. While there has been much attention placed on the cyber vulnerabilities of energy use and the fragility of the electric grid, the committee believes a secure and reliable supply of water is essential to the Department's ability to perform its critical missions on its installations and in support of operational deployments.

The Department has repeatedly informed the committee that roughly 80 percent of a logistical resupply convoy's weight consists of water and fuel in support of combat operations. On military installations, water demand can compete with the economies of local communities, especially in rural areas that experience drought and increased risk of wildfires. The Department needs to ensure it fully understands local water rights and access to sources of water.

The committee strongly encourages the Department to develop the advanced technologies necessary to meet its requirements for water production, treatment, and purification, as well as capitalize on commercially available capabilities. For example, the Army has been able to reduce installation water use by roughly 4.4 billion gallons, save \$11.0 million per year, and reduce total water requirements by roughly one-third through utilities privatization programs at 23 locations.

Notably, university researchers at the Massachusetts Institute of Technology were recently able to develop a small device that harvests an individual's daily drinking water requirement from the atmosphere in arid environments, with no energy input other than natural sunlight. The committee strongly encourages the Department to pursue and field these types of advanced technologies to meet its water requirements.

Accordingly, the Secretary of Defense shall, in coordination with the military departments and combatant commands, submit a tech-

nology roadmap to address capability gaps for water production, treatment, and purification and a comprehensive water strategy addressing research, acquisition, training, and organizational issues to the committee not later than May 1, 2018.

The roadmap and strategy shall include but not be limited to identifying: (1) The projected global security impacts the Department will face in 2025 and beyond due to diminishing amounts of potable water; (2) Technologies and capabilities to produce, purify, and treat water on site from groundwater, surface water, or recycling used water, in order to reduce or eliminate demand for water resupply and distribution; (3) Technologies and capabilities for water production, purification, and treatment that are compact, portable, and use a low energy demand, to the maximum extent possible; (4) Technologies and capabilities that have the ability to readily provide potable water for distributed operations in remote areas and in the event of humanitarian assistance and disaster response (HA/DR) missions; (5) Holistic approaches to maximize water efficiencies on military installations and forward operating bases through the use of advanced technologies and capabilities; (6) The expanded use of third party financing and utilities privatization to sustain and recapitalize aging water infrastructure; (7) Lessons learned from previous utilities privatization contracts that will be used in future contract negotiations to ensure long-term water rights, security, conservation, and market opportunities; (8) Metrics to track water use and quantify savings to include the expanded use of water meters; (9) Risk mitigations to address the testing, identification, and remediation requirements for emerging contaminants and other water source vulnerabilities to ensure human health and safety standards are met; (10) Ways to incorporate lessons learned and best practices drawn from the past 15 years of combat operations and HA/DR missions; (11) Cooperation and collaboration opportunities with other agencies, non-government entities, academia, local communities, and foreign nations; (12) Infrastructure and other development funding requirements; (13) Policies and methods to monitor water market trends and how water market mechanisms are evolving over time to minimize the fully burdened cost of water to the Department; (14) Opportunities to acquire more subject matter expertise on water issues to identify future threats to mission performance; and (15) Any necessary legislative or policy change recommendations.

The comprehensive strategy may also include a classified annex, if deemed appropriate.

### **Textile decisions**

As the Department of Defense continues its work to streamline military uniforms, both combat and dress uniforms, the committee recognizes the significant importance of a stable and domestic textile industrial base to produce garments for the country's warfighters.

Therefore, the committee strongly encourages the Department to take into consideration such an impact upon the industrial base and its suppliers, including the small businesses that provide critical contributions, while making such decisions.

### **Third-party financed energy projects**

The committee continues to be strongly supportive of the Department's efforts to use third party financing mechanisms and other appropriate authorities for energy projects that improve installation resilience, increase the readiness and ability of the military services to deploy, and balance the stewardship of taxpayer funding since third-party financed projects have little upfront cost to the Department.

Accordingly, the committee continues to strongly encourage DOD to continue to use third party financing mechanisms and other appropriate authorities to take full advantage of private sector financing for renewable and distributed energy projects that improve installation resilience, increase readiness and mission assurance, and offer cost savings. Lastly, the committee continues to strongly encourage DOD to prioritize resilience in its pursuit of projects and to leverage payment in kind options for black start capability in the event of grid outages whether through technologies like cyber-secure microgrids, additional feeder lines, islanded operations, or other appropriate assets.

### **Use of proximate airfields to support undergraduate pilot training installations**

The committee is aware that Air Force Undergraduate Pilot Training (UPT) installations utilize nearby civilian airfields to accomplish parts of their training syllabus and as emergency landing sites. Partnerships with organizations operating civilian airfields already increase training opportunities and overall pilot training capacity. However, the committee believes there may be additional opportunities to improve cooperation and partnership covering proximate civilian airfields that could be beneficial to both Air Force and local communities.

Therefore, not later than 90 days after the enactment of this act, the committee directs the Secretary of the Air Force to provide the Committees on Armed Services of the Senate and the House of Representatives a study on the feasibility of obtaining increased access to proximate civilian aviation facilities to: (1) expand Undergraduate Pilot Training capacity at civilian aviation facilities where cooperation agreements already are being used to meet throughput requirements; (2) to create additional surge capacity at such facilities; and (3) extend such agreements to additional proximate civilian aviation facilities.

### **Wargame for operations in the Arctic**

The committee supports the Department of Defense's (DOD) 2016 Arctic Strategy, including the desired end-state for a "secure and stable region where U.S. national interests are safeguarded, the U.S. homeland is defended, and nations work cooperatively to address challenges." Given the continued involvement and expanding footprint of Russia and other nations, including U.S. allies in the Arctic, harsh weather conditions, and the potential for increased oil and gas exploration, the committee remains concerned that the rapidly changing strategic waterway is a potential driver of instability, requiring the Department to be prepared to incorporate any changes in the comprehensive domain awareness in DOD planning.

Additionally, the committee is concerned that a lack of icebreaker ships and the challenges of constructing other permanent infrastructure in the Arctic may limit DOD's ability to operate and ensure regional access given the evolving security threats, icebreaker capabilities of Russia and other nations, and the evolving physical environment.

The committee believes that DOD, other U.S. federal agencies, and U.S. allies and partners need to ensure they can operate with sustainable proficiency in the high latitudes of the Arctic region, just as they prepare for operations in every other region around the world. The committee is also concerned that coastal erosion rates that were projected by the Air Force not to occur until 2030 and 2040 have already been observed, which threatens DOD's existing early warning radar infrastructure.

Accordingly, the committee directs the Secretary of Defense to conduct an Arctic wargame to assess the strategy, assumptions, and capabilities of the United States Northern Command to secure, stabilize, and assure access to all international waters, airspace, and homeland approaches in the Arctic. The wargame and appropriate tabletop exercises shall include, but not be limited to: (1) Necessary infrastructure and regional-specific capabilities for DOD operations in the Arctic, to include icebreakers and communications improvements; (2) Potential mechanical and maintenance constraints of the current class of U.S. Navy and Coast Guard ships, submarines, ground vehicles, equipment, and aircraft, to include unmanned systems, operating in the Arctic, given the temperatures, weather, and opening of new transportation routes; (3) Regional implications of American icebreakers and other allied and partner forces operating in the region in the event of new commercial ship traffic transiting the Arctic during 30 to 60 days of free water access; and (4) Necessary updates to concepts of operations, tactics, techniques, and procedures, rules of engagement, protections for regional-specific indigenous communities, potential new navigation routes, and search and rescue requirements.

Not later than one year after the date of the enactment of this Act, the Secretary shall convey to the congressional defense committees the findings of the Arctic wargame.





## TITLE IV—MILITARY PERSONNEL AUTHORIZATIONS

### Subtitle A—Active Forces

#### End strengths for active forces (sec. 401)

The committee recommends a provision that would authorize Active-Duty end strengths for fiscal year 2018, as shown below:

Service	FY 2017 Authorized	FY 2018		Change from	
		Request	Recommendation	FY 2018 Request	FY 2017 Authorized
Army .....	476,000	476,000	481,000	+5,000	+5,000
Navy .....	323,900	327,900	327,900	0	+4,000
Marine Corps .....	185,000	185,000	186,000	+1,000	+1,000
Air Force .....	321,000	325,100	325,100	0	+4,100
DOD Total .....	1,305,900	1,314,000	1,320,000	+6,000	+14,100

### Subtitle B—Reserve Forces

#### End strengths for Selected Reserve (sec. 411)

The committee recommends a provision that would authorize Selected Reserve end strengths for fiscal year 2018, as shown below:

Service	FY 2017 Authorized	FY 2017		Change from	
		Request	Recommendation	FY 2018 Request	FY 2017 Authorized
Army National Guard .....	343,000	343,000	343,500	+500	+500
Army Reserve .....	199,000	199,000	199,500	+500	+500
Navy Reserve .....	58,000	59,000	59,000	0	+1,000
Marine Corps Reserve .....	38,500	38,500	38,500	0	0
Air National Guard .....	105,700	106,600	106,600	0	+900
Air Force Reserve .....	69,000	69,800	69,800	0	+800
DOD Total .....	813,200	815,900	816,900	+1,000	+3,700
Coast Guard Reserve .....	7,000	7,000	7,000	0	0

#### End strengths for Reserves on active duty in support of the reserves (sec. 412)

The committee recommends a provision that would authorize full-time support end strengths for fiscal year 2018, as shown below:

Service	FY 2017 Authorized	FY 2018		Change from	
		Request	Recommendation	FY 2018 Request	FY 2017 Authorized
Army National Guard .....	30,155	30,155	30,155	0	0
Army Reserve .....	16,261	16,261	16,261	0	0
Navy Reserve .....	9,955	10,101	10,101	0	+146

Service	FY 2017 Authorized	FY 2018		Change from	
		Request	Recommendation	FY 2018 Request	FY 2017 Authorized
Marine Corps Reserve .....	2,261	2,261	2,261	0	0
Air National Guard .....	14,764	16,260	16,260	0	+1496
Air Force Reserve .....	2,955	3,588	3,588	0	+633
DOD Total .....	76,351	78,626	78,626	0	+2275

### **End strengths for military technicians (dual status) (sec. 413)**

The committee recommends a provision that would authorize military technicians (dual status) for the reserve components of the Army and Air Force for fiscal year 2018, at the following levels: Army National Guard: 22,294; Army Reserve: 6,492; Air National Guard: 19,135; and Air Force Reserve: 8,880. These authorizations reflect the conversion of 12.6 percent of the technician population, as requested in the fiscal year 2018 budget request, to civilian employees under section 3101 of title 5, United States Code, or section 1601 of title 10, United States Code as authorized elsewhere in this Act to reflect the requirements of section 1084 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

The committee notes that the same number of personnel are available for full-time support of the reserve components of the Army and the Air Force through the combination of military technicians (dual status) and employees under section 3101 of title 5, United States Code, or section 1601 of title 10, United States Code. The budgetary authorization for full-time support remains the same. Further, the committee has not reduced either the overall Selected Reserve end strength or budgetary authority for civilian personnel relative to this conversion.

### **Fiscal year 2018 limitation on number of non-dual status technicians (sec. 414)**

The committee recommends a provision that would set the limit on the number of non-dual status technicians who may be employed in the Department of Defense as of September 30, 2018, at zero to reflect the requirements of section 1084 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) converting non-dual status technicians to civilian employees under section 3101 of title 5, United States Code, or section 1601 of title 10, United States Code, by no later than October 1, 2017.

### **Maximum number of reserve personnel authorized to be on active duty for operational support (sec. 415)**

The committee recommends a provision that would establish limits on the number of reserve personnel authorized to be on Active Duty for operational support under section 115(b) of title 10, United States Code, as of September 30, 2018, as shown below:

Service	FY 2017 Authorized	FY 2018		Change from	
		Request	Recommendation	FY 2018 Request	FY 2017 Authorized
Army National Guard .....	17,000	17,000	17,000	0	0
Army Reserve .....	13,000	13,000	13,000	0	0

Service	FY 2017 Authorized	FY 2018		Change from	
		Request	Recommendation	FY 2018 Request	FY 2017 Authorized
Navy Reserve .....	6,200	6,200	6,200	0	0
Marine Corps Reserve .....	3,000	3,000	3,000	0	0
Air National Guard .....	16,000	16,000	16,000	0	0
Air Force Reserve .....	14,000	14,000	14,000	0	0
DOD Total .....	69,200	69,200	69,200	0	0

**Number of members of the National Guard on full-time duty in support of the reserves within the National Guard Bureau (sec. 416)**

The committee recommends a provision that would limit the number of personnel authorized to be on full-time duty in support of the reserves within the National Guard Bureau to not exceed the number equal to six percent of the number authorized by section 412 of this Act.

**Subtitle C—Authorization of Appropriations**

**Military personnel (sec. 421)**

The committee recommends a provision that would authorize appropriations for military personnel at the levels identified in section 4401 of division D of this Act.

**Budget Items**

**Military personnel funding changes**

The amount authorized to be appropriated for military personnel programs include the following changes from the budget request:

[Changes in millions of dollars]

Military Personnel Underexecution .....	–1083.37
Public-Private partnership on military spousal employment .....	+1.0
Defense Innovation Board software development review .....	+1.0
Total .....	–1,081.37

The committee recommends a total reduction in the Military Personnel (MILPERS) appropriation of \$1,081.37 million. This amount includes: (1) A reduction of \$1083.37 million to reflect the Government Accountability Office's most recent assessment of the average annual MILPERS underexecution; (2) An increase of \$1.0 million to support a pilot program for a public-private partnership venture on military spousal employment overseas; and (3) An increase of \$1.0 million for the Defense Innovation Board to conduct an analysis of software development and acquisition regulations for the Department of Defense.

**Military Personnel Unfunded Priorities List**

The budget request included \$141.7 billion for Military Personnel.

The committee notes that the Department of Defense submitted extensive Unfunded Requirements Lists totaling \$33.1 billion. The committee believes that since the passage of the Budget Control Act in 2011, budget requests have been guided by artificial con-

straints rather than the realities of the global strategic environment. This reality has continued for the fiscal year 2018 budget request, which too relies on an arbitrary number determined six years ago in the Budget Control Act. Such constraints on the budget, along with a sustained high operational tempo, have led to a significant degradation in our military readiness in the near term, and the threat that we will fall behind our adversaries in the long-term. For the last several years military leaders have highlighted these problems in great detail.

In order to address the degraded state of our military and to stop the erosion of U.S. military advantage, the committee believes that the budget should be based on requirements, rather than arbitrary budget caps. The committee recommends an increase of \$627.8 million to Military Personnel for items identified in the Unfunded Requirements List. Increases include growing the Army by 6,000 soldiers and the Marine Corps by 1,000 Marines. Greater details of each increase can be found in the tables in Division D.

## **TITLE V—MILITARY PERSONNEL POLICY**

### **Subtitle A—Officer Personnel Policy**

#### **Clarification of baselines for authorized numbers of general and flag officers on active duty and in joint duty assignments (sec. 501)**

The committee recommends a provision that would amend section 526 of title 10, United States Code, to clarify the Active-Duty and joint-duty assignment baselines for general and flag officers.

#### **Authority of promotion boards to recommend officers of particular merit be placed at the top of the promotion list (sec. 502)**

The committee recommends a provision that would amend section 616 of title 10, United States Code, to authorize an officer promotion board to recommend Active-Duty officers of particular merit be placed at the top of the promotion list to better incentivize talent by recognizing top performing officers with promotion timing based on merit rather than based solely on seniority.

#### **Clarification to exception for removal of officers from list of officers recommended for promotion after 18 months without appointment (sec. 503)**

The committee recommends a provision that would amend section 629 of title 10, United States Code, to clarify that the requirement to remove officers from a list of officers recommended for promotion after 18 months without appointment does not apply when the military department concerned is not able to obtain and provide to the Senate the information the Senate requires to give its advice and consent to the appointment concerned because that information is under the control of a department or agency of the Federal Government other than the Department of Defense.

#### **Flexibility in promotion of officers to positions of Staff Judge Advocate to the Commandant of the Marine Corps and Deputy Judge Advocate General of the Navy (sec. 504)**

The committee recommends a provision that would amend sections 5046 and 5149 of title 10, United States Code, to retain prior flexibility in the promotion of officers to positions of Staff Judge Advocate to the Commandant of the Marine Corps and Deputy Judge Advocate General of the Navy.

**Repeal of requirement for specification of number of officers who may be recommended for early retirement by a Selective Early Retirement Board (sec. 505)**

The committee recommends a provision that would amend section 638a of title 10, United States Code, to repeal the requirement that Service secretaries specify the number of officers who may be recommended for early retirement. This change would allow more effective management of retirement-eligible senior officers who are not competitive for future promotion. Officers who have been passed over for promotion or who have at least 2 years time-in-grade and whose names are not on a list of officers recommended for promotion would be eligible for selective early retirement.

The committee intends this authority to be used to ensure a high-quality senior officer population. Selective retirement authority allows the military services to create vacancies in the control grades of O-5 and O-6, thereby allowing high-performing younger officers to promote more quickly in specific cases where the needs of the service dictate such authority to be used.

**Extension of service-in-grade waiver authority for voluntary retirement of certain general and flag officers for purposes of enhanced flexibility in officer personnel management (sec. 506)**

The committee recommends a provision that would amend section 1370 of title 10, United States Code, to extend to 2025 the authority to waive the time-in-grade requirement for certain general and flag officers for voluntary early retirement without reduction in grade of up to 10 percent of the authorized Active-Duty strength for officers in those grades for purposes of enhanced flexibility in officer personnel management.

**Inclusion of Principal Military Deputy to the Assistant Secretary of the Army for Acquisition, Technology, and Logistics among officers subject to repeal of statutory specification of general officer grade (sec. 507)**

The committee recommends a provision that would amend section 3016 of title 10, United States Code, to remove the requirement that the Principal Military Deputy to the Assistant Secretary of the Army for Acquisition, Technology, and Logistics shall be a lieutenant general.

**Clarification of effect of repeal of statutory specification of general or flag officer grade for various positions in the Armed Forces (sec. 508)**

The committee recommends a provision that would amend section 502 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) to clarify that the grade of an officer serving as of the date of the enactment of that Act in a position whose statutory grade is affected by an amendment made by section 502 may not be reduced after that date by reason of such amendment as long as the officer remains in continuous service in such position after that date.

The committee also recommends a provision that would amend section 3084 of title 10, United States Code, to repeal the require-

ment that an officer appointed as Chief of the Veterinary Corps of the Army who holds a lower grade shall be appointed in the grade of brigadier general.

**Grandfathering of retired grade of Assistant Judge Advocates General of the Navy as of repeal of statutory specification of general and flag officers grades in the Armed Forces (sec. 509)**

The committee recommends a provision that would clarify that officers holding certain positions as of December 23, 2016, whose statutory grade is affected by amendments made by section 502 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) may be retired in such grade with the retired pay of such grade, unless entitled to higher pay under another provision of law.

**Service credit for cyberspace experience or advanced education upon original appointment as a commissioned officer (sec. 510)**

The committee recommends a provision that would amend section 12207 of title 10, United States Code, to authorize service secretaries to credit any person receiving an original appointment as a reserve commissioned officer with a period of constructive service. Constructive service would be credited to an individual for special experience or training in a particular cyberspace-related field or for any period of advanced education in a cyberspace-related field beyond the baccalaureate degree level. Constructive service credit can not exceed one year for each year of special experience, training, or advanced education, and not more than three years total constructive service may be credited. This authority is intended to allow the Defense Department to better recruit individuals with cyberspace-related skills into vacant critical cyberspace positions.

**Authority for officers to opt-out of promotion board consideration (sec. 510A)**

The committee recommends a provision that would authorize service secretaries to provide that an active and reserve component officer may, upon the officer's request, be excluded from consideration by a promotion selection board. The committee intends this authority be used to enable an officer to complete a desirable career broadening assignment or to develop additional technical expertise without harming future promotion potential.

**Reauthorization of authority to order retired members to active duty in high-demand, low-density assignments (sec. 510B)**

The committee recommends a provision that would amend section 688a of title 10, United States Code, to authorize service secretaries to order retired military service members to active duty on a voluntary basis to meet critical manning needs. The period of active duty would be in accordance with an agreement between the member and the Secretary concerned. Activation under this authority is limited to 1,000 members. The authority to use section 688a of title 10, United States Code, expired on December 31, 2011. This

authority would be reinstated for a 5-year period and would expire on December 31, 2022. The committee expects that this authority will be used to address the pilot shortage.

### **Subtitle B—Reserve Component Management**

#### **Consolidation of authorities to order members of the reserve components of the Armed Forces to perform duty (sec. 511)**

The committee recommends a provision that would amend section 515 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) to require the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives by April 30, 2019, legislative proposals designed to implement alternative approaches to reducing the number of statutory authorities by which members of the reserve components of the Armed Forces may be ordered to perform duty to not more than eight statutory authorities grouped into four duty categories to which specific pay and benefits may be aligned.

#### **Establishment of Office of Complex Investigations within the National Guard Bureau (sec. 512)**

The committee recommends a provision that would amend chapter 1101 of title 10, United States Code, to establish the Office of Complex Investigations within the National Guard Bureau under the authority, direction, and control of the Chief of the National Guard Bureau. The office would be organized, trained, equipped, and managed to conduct administrative investigations in order to assist the States in the organization maintenance, and operation of the National Guard for the following types of investigations: (1) allegations of sexual assault involving members of the National Guard; (2) circumstances involving members of the National Guard in which other law enforcement agencies within the Department of Defense do not have jurisdiction or authority to investigate; and (3) other circumstances as the Chief of the National Guard Bureau may direct.

The committee remains highly concerned that the Office of Complex Investigations, as it currently operates, has a high level of investigative staff turn-over that exceeds 50 percent of its full-time support manning requirements on an annual basis. Therefore, it is the intent and expectation of the committee that the Office of Complex Investigations should be staffed in a manner that allows for multi-year tours for members of the National Guard on active duty or full-time National Guard duty for the purposes of service with the Office of Complex Investigations. The committee directs the Chief of the National Guard Bureau to submit to the Committees on Armed Services of the Senate and the House of Representatives, no later than April 1, 2018, a status report on the official establishment of the Office of Complex Investigations that lays out the manning documents and turn-over rates for such office.



### **Subtitle C—General Service Authorities**

#### **Report on policies for regular and reserve officer career management (sec. 516)**

The committee recommends a provision that would require the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives no later than March 1, 2018, with recommendations for mechanisms that would: (1) Increase the ability of officers to repeatedly transition between Active-Duty and Reserve active-status throughout the course of their military careers; (2) Provide additional flexibility in managing the populations of officers in the grades of major, lieutenant colonel, and colonel and Navy grades of lieutenant commander, commander, and captain; (3) Utilize the modernized retirement system provided by the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) to encourage officers to pursue careers of lengths that vary from the traditional 20-year military career; (4) Create alternative career tracks for officers that encourage and facilitate the recruitment and retention of officers with technical expertise; (5) Develop a career and promotion path for officers in cyber-related officer specialties; (6) Ensure the officer corps does not become disproportionately weighted in the field grade officer ranks; and (7) Any other matters the Secretary considers appropriate to improve the effective recruitment, management, and retention of regular and reserve officers of the Armed Forces.

This report is the committee’s first step in a comprehensive review of the military officer personnel system for both the active and reserve components. The committee recognizes that military officer careers today are largely managed according to regulations, laws, and traditions established many decades ago, which may no longer be effective in recruiting and retaining the high-quality talent required to succeed against future threats. The Defense Officer Personnel Management Act (DOPMA) of 1980 (Public Law 96–513) and the Reserve Officer Personnel Management Act (ROPMA) of 1995 codified Active-Duty and Reserve officer management based on fixed career- and promotion-time parameters that inhibit flexibility and the adoption of modern talent management principles. DOPMA and ROPMA mandate predetermined promotion timelines and statutory limits on the number of officers serving in field grade ranks. This results in an up-or-out promotion structure and an, oftentimes, one-size-fits-all officer career.

Additionally, the committee notes that DOPMA and ROPMA advanced important reforms that helped to build an officer corps that remains exceedingly capable. These statutes imparted crucial discipline into the management of field grade officers, which ensures the officer corps does not become disproportionately represented by senior ranking officers. DOPMA had the laudable goal of simplifying and standardizing officer promotion practices across all military departments, while also ensuring adequate and competitive opportunities for continued officer advancement. These goals remain important, but as the nature of military service has evolved, particularly over the last 16 years of extended overseas engagement, the committee believes the policies dictated by DOPMA and

ROPMA should be carefully reviewed to ensure that they do not unnecessarily complicate officer career management and dissuade some highly talented officers from joining or continuing their military service.

In particular, as a result of maintaining separate active and reserve officer management statutes, the committee notes the challenge of creating a truly integrated active and reserve total force. Under DOPMA and ROPMA, separate, oftentimes duplicative, personnel bureaucracies manage two distinct populations of officers (active and reserve) who are increasingly likely to serve alongside each other when deployed to a combat zone or when training for future conflicts. The committee plans to assess whether a more integrated approach would better serve the entire officer population and encourage a continuum of service among those officers who wish to continue to wear the uniform on Active Duty or in the reserves.

The newly implemented blended retirement system presents an important opportunity for the military departments to reevaluate their personnel needs and supporting policies. As nearly every service member will now leave the military with some form of retirement benefit, the military should evaluate the necessity of the more-traditional 20-year military career. It is possible that the military would benefit from some officer careers extending far beyond 20-years while others should be much shorter. One of the key concerns of Congress in passing DOPMA was ensuring that those officers not selected for promotion, but close to the 20 years of service required for a military pension, be generally allowed to remain on Active Duty in their current grade. This resulted in some officers being retained on Active Duty beyond the military's requirement, solely so they could receive retirement benefits. The new blended retirement system allays that concern, as now nearly all new officers will receive some form of retirement benefit.

The requirement to stand for promotion according to predetermined timelines is one of the hallmarks of DOPMA and ROPMA. To be competitive for promotion, officers frequently must serve in a variety of assignments for relatively short periods of time. This produces officers with great breadth of experience but who sometimes lack important depth. In some career fields, like aviation, cyber, and acquisition it may be more desirable for officers to develop their technical skills rather than sprinting to gain the required breadth of experience required to be competitive for promotion. New career tracks dedicated to producing officers with great technical expertise could be an important recruiting and retention tool for those personnel who possess valuable skills but are not well-suited to more traditional DOPMA-driven officer career paths.

One of the principle features of DOPMA and ROPMA is the creation of strict quotas for the number of officers allowed to serve in the field grade ranks of major, lieutenant colonel, and colonel (lieutenant commander, commander, and captain for the Navy). These quotas ensure the military departments maintain a healthy balance of experienced and junior officers. However, to achieve the DOPMA-required field grade quotas and to make room for younger officers to continue to advance, some officers may be forced out of

the military prematurely. This dynamic could be particularly damaging to more technically oriented career fields like cyber, acquisition, or aviation. Imparting some degree of flexibility in managing the field grade officer population could allow the military departments to retain both valuable experienced officers and promote deserving younger officers.

The committee recognizes that the enduring success of the U.S. military, an all-volunteer force with a global mission, depends on its ability to harness the dynamism of American society to meet evolving strategic threats. As the United States confronts an increasingly challenging security environment, the military cannot afford to rely upon an overly prescriptive officer personnel system designed for a bygone era. The threats facing the nation are too unpredictable and complex to rely on one-size-fits-all officer management policies designed to win the Cold War.

**Responsibility of Chiefs of Staff of the Armed Forces for standards and qualifications for military specialties within the Armed Forces (sec. 517)**

The Committee recommends a provision that would vest in the Chief of Staff of each of the Armed Forces the responsibility for establishing, approving, and modifying the criteria, standards, and qualifications for military specialty codes within that Armed Force. The Secretary of Defense will still retain oversight authority.

**Confidential review of characterization of terms of discharge of members of the Armed Forces who are survivors of sexual assault (sec. 518)**

The committee recommends a provision that would amend chapter 79 of title 10, United States Code, to establish a new section 1554b that would codify section 547 of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291) that required service secretaries to establish a confidential process by which an individual who was the victim of a sex-related offense during military service may challenge, through boards for the correction of military records, the terms or characterization of the discharge or separation of the individual from the military on the grounds that the terms or characterization were adversely affected by the individual being the victim of such an offense. The provision also changes the terminology of the provision by substituting “survivor” for “victim” throughout.

**Improvements to certain authorities and procedures of discharge review boards (sec. 519)**

The committee recommends a provision that would amend section 1553 of title 10, United States Code, to repeal the 15-year statute of limitations on filing claims for review of a discharge or dismissal by service discharge review boards. The provision would also authorize presentation of evidence to the boards by telephone or video conference, to the extent reasonable and technically feasible.

**Public availability of information related to disposition of claims regarding discharge or release of members of the Armed Forces when claims involve sexual assault (sec. 520)**

The committee recommends a provision that would amend sections 1552 and 1553 of title 10, United States Code, to require boards for the correction of military records and discharge review boards to make publicly available on an internet website the number and disposition of decided claims in which sexual assault is alleged to have contributed in whole or in part to the characterization of a claimant's discharge or release from the military.

**Subtitle D—Military Justice Matters**

**Revision to Manual for Courts-Martial with respect to dissemination of visual depictions of private areas or sexually explicit conduct without the consent of the person depicted (sec. 521)**

The committee recommends a provision that would require the President, not later than 180 days after the date of the enactment of this Act, to amend part IV of the Manual for Courts-Martial to include as an enumerated offense under section 934 of title 10, United States Code (article 134 of the Uniform Code of Military Justice), the distribution of a visual depiction of the private area of a person or of sexually explicit conduct involving a person that was (1) Photographed, videotaped, filmed, or recorded by any means with the consent of such person; and (2) Distributed by another person who knew or should have known that the depicted person did not consent to such distribution.

**Technical and conforming amendments in connection with reform of the Uniform Code of Military Justice (sec. 522)**

The committee recommends a provision that would make technical and conforming amendments in connection with the reform of the Uniform Code of Military Justice contained in division E of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

**Priority of review by Court of Appeals for the Armed Forces of decisions of Courts of Criminal Appeals on petitions for enforcement of victims' rights (sec. 523)**

The committee recommends a provision that would amend section 806b of title 10, United States Code (article 6b(e)(3) of the Uniform Code of Military Justice), to prioritize the review of a decision on a petition for a writ of mandamus in the Court of Appeals for the Armed Forces, as determined under the rules of the Court of Appeals for the Armed Forces.

**Assistance of defense counsel in additional post-trial matters for accused convicted by court-martial (sec. 524)**

The committee recommends a provision that would amend section 838 of title 10, United States Code (article 38 of the Uniform Code of Military Justice (UCMJ)), to clarify that in any court-martial proceeding resulting in a conviction, the defense counsel may

assist the accused in the submission of any matter under section 860, 860a, or 860b of title 10 (article 60, 60a, or 60b, UCMJ).

**Enumeration of additional limitations on acceptance of plea agreements by military judges of general or special courts-martial (sec. 525)**

The committee recommends a provision that would amend section 853a of title 10, United States Code (article 53a of the Uniform Code of Military Justice), as added by section 5237 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), to enumerate additional limitations on the acceptance of plea agreements by military judges of general or special courts-martial.

**Additional proceedings by Courts of Criminal Appeals by order of United States Court of Appeals for the Armed Forces (sec. 526)**

The committee recommends a provision that would amend section 866 of title 10, United States Code (article 66 of the Uniform Code of Military Justice), as amended by section 5330 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), to require the Court of Criminal Appeals to order a hearing or other proceeding if the Court of Appeals for the Armed Forces determines that additional proceedings are warranted.

**Clarification of applicability and effective dates for statute of limitations amendments in connection with Uniform Code of Military Justice reform (sec. 527)**

The committee recommends a provision that would clarify the applicability and effective dates for statute of limitations amendments in connection with the reform of the Uniform Code of Military Justice contained in division E of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

**Modification of year of initial review by Military Justice Review Panel of Uniform Code of Military Justice reform amendments (sec. 528)**

The committee recommends a provision that would amend section 946 of title 10, United States Code (article 146 of the Uniform Code of Military Justice), as amended by section 5521 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), to modify the year of initial review by the Military Justice Review Panel of Uniform Code of Military Justice reform amendments.

**Clarification of applicability of certain provisions of law to civilian judges of the United States Court of Military Commission Review (sec. 529)**

The committee recommends a provision that would amend section 950f of title 10, United States Code, to clarify that civilian judges appointed to the United States Court of Military Commission Review are authorized to engage in outside business activities, including the practice of law, when not performing the duties of a judge on the court.

**Enhancement of effective prosecution and defense in courts-martial and related matters (sec. 530)**

The committee recommends a provision that would amend section 542 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to include an additional element in the program for effective prosecution and defense in courts-martial in order to ensure adequate supervision and oversight of trial and defense counsel. The provision would authorize assignment of civilian employees to provide such supervision. The provision would also require service secretaries to assess the feasibility of a military justice career track for judge advocates that leads to judge advocates with military justice expertise in the grade of colonel, or Navy captain. This pilot program would also include the use of skill identifiers to identify judge advocates for the program and guidance for promotion boards to ensure that judge advocates in the program have the same opportunity for promotion as other judge advocates being considered by such boards.

**Court of Appeals for the Armed Forces jurisdiction to review interlocutory appeals of decisions on certain petitions for writs of mandamus (sec. 531)**

The committee recommends a provision that would amend section 806b of title 10, United States Code, to authorize the Court of Appeals for the Armed Forces to review for legal error a grant or denial of a petition for a writ of mandamus by a service Court of Criminal Appeals.

**Punitive article on wrongful broadcast or distribution of intimate visual images or visual images of sexually explicit conduct under the Uniform Code of Military Justice (sec. 532)**

The committee recommends a provision that would amend subchapter X of chapter 47 of title 10, United States Code, to establish a new punitive article in the Uniform Code of Military Justice that would prohibit the wrongful broadcast or distribution of intimate visual images of another person or visual images of sexually explicit conduct involving a person.

**Subtitle E—Member Education, Training, Transition, and Resilience**

**Ready, Relevant Learning initiative of the Navy (sec. 541)**

The committee recommends a provision that would require the Secretary of the Navy to submit to the Committees on Armed Services of the Senate and the House of Representatives a certification, not later than October 1, 2017, and each year thereafter, regarding the Navy’s Ready, Relevant Learning (RRL) initiative.

The committee understands the Navy’s RRL initiative, which will alter training for 76 of 87 Navy enlisted ratings, consists of three stages. The first stage, “Block Learning,” is intended to reorganize current Navy training and delivery methods into blocks that will be delivered closer to the time of actual use in a sailor’s career. The second stage, “Enhanced, Accessible Learning,” will modernize training content to deliver new content and media methods. The

third stage, “Anytime, Anywhere Learning,” will align processes, standards and resources, as well as provide rapid, responsive training content.

While recognizing the potential of the RRL initiative, the committee is concerned with the associated fiscal year 2017 through 2021 savings of \$1.3 billion, which is achieved through a reduction in student billets and results in 6,000 fewer student billets in fiscal year 2021. The committee understands the savings are largely attributable to a 30 percent reduction in time spent at “A” schools (i.e. initial rating training) and a 70 percent reduction in time spent at “C” schools (i.e. advanced rating training). The committee further understands that more than \$1.0 billion of this reduction is being shifted to the Operations and Maintenance, Navy (OMN) account to procure modernized delivery material.

The committee views Navy’s RRL initiative as a fundamental transformation in training, based on more than 87 percent of Navy enlisted ratings being affected and the shift of more than \$1.0 billion from traditional training billets to developmental software-based training applications (i.e. modernized delivery).

Accordingly, the committee recommends the Secretary of the Navy provide an annual certification attesting that the transition to modernized delivery methods is complying with best practices, as well as meeting or exceeding the existing training delivery approach for all associated training requirements.

**Element in preseparation counseling for members of the Armed Forces on assistance and support services for caregivers of certain veterans through the Department of Veterans Affairs (sec. 542)**

The committee recommends a provision that would amend section 1142(b) of title 10, United States Code, to include an element in servicemembers’ preseparation counseling describing the assistance and support services for family caregivers of eligible veterans under the program conducted by the Secretary of Veterans Affairs pursuant to section 1720G of title 38, United States Code. Additionally, the provision would require the service secretaries, within 180 days of the date of the enactment of this Act, to permit a caregiver, at the election of the servicemember who may require caregiver services, to participate in appropriate sessions of the servicemember’s preseparation counseling to become informed of assistance and support services available to caregivers and to understand better how the servicemember’s transition to civilian life may impact the caregiver.

**Discharge in the Selected Reserve of the commissioned service obligation of military service academy graduates who participate in professional athletics (sec. 543)**

The committee recommends a provision that would amend section 4348(a), section 6959(a), and section 9348(a) of title 10, United States Code, to provide for a graduate of a military service academy who is selected to participate in professional athletics to accept an appointment as a commissioned officer as a member of the Selected Reserve until completion of the commissioned service obligation.

**Pilot programs on appointment in the excepted service in the Department of Defense of physically disqualified former cadets and midshipmen (sec. 544)**

The committee recommends a provision that would authorize the secretary of each military department to carry out a pilot program for the purpose of evaluating the feasibility and advisability of allowing eligible individuals who cannot accept a commission or complete a period of Active Duty due to physical disqualification to fulfill an Active Duty service obligation through service as Department of Defense civilian employees in the excepted service. This pilot authority would sunset 4 years after the date of enactment of this Act.

**Limitation on availability of funds for attendance of Air Force enlisted personnel at Air Force officer professional military education in-residence courses (sec. 545)**

The committee recommends a provision that would prohibit the obligation or expenditure of funds for the purpose of Air Force enlisted personnel attending Air Force officer professional military education courses until the later of: (1) The date on which the Secretary of the Air Force submits to the Committees on Armed Services of the Senate and the House of Representatives, and to the Comptroller General of the United States, a report on the attendance of such personnel at such courses; (2) The date on which the Comptroller General of the United States submits to such committees a report setting forth an assessment of such report; or (3) 180 days after the date of the enactment of this Act.

The committee is aware that the first group of enlisted airmen, four Chief Master Sergeants, graduated in Academic Year 2016–2017 from the Air University’s Air War College in-residence program at Maxwell Air Force Base, Alabama. The Air War College is the United States Air Force’s premier officer professional military education program. The Air Force justifies its decision to allow in-residence attendance by senior enlisted personnel at officer professional military education courses by rationalizing a need for these enlisted personnel to attend a “strategic-level school” to get exposure to the same learning environment as officers. However, the committee has learned the four graduated Chief Master Sergeants are all being assigned to wing-level command chief positions rather than to strategic-level staff or agency positions.

The committee understands that Chief Master Sergeants already gain “strategic-level” knowledge at the Chief’s Leadership Course. By allowing senior enlisted personnel to attend officer professional education courses in-residence, the Air Force effectively reduces in-residence advanced professional military education opportunities for deserving officers.

The committee is disappointed that even with the Congress’ historically deep interest in professional military education, the Air Force failed to consult or even notify the congressional defense committees prior to directing the inclusion of enlisted members at a senior officer professional military education course. In addition, the committee understands the commandant of Air War College recently announced the attendance of 16 Chief Master Sergeants for



the Academic Year 2017–2018 Air War College class; notification for which has also not yet been provided to the defense committees.

**Pilot program on integration of Department of Defense and non-Federal efforts for civilian employment of members of the Armed Forces following transition from Active Duty to civilian life (sec. 546)**

The committee recommends a provision that would require the Secretary of Defense to conduct a pilot program, of 2 years duration, to assess the feasibility and advisability of assisting certain members of the Armed Forces transitioning from Active Duty to civilian life by accelerating and improving their access to employment through coordination, integration, and leveraging existing programs and authorities of the Department of Defense with programs and resources of state and local agencies, higher education institutions, employers, and other public, private, and nonprofit entities.

**Two-year extension of suicide prevention and resilience program for the National Guard and Reserves (sec. 547)**

The committee recommends a provision that would amend section 10219(g) of title 10, United States Code, to extend the authority for suicide prevention and resilience programs for the National Guard and Reserves until October 1, 2020.

**Sexual assault prevention and response training for all individuals enlisted in the Armed Forces under a delayed entry program (sec. 548)**

The committee recommends a provision that would require service secretaries, insofar as practicable, to provide training on sexual assault prevention and response to enlistees in a delayed entry program before they begin basic training or initial active duty for training in the Armed Forces.

**Use of assistance under Department of Defense Tuition Assistance Program for non-traditional education to develop cybersecurity and computer coding skills (sec. 549)**

The committee recommends a provision that would require a briefing by the Secretary of Defense, no later than 60 days after the date of the enactment of this Act, to the Committees on Armed Services of the Senate and the House of Representatives on the feasibility and advisability of the enactment into law of using the Department of Defense Tuition Assistance Program for courses or programs of education in cybersecurity skills or related skills and computer coding skills or related skills.

**Subtitle F—Defense Dependents’ Education and Military  
Family Readiness Matters**

**Part I—Defense Dependents’ Education Matters**

**Impact aid for children with severe disabilities (sec. 551)**

The committee recommends a provision that would authorize \$10.0 million in Operation and Maintenance, Defense-wide, for impact aid payments for children with disabilities (as enacted by Public Law 106–398; 114 Stat. 1654A–77; 20 U.S.C. 7703a) using the formula set forth in section 363 of the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law 106–398), for continuation of Department of Defense assistance to local educational agencies that benefit eligible dependents with severe disabilities. Subsection (b) of the provision would allow the Secretary of Defense to use \$5.0 million, of the total amount authorized, for payments to local educational agencies with higher concentrations of military children with severe disabilities, at his discretion and without regard to the formula set forth in section 363 of the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law 106–398).

The committee directs the Secretary to develop a plan for the distribution of the funds authorized under subsection (b) of the provision and to provide to the Committees on Armed Services of the Senate and the House of Representatives a report on that plan by no later than December 31, 2017. The report shall identify those local educational agencies that would receive funding under that subsection along with a description of the unmet need of military children with severe disabilities in those locations, accounting for any funding such local educational agencies receive pursuant to the formula set forth in section 363 of the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law 106–398).

**Continuation of authority to assist local educational agencies that benefit dependents of members of the Armed Forces and Department of Defense civilian employees (sec. 552)**

The committee recommends a provision that would authorize \$25.0 million in Operation and Maintenance, Defense-wide, for continuation of the Department of Defense (DOD) assistance program to local educational agencies impacted by enrollment of dependent children of military members and DOD civilian employees.

**One-year extension of authorities relating to the transition and support of military dependent students to local educational agencies (sec. 553)**

The committee recommends a provision that would amend section 574(c)(3) of the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109–364 (20 U.S.C. 7703b note)) to extend the authorities relating to transition and support of military dependent students to local educational agencies from September 30, 2017, to September 30, 2018.

**Part II—Military Family Readiness Matters****Housing treatment for certain members of the Armed Forces, and their spouses and other dependents, undergoing a permanent change of station within the United States (sec. 556)**

The committee recommends a provision that would amend chapter 7 of title 37, United States Code, to require the Secretary of Defense to prescribe regulations that permit certain servicemembers undergoing permanent change of station relocations within the United States to request special housing treatment for spouses and dependents. Under this provision, certain spouses and dependents would be: (1) Eligible to continue living in government-owned or government-leased housing; and (2) Eligible for early housing in government-owned or government-leased housing. This provision would also authorize a servicemember to be eligible, on a space-available basis, either for temporary use of government-owned or government-leased housing or an equitable basic allowance for housing if a spouse or other dependent relocates at a different time from the member. This provision would be effective on October 1, 2018.

**Direct hire authority for Department of Defense for childcare services providers for Department child development centers (sec. 557)**

The committee recommends a provision that would provide the Secretary of Defense with direct hire authority to recruit and appoint qualified childcare services providers to positions within the Department of Defense Child Development Centers. The Secretary shall prescribe the regulations required and commence implementation of such direct hire authority no later than May 1, 2018.

**Report on expanding and contracting for childcare services of the Department of Defense (sec. 558)**

The committee recommends a provision that would require the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives no later than March 1, 2018, on the feasibility and advisability of the following: (1) Expanding the operating hours of childcare facilities of the Department of Defense in order to meet childcare services requirements for swing-shift, night-shift, and weekend workers; (2) Using contracts with private-sector childcare services providers to expand the availability of childcare services; (3) Contracting with private-sector childcare service providers to operate childcare facilities of the Department on military installations; and (4) Expanding childcare services to members of the National Guard and Reserves if such expansion does not substantially increase costs of childcare services for the military departments or conflict with others who have higher priority for space in childcare services programs.

**Report on review of General Schedule pay grades of childcare services providers of the Department of Defense (sec. 559)**

The committee recommends a provision that would require the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives no later than March 1, 2018, on a review of the General Schedule pay grades for childcare services provider positions within the Department of Defense. The committee remains concerned with the propensity of individuals to serve as childcare providers at Department of Defense facilities. Conducting a review of the General Schedule pay grades is required to ensure that the Department is offering a fair and competitive wage for these important force-enabling civilian positions.

**Pilot program on public-private partnerships for telework facilities on military installations outside the United States (sec. 560)**

The committee recommends a provision that would require the Secretary of Defense to carry out a pilot program to assess the feasibility and advisability of providing telework facilities for military spouses on military installations outside the United States to the extent that space is available for such facilities. The provision would require the pilot program be conducted at no less than two military installations outside the United States selected by the Secretary for up to 3 years in duration, in consultation with the host nation. The pilot program shall be conducted as one or more public-private partnerships between the Department of Defense and a private corporation or partnership of private corporations with up to \$1.0 million authorized to be available to carry out the pilot program. The committee expects the pilot programs to be conducted consistent with existing status of forces agreements with host nations or pursuant to appropriate modifications of such agreements.

**Report on mechanisms to facilitate the obtaining by military spouses of professional licenses or credentials in other States (sec. 561)**

The committee recommends a provision that would direct the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of Representatives no later than March 1, 2018, on the feasibility and advisability of the following: (1) The development and maintenance of a joint federal-state clearing house to process the professional license and credential information of military spouses; (2) The establishment of a joint federal-state taskforce dedicated to the elimination of unnecessary or duplicative professional licensure and credentialing requirements among the states; (3) The development and maintenance of an Internet website that serves as a one-stop resource on professional licenses and credentials for military spouses that sets forth license and credential requirements for common professionals in the states and provides assistance and other resources for military spouses seeking to obtain professional licenses or credentials in other States.

### **Additional military childcare matters (sec. 562)**

The committee recommends a provision that would require the Department of Defense to set and maintain the hours of operation of childcare development centers in a manner that considers the demands and circumstances of military service. In addition, the provision would require service secretaries to provide childcare coordinators at each military installation where significant numbers of servicemembers with accompanying dependent children are stationed.

### **Subtitle G—Decorations and Awards**

#### **Authority of Secretary of the Army to award the Personnel Protection Equipment award of the Army to former members of the Army (sec. 571)**

The committee recommends a provision that would authorize the Secretary of the Army to award the Personnel Protection Equipment award of the Army to former members of the Army.

#### **Authorization for award of Distinguished Service Cross to Specialist Frank M. Crary for acts of valor in Vietnam (sec. 572)**

The committee recommends a provision that would authorize the President to award the Distinguished Service Cross to Specialist Frank M. Crary for acts of valor while serving in Vietnam with Company D, 1st Battalion (Airborne), 12th Cavalry Regiment, 1st Cavalry Division on April 7, 1966.

### **Subtitle H—Other Matters**

#### **Modification of submittal date of Comptroller General of the United States report on integrity of the Department of Defense whistleblower program (sec. 581)**

The committee recommends a provision that would amend section 536 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) to revise the due date for the report required of the Comptroller General of the United States in that section concerning the Department of Defense whistleblower program to December 31, 2018.

#### **Report to Congress on accompanied and unaccompanied tours of duty in remote locations with high family support costs (sec. 582)**

The committee recommends a provision that would require the Secretary of Defense to initiate a comprehensive review of the policies for determining which posts are accompanied, which are unaccompanied, and the extent to which the costs to the taxpayers and security risks to family members are considered.

The committee is concerned with the significant costs associated with maintaining accompanied tours at remote locations. The proposed new 52 family housing units on Kwajalein would cost over \$1.3 million each. The proposed \$250.0 million replacement hospital at Guantanamo Bay would cost \$50.0 million per bed. Costs for school construction and support are also significantly higher at

these remote locations than they are in the United States, which is a primary reason why locations such as Diego Garcia are unaccompanied.

A report would be due to the congressional defense committees no later than 1 year after the enactment of this Act.

### **Items of Special Interest**

#### **Addressing challenges in remotely piloted aircraft community**

The committee has repeatedly expressed concern in the past regarding the projected shortfalls of pilots and sensor operators for remotely piloted aircraft (RPA). The committee notes that the Air Force provides the majority of RPA pilots and commends the Air Force for working aggressively to address this need.

Department of Defense policy states personnel cannot be deployed at a ratio of more than one to one, deploy-to-dwell, without explicit approval by the Secretary of Defense. The policy also establishes a goal of a one-to-two deploy-to-dwell ratio when possible. Most RPA crew personnel are not considered “deployed” under the current definition, yet they effectively fight in combat every day. Establishing a “combat-to-dwell” ratio for the RPA community has consistently been cited as a key means to reduce stress and create career opportunities for RPA personnel.

Similarly, the committee is concerned about the promotion rates of RPA officers. The Government Accountability Office’s 2014 report, *Actions Needed to Strengthen Management of Unmanned Aerial System Pilots*, showed that RPA pilots were promoted at below average rates from 2006–2013 on most boards and on only 3 of the 24 boards were RPA pilots “promoted in the top 50 percent of the career fields that competed.”

The committee reiterates its commitment to ensuring the Air Force continues implementing initiatives identified by the RPA Culture and Process Improvement Program (CPIP). Therefore, not later than 90 days after the date of enactment of this Act, the committee directs the Secretary of the Air Force to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on the implementation of CPIP initiatives, progress toward meeting the 10:1 crew-to-combat line ratio and the 1:0.5 combat-to-dwell ratio, as well as future plans to ensure access to mental health professionals, childcare, housing, and other services at RPA bases meets the needs of the airmen stationed there.

The committee also directs the Comptroller General of the United States to provide an update, with a report to follow, to the Committees on Armed Services of the Senate and the House of Representatives on the promotion rates of RPA pilots and sensor operators since its 2014 study. The update should determine if promotion rates have improved, factors leading to any current disparities in promotion rates of RPA officers, and recommendations to alleviate any disparity. Specifically, the update should include recommendations for how to increase (a) the selection of RPA officers for intermediate developmental education programs, and (b) the number of billets assigned to RPA pilots and sensor operators in

the Rated Staff Allocation Plan (RSAP) to proportions comparable to that of fighter pilots and other fields.

**DANTES program for members of the Armed Forces applying for tuition assistance**

The committee remains supportive of the Department of Defense's Defense Activity for Non-Traditional Education Support (DANTES) program. For servicemembers utilizing DANTES, there is a demonstrated record of success. DANTES provides servicemembers and their families access to additional financial aid resources and helps them obtain education support. The program also identifies credit-by-examination and entrance examination education programs for higher education. Most importantly, servicemembers using tuition assistance in combination with DANTES have a higher completion rate than those who are either unaware of the DANTES program or choose not to use it. The committee strongly encourages the Department to ensure that servicemembers who apply for tuition assistance receive information about this program during the tuition assistance application process.

**Department of Defense collaboration with educational institutions on cybersecurity education and training**

The committee remains concerned about the pipeline for cybersecurity professionals who can assist the Nation with cyber deterrence and operations. The committee strongly urges the Department of Defense to consider developing plans for a pilot program for the educational support offices at installations to partner with liberal arts institutions to provide transitioning military personnel cybersecurity degrees that focus on ethics, character, leadership, national security law, and communication. Additionally, the committee encourages the institutions within this network to work with the service academies to continue the curriculum development in cybersecurity to insure that current demands are met.

**Department of Defense review of overseas assignment policy for civilian and contractor personnel in support of Department of Defense operations**

The committee remains highly concerned with the inconsistent overseas assignment policies that exist among the military, civilian, and contractor employee populations. Servicemembers assigned to accompany overseas tours must complete medical evaluations and obtain certifications that they and their dependents can live and work in environments where many specialized medical capabilities may not exist to meet their needs. Under current policy, however, there is no requirement for civilian and contractor employees to undergo the same medical screening policy. This inconsistency in policy overburdens the Department of Defense's finite medical, educational, and other family support resources when civilian and contractor personnel and their dependents with exceptional needs transfer overseas. This practice of inconsistent assignment policies strains the defense budget and impacts readiness.

The committee directs the Secretary of Defense to conduct a review of overseas assignment policies pertaining to civilian and con-

tractor personnel in support of Department of Defense operations and to provide a report to the Committees on Armed Services of the Senate and the House of Representatives no later than March 1, 2018, with the following information: (1) Policy changes the Secretary has made to align and clarify overseas assignment policies to ensure the medical screening requirements are the same for military members, civilian employees, contractors, and dependents of each category of employees; (2) Legislative changes necessary to match the policies pertaining to the medical screening of civilian and contractor personnel and their dependents to those pertaining to military personnel and their dependents; and (3) Any other information the Secretary determines to be relevant to medical screening of Department of Defense employees and dependents prior to overseas assignments.

#### **Encouraging more flexibility in changes of station**

The committee remains concerned about the impact that frequent permanent changes of station can have on servicemembers and their families. The committee believes these moves—often tied to promotion criteria for servicemembers—can pose great challenges for military families. Therefore, the committee encourages the Department to consider measures that would allow servicemembers who seek them to lengthen tours of duty and lessen the frequency of their permanent change of station moves without harming their promotion prospects to enhance military readiness and benefit retention of servicemembers.

#### **Ensuring military borrowers receive appropriate benefits**

The committee notes that service members are exempt from paying interest on their federal student loans for the length of time served in an area of hostilities. Unfortunately, since 2008, eligible service members have avoidably overpaid \$100 million dollars in federal student loan interest payments due to a lack of communication between the Department of Education, Department of Defense, Department of Veterans Affairs, and federal student loan servicers. Additionally, the committee notes that in accordance with the Higher Education Relief Opportunities for Students Act of 2003, service members enrolled in an income-driven repayment programs are eligible for a waiver from annual recertification obligations of their income. Service members with federal Perkins Loans are also eligible for a cancellation of a percentage of their debt, based on qualifying years of military service, in accordance with Section 465 of the Higher Education Opportunity Act of 2008. Again, in both of these instances, too many eligible service members have not taken advantage of these benefits due to a lack of communication between the Department of Education, Department of Defense, Department of Veterans Affairs, and federal student loan servicers.

The committee also notes that in recent years, the Departments of Defense and Education have proven that through additional coordination and information sharing with student loan servicers, the federal government can automate the benefits for which servicer members are eligible under the Servicemember Civil Relief Act and dramatically increase the number of service members who receive the benefits Congress intended them to receive—as demonstrated



by the recent automation of the six percent rate cap for servicemembers. Therefore, the committee directs the Secretary of Defense, in coordination with the Secretary of Education (including its student loan servicers), and the Secretary of Veterans Affairs, to make every practical effort to automate the application of student loan benefits available to eligible servicemembers using information in existing federal databases at the Departments of Education and Defense in a timely manner so service members can receive the benefits due under the law. The committee further directs the Secretary of Defense to brief the Senate Committee on Armed Services on the plan of action for implementing this automation process by December 1, 2017.

**Greater discretion to garrisons for Family, Morale, Wellness, and Recreation programs**

The committee is concerned about the process by which Family, Morale, Welfare, and Recreation (FMWR) programs are being selected for termination, particularly in the Army, as it relates to the needs of remote and isolated installations. Installation commanders should play a greater role in identifying programs and facilities worthy of MWR investment or sustainment. The committee urges the Installation Management Command (IMCOM) to provide greater discretion and to consult to the maximum extent practicable with garrison commanders, especially those at remote and isolated installations, to ensure that servicemembers and dependents stationed at such installations have access to appropriate FMWR programs and facilities. The committee urges IMCOM to consider adopting a funding model that accounts for revenue earned at an installation versus the performance of its individual enterprises to allow services critical to the long-term well-being of remote and isolated installations to continue operating as long as the aggregate revenue remains a net positive. The committee acknowledges that identifying savings is important, especially in budget-constrained times, but they should not come at the expense of programs that are most important to garrison commanders at the local level.

**Leadership training**

The committee continues to recognize the importance of protecting the rights of conscience of members of the Armed Forces, consistent with the maintenance of good order and discipline. The Congress has expressed this view in title 42, United States Code, section 2000bb, et seq. and in section 533 of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112-239) as amended by section 532 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113-66). Complying with this law requires an intentional strategy for developing and implementing a comprehensive training program on religious liberty issues for military leadership and commanders. The committee urges the Department, in consultation with commanders, chaplains, and judge advocates, to ensure that appropriate training on religious liberty is conducted at all levels of command on the requirements of the law, and to that end the committee directs the Secretary, in consultation with the Chief of Chaplains for the Army, Navy, and Air Force, to develop curriculum and implement training concerning re-

ligious liberty in accordance with the law. Recipients of this training should include commanders, chaplains, and judge advocates.

#### **Quality of instruction in schools of the Department of Defense Education Activity**

The committee has received disturbing anecdotal reports from military parents of poor quality instruction in certain overseas schools of the Department of Defense Education Activity (DODEA). As a result, the committee requested data from DODEA to understand better the quality of instruction provided by DODEA's teachers, but the Department of Defense failed to provide such data. Therefore, the committee directs the Secretary of Defense to provide the following data to the committee by no later than August 1, 2017: (1) A de-identified list of teachers, by school location, who were placed under performance improvement plans (PIP) over the last 5 years; (2) Course subjects taught by each such teacher, duration of the PIP for each such teacher, outcome of the PIP for each such teacher, and course subject qualifications of substitute teachers hired to back-fill teachers under PIPs; and (3) An assessment of the impact of the instructional ability of such teachers on students' educational outcome measures.

#### **Report on credentialing program utilization**

In order to evaluate the current progress of past and ongoing military credentialing improvement efforts and opportunities, the Committee directs the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and House of Representatives by no later than December 1, 2017, on the utilization of the program to assist members in obtaining professional credentials authorized by section 2015 of title 10, United States Code, by each military service, including the types of credentials obtained and the cost to the Government, as of the date of enactment of June 1, 2017, along with any recommendations for regulatory or statutory change the Secretary considers appropriate to ensure members are able to obtain such credentials relating to their military training and skills from appropriately qualified entities.

#### **Report on joint Department of Defense-Department of Veterans Affairs suicide prevention**

Suicide continues to plague the military Services, and the problem is exacerbated as servicemembers separate from the Department of Defense and enter a new system of care provided by the Department of Veterans Affairs. The committee encourages the Secretary of Defense to work with the Secretary of Veterans Affairs to assess the feasibility of establishing a joint office to house an interagency task force on suicide prevention. This office would facilitate the sharing of best practices between the agencies' respective suicide prevention offices and collaborate and share resources where appropriate, such as with the joint use of the Suicide Crisis Hotline. The Secretary of Defense shall report the results of its assessment to the Committees on Armed Services of the Senate and the House of Representatives within 180 days of this report.

**Report on measures to prevent retaliation against survivors of sexual assault and harassment in the performance evaluation process**

Professional reprisal against servicemembers who report sexual assault or harassment undermines readiness, depresses recruitment and retention, and erodes unit cohesion. The Department of Defense has made some progress in addressing retaliation in recent years. In February 2016, the Judicial Proceedings Panel (JPP)—established by section 576 of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–239)—published recommendations to reduce retaliation related to sexual assault offenses. On April 28, 2016, the Secretary of Defense announced the Department of Defense Retaliation Prevention and Response Strategy Regarding Sexual Assault and Harassment, as required by section 539 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92). The committee commends the Department on these efforts, and encourages it to continue to incorporate the JPP and other expert recommendations into its global strategy. Nevertheless, one-third of female servicemembers who report unwanted sexual contact indicated experiencing a negative outcome they perceived to be professional reprisal. One form of professional reprisal is retaliation in performance reports.

The committee directs the Secretary of Defense to provide to the Committees on Armed Services of the Senate and the House of Representatives not later than 180 days after enactment a report on measures undertaken to:

- (1) Monitor the performance evaluations, duty assignments, receipt of awards, and progression toward promotion of complainants who make unrestricted reports for signs of retaliation;
- (2) Ensure that evaluators subject to a recent complaint of sexual misconduct do not conduct performance appraisals of the complainant;
- (3) Provide guidance to unit leaders and others on the potential effects of sexual harassment and assault on performance after a servicemember in their unit makes an unrestricted report; and
- (4) Instruct those who investigate retaliation complaints to consider the totality of the circumstances, including, but not limited to, the survivor's performance, assessments, or feedback from peers or third parties of his or her own performance, and language, however subtle, that may indicate decreased enthusiasm for the survivor's work or career progression.

The committee further recognizes the Air Force policy granting servicemembers, including survivors, the option to authorize a non-rated performance period. The committee directs the Secretary of Defense to conduct a review of this policy, including its effects on career progression, and include its findings and the potential for replication across the service branches in the required report.

**Review of United States Marine Corps recruit training policies**

The committee recognizes the importance of integrated training for building unit cohesion, improving readiness, and cementing

trust and respect among service members; in short, the Committee accepts the maxim that the military services should train as they fight. The committee is also aware of the long-standing practice within the Marine Corps to keep certain parts of initial recruit training gender-specific, while the majority of initial recruit training is fully integrated with male and female marines training side-by-side. The committee directs the Commandant of the Marine Corps to review Marine Corps policies concerning the integration of male and female marines during recruit training and the effects that the current training structure has on individual performance, unit cohesion, and furthering the goal of fostering an environment of respect among fellow marines and to report to the Committees on Armed Services of the Senate and House of Representatives the results of this review by no later than October 1, 2017.

### **ROTC Cyber Institute**

There remains a nationwide shortage of 500,000 cyber professionals and correspondingly a universal need for an increase in cybersecurity education and training. The Army Cyber Branch created in 2015 and formed 41 total Cyber Mission Force teams, as well as 21 United States Army Reserve and Army National Guard Cyber Protection Teams. The first 33 teams began deploying once reaching minimum competency. There remains an urgent need to commission lieutenants into cyber branch and there is significant competition for talent with the private sector.

A program to establish ROTC Cyber Institutes for purposes of accelerating the development of foundational expertise in critical cyber operational skills for future military and civilian leaders of the Armed Forces and Department of Defense of the United States including such leaders of the Reserve Components could help address these shortfalls. Ideal programs should include: instruction and practical experiences that lead to accredited cyber certifications in the field; targeted strategic foreign language proficiency training for such future leaders designed to significantly enhance critical cyber operational capabilities; mathematical foundations of cryptography and courses in cryptographic theory, and; programs to expand the pool of qualified cyber instructors necessary to support cyber education.

The Committee directs the Secretary of Defense to conduct a feasibility study of establishing ROTC Cyber Institutes, including an assessment of the suitability of one or more Senior Military Colleges hosting such an institute, for the purposes of accelerating the development of foundational expertise in critical cyber operational skills for future military and civilian leaders of the Armed Forces and Department of Defense of the United States including such leaders of the Reserve Components. This study should include an assessment of existing partnerships at the colleges or universities under consideration, and if or at what level they meet the above program recommendations, a description of current curriculum that advances cyber competency, additional authorities needed, costs associated with implementing new partnerships and any existing plans to establish such institutes. This study should be submitted to the Committees on Armed Services of the Senate and House of Representatives by no later than December 1, 2017.

### **Service-specific history courses as a core curriculum requirement of the military service academies**

The committee is concerned that the United States military service academies may be overemphasizing core academic curriculum course requirements that mirror civilian universities, rather than educating cadets on the unique culture and history of their individual services, with such emphasis as the original rationale for establishing separate service academies. It is vital to the strength of joint force operations that American military officers from each branch of the Armed Services understand and comprehend the history, doctrine, and capabilities of their respective Services to better provide options for the optimal execution of joint force operations in support of meeting U.S. national security objectives.

“Jointness” means that among the four United States military Services, a separately developed and highly specialized array of capabilities is provided through service or functional components to a joint force commander—with the commander’s responsibility to assemble a plan from among this “menu” of capabilities, applying the appropriate ones for the contingency at hand. What is often misunderstood about joint operations is that its strength resides in the separateness of the service components.

Joint force operations create synergies because they capitalize on each Service’s core functions—skill sets that requires lengthy time, effort, and focus to cultivate. It can take as many as twenty years to develop a competent division, Surface Action Group, Marine Expeditionary Force, or Aerospace Expeditionary Force commander. The committee believes these skill sets require a strong foundation in Service history.

Therefore, the committee directs the Secretary of Defense to provide to the Committees on Armed Services of the Senate and the House of Representatives, no later than March 1, 2018, a report detailing the core academic and military curriculum requirements of each United States military service academy, to include a detailed description and length of core history and military studies courses that specifically cover the principles, founders, formative events, organization, capabilities, and major engagements of their respective Service in their support and execution of America’s national security objectives.

### **Shortfall of United States Air Force aircraft maintenance personnel**

The committee remains concerned with the current aircraft maintenance personnel shortfall in the United States Air Force. The Air Force has indicated as many as 4,000 additional aircraft maintenance personnel are required to achieve the necessary manning level and that rebuilding this critical workforce is a long-term project due to the extensive training required. The committee notes the significant value that the Department of Defense achieves through the use of Air Force Community Partnerships and recommends the Air Force examine additional public-private options to help alleviate this critical shortfall. The committee encourages the Air Force to pursue partnerships with local and regional educational institutions utilizing existing authorities contained in title 10, United States Code. The Air Force should explore creative op-

tions, such as creating an aircraft maintainer training program pipeline, to help achieve the required level of aircraft maintenance personnel at United States Air Force installations.

#### **Transition Assistance Program challenges for the National Guard and Reserves**

The committee is concerned about uneven participation rates by eligible members of the National Guard and Reserves in the Department of Defense's Transition Assistance Program (TAP). To help ensure greater participation of eligible servicemembers in TAP, the committee directs the Under Secretary of Defense for Personnel and Readiness to collect information on any challenges facing demobilizing members of the National Guard and Reserves regarding the timing and location of TAP courses. Additionally, the Secretary should consider the addition of related questions to the TAP online assessment tool, which are specific to members of the National Guard and Reserves.

#### **Transition Assistance Program information for unit commanders**

The Department of Defense's Transition Assistance Program (TAP) provides information, tools, and training to ensure servicemembers and their spouses are well-prepared to transition into civilian life. To ensure servicemembers' completion of TAP, the committee encourages the Under Secretary of Defense for Personnel and Readiness to require that all Services provide military commanders information on the TAP participation levels of servicemembers under their commands. The Services may use such information to hold commanders accountable for ensuring that servicemembers complete TAP.

#### **Use of Post-9/11 GI Bill for technical schools and institutes**

The committee notes that many transitioning servicemembers desire a career in technical and mechanical fields to build upon the skills and knowledge attained during service rather than pursuing a traditional degree-granting academic program. The committee strongly encourages the Department of Defense to ensure that information on technical schools and institutes be offered to transitioning servicemembers during the transition counseling provided by the Department of Defense so that servicemembers are aware of all options for which they can apply their Post-9/11 GI bill.

## **TITLE VI—COMPENSATION AND OTHER PERSONNEL BENEFITS**

### **Subtitle A—Pay and Allowances**

#### **Fiscal year 2018 increase in military basic pay (sec. 601)**

The committee recommends a provision that would authorize a pay raise of 2.1 percent for all members of the uniformed services effective January 1, 2018.

#### **Extension of authority to provide temporary increase in rates of Basic Allowance for Housing under certain circumstances (sec. 602)**

The committee recommends a provision that would extend for 1 year the authority of the Secretary of Defense to temporarily increase the rate of the Basic Allowance for Housing in areas impacted by natural disasters or experiencing a sudden influx of personnel.

#### **Adjustment to Basic Allowance for Housing at with-dependents rate of certain members of the uniformed services (sec. 603)**

The committee recommends a provision that would amend section 403 of title 37, United States Code, to eliminate the with-dependents rate for the Basic Allowance for Housing (BAH) in the case of married members of the uniformed services who are collocated and who have dependents. Under current law, one such member is eligible for the with-dependents rate, while the other must receive the without-dependents rate. A recent audit report from the United States Army Audit Agency (USAAA) found that BAH entitlements paid to married servicemembers collocated in the same military housing area significantly exceeded the local housing costs for these servicemembers. For fiscal year 2014, USAAA estimated that 13,220 collocated married servicemember couples received about \$471.8 million in combined BAH payments. However, local housing costs for these servicemember couples were about \$267.0 million, a difference of about \$204.8 million. This occurred because Department of Defense policy, specifically the Joint Travel Regulation, allows collocated married servicemembers to receive two separate BAH payments despite occupying a single residence in the same military housing area. The USAAA found that reducing BAH for the 13,220 couples who receive the with-dependents rate to the without-dependents rate would bring housing allowance entitlements more in line with their actual costs of housing. While it would not entirely eliminate the disparity between the benefit paid and the cost of housing, the adjustment would save the Department an estimated \$52.0 million annually and \$311.8 mil-

lion over the next 5 years. The provision further includes a preservation of current BAH for members with uninterrupted eligibility for such BAH.

**Modification of authority of President to determine alternative pay adjustment in annual basic pay of members of the uniformed services (sec. 604)**

The committee recommends a provision that would amend section 1009(e) of title 37, United States Code, to remove the justification of serious economic conditions affecting the general welfare from the waiver authority of the President to make an alternative pay adjustment.

**Subtitle B—Bonuses and Special and Incentive Pays**

**One-year extension of certain bonus and special pay authorities for reserve forces (sec. 611)**

The committee recommends a provision that would extend for 1 year the authority to pay the Selected Reserve reenlistment bonus, the Selected Reserve affiliation or enlistment bonus, special pay for enlisted members assigned to certain high-priority units, the Ready Reserve enlistment bonus for persons without prior service, the Ready Reserve enlistment and reenlistment bonus for persons with prior service, the Selected Reserve enlistment and reenlistment bonus for persons with prior service, travel expenses for certain inactive-duty training, and income replacement for reserve component members experiencing extended and frequent mobilization for Active-Duty service.

**One-year extension of certain bonus and special pay authorities for health care professionals (sec. 612)**

The committee recommends a provision that would extend for 1 year the authority to pay the nurse officer candidate accession bonus, education loan repayment for certain health professionals who serve in the Selected Reserve, accession and retention bonuses for psychologists, the accession bonus for registered nurses, incentive special pay for nurse anesthetists, special pay for Selected Reserve health professionals in critically short wartime specialties, the accession bonus for dental officers, the accession bonus for pharmacy officers, the accession bonus for medical officers in critically short wartime specialties, and the accession bonus for dental specialist officers in critically short wartime specialties.

**One-year extension of special pay and bonus authorities for nuclear officers (sec. 613)**

The committee recommends a provision that would extend for 1 year the authority to pay the special pay for nuclear-qualified officers extending period of active service, the nuclear career accession bonus, and the nuclear career annual incentive bonus.



**One-year extension of authorities relating to title 37 consolidated special pay, incentive pay, and bonus authorities (sec. 614)**

The committee recommends a provision that would extend for 1 year the general bonus authority for enlisted members, the general bonus authority for officers, special bonus and incentive pay authorities for nuclear officers, special aviation incentive pay and bonus authorities for officers, and special bonus and incentive pay authorities for officers in health professions, and contracting bonus for cadets and midshipmen enrolled in the Senior Officers' Training Corps. The provision would also extend for 1 year the authority to pay hazardous duty pay, assignment or special duty pay, skill incentive pay or proficiency bonus, and retention incentives for members qualified in critical military skills or assigned to high priority units.

**One-year extension of authorities relating to payment of other title 37 bonuses and special pays (sec. 615)**

The committee recommends a provision that would extend for 1 year the authority to pay the aviation officer retention bonus, assignment incentive pay, the reenlistment bonus for active members, the enlistment bonus, precommissioning incentive pay for foreign language proficiency, the accession bonus for new officers in critical skills, the incentive bonus for conversion to military occupational specialty to ease personnel shortage, the incentive bonus for transfer between Armed Forces, and the accession bonus for officer candidates.

**Aviation bonus matters (sec. 616)**

The committee recommends a provision that would amend section 334 of title 37, United States Code, to require the Department of Defense and the military services to justify aviation bonus levels through a business case analysis for such levels, establish a tiered limitation on maximum amounts of aviation bonuses, and require additional budget justification materials to accompany the President's fiscal year budget submission to Congress pursuant to section 1105 of title 31, United States Code. Such justification shall include the following elements: (1) The amount requested for the payment of aviation bonuses using amount authorized to be appropriated for the fiscal year concerned by aircraft type category; (2) The business case analysis supporting the amount so requested by aircraft type category; (3) Whether or not the amount requested for each aircraft type category will permit the payment of the maximum amount of the aviation bonus authorized; and (4) A description of any plans the secretary concerned has to address manning shortfall by non-monetary means. The tiered limitation on maximum amounts of aviation bonuses shall vary by anticipated manning shortfalls for each fiscal year by aircraft type category. In no event may all the agreements entered into during a fiscal year by a secretary concerned provide for the maximum amount payable.

**Special aviation incentive pay and bonus authorities for enlisted members who pilot remotely piloted aircraft (sec. 617)**

The committee recommends a provision that would amend chapter 5 of title 37, United States Code, to create a new authority to pay aviation incentive pay and bonuses to enlisted member remotely piloted aircraft (RPA) pilots with statutory caps of \$1,000 per month for aviation incentive pay and \$35,000 per year for aviation bonus pay, which is equivalent to the current caps under section 334 of title 37, United States Code, for pilots who are officers. This authority will also include the same business case analysis requirement for setting bonuses that is required under section 334 of title 37, United States Code, for pilots who are officers. The committee intends this authority to be a companion to the efforts precipitated by this committee to begin the training pipeline for enlisted RPA pilots in the United States Air Force. This authority would also be available for enlisted pilots in the other services, such as the Army, where enlisted pilots are already utilized in the unmanned aerial vehicle community.

**Technical and clerical amendments relating to 2008 consolidation of certain special pay authorities (sec. 618)**

The committee recommends a provision that would make technical and clerical corrections to titles 10, 14, 24, 26, 37, and 42, United States Code, as part of the Department of Defense transition to the consolidated authorities authorized in section 661 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181), which provided eight consolidated statutory special and incentive pay authorities for future use to replace those currently in use.

**Subtitle C—Disability Pay, Retired Pay, and Survivor Benefits**

**Part I—Amendments in Connection With Retired Pay Reform**

**Adjustment to the Survivor Benefit Plan for members electing lump sum payments of retired pay under the modernized retirement system for members of the uniformed services (sec. 631)**

The committee recommends a provision that would modify section 1447 of title 10, United States Code, and section 1452 of title 10, United States Code, to ensure equitable treatment under the Survivor Benefit Plan of members of the uniformed services covered by the modernized retirement system who elect to receive a lump sum of retired pay, as authorized under section 1415 of title 10, United States Code.

**Technical correction regarding election to participate in modernized retirement system for non-regular component members experiencing a break in service (sec. 632)**

The committee recommends a provision that would clarify that the election period for the modernized retirement system author-

ized by section 631 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) is extended for up to 30 days in the case of regular component members returning to service after a break in service that occurs during the election period.

## **Part II—Other Matters**

### **Authority for the Secretaries of the military departments to provide for care of remains of those who die on Active Duty and are interred in a foreign cemetery (sec. 636)**

The committee recommends a provision that would amend section 1482(a) of title 10, United States Code, to authorize a service secretary to provide for the enduring care of the remains of Active-Duty servicemembers interred in foreign cemeteries if the burial location was designated by the secretary concerned.

### **Technical corrections for use of member’s current pay grade and years of service in a division of property involving disposable retired pay (sec. 637)**

The committee recommends a provision that would modify section 1408(a)(4) of title 10, United States code, to allow the Department of Defense to implement section 641 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) by clarifying that the division of property is to be calculated based on the date of the divorce decree, dissolution, annulment, or legal separation.

### **Permanent extension and cost-of-living adjustments of Special Survivor Indemnity Allowances under the survivor benefit plan (sec. 638)**

The committee recommends a provision that would amend section 1450 of title 10, United States Code, to permanently extend the authority to pay the Special Survivor Indemnity Allowance and would require inflation adjustments to that Allowance by the amount of the military retired pay cost-of-living adjustment for each calendar year beginning in 2019.

## **Subtitle D—Other Matters**

### **Construction of domestic source requirement for footwear furnished to enlisted members of the Armed Forces on initial entry into the Armed Forces (sec. 651)**

The committee recommends a provision that would modify the requirements to furnish footwear to enlisted members of the Armed Forces on initial entry if the Secretary of Defense determines that there would be only a sole certified source of supply. The Secretary of Defense would also be required to ensure that all procurement of athletic footwear to which this subsection applies are made using firm fixed price contracts. Consistent with section 418 of title 37, United States Code, the committee directs the Secretary to establish practices and take all necessary steps to protect service members in initial entry training from unnecessary injuries.

**Inclusion of Department of Agriculture in Transition Assistance Program (sec. 652)**

The committee recommends a provision that would amend subsection (a) of section 1144 of title 10, United States Code, to require inclusion of information provided by the Department of Agriculture in the Transition Assistance Program.

**Review and update of regulations governing debt collectors interactions with unit commanders (sec. 653)**

The committee recommends a provision that would require the Secretary of Defense, no later than 180 days after the date of the enactment of this Act, to review and update Department of Defense Instruction 1344.09 and any associated regulations to ensure that such regulations comply with Federal consumer protection laws with respect to the collection of debt.

**Items of Special Interest**

**Report on base pay of senior enlisted members performing special advisory duties**

The committee directs the Secretary of Defense to report to the Committees on Armed Services of the Senate and the House of Representatives no later than March 1, 2018, analyzing whether senior enlisted positions in advisory roles with responsibilities equivalent to those identified in footnote four of the military basic pay tables should receive an increase in basic pay under footnote four of the military pay tables as a result of their special advisory and representation duties.

**United States Air Force civilian pay budgeting process**

The Inspector General for the Department of Defense released a report (DODIG–2017–039) on January 5, 2017, finding that the Air Force civilian pay requirements in the Operations and Maintenance appropriation did not capture the funding needed to pay Air Force civilian personnel because the Air Force did not have written procedures that described the process and course data to use for developing its civilian pay requirements. The Air Force had incorrectly calculated pay for civilian positions based on positions filled (end-strength) rather than full-time equivalents (FTEs) as required by the Office of Management and Budget (OMB) guidance for calculating civilian work-year cost. The Inspector General also found that the Air Force based its programming decision on flawed civilian work-year cost data. Accordingly, the committee directs the Secretary of the Air Force to issue a report no later than February 1, 2018, to the Committees on Armed Services of the Senate and House of Representatives with the following information: (1) Written procedures for the Air Force civilian pay budget process; (2) A certification that the written procedures comply with the guidance on civilian FTEs as prescribed by OMB Circular A–11, “Preparation, Submission, and Execution of the Budget”; (3) A certification that all budget calculations and decisions will be documented and maintained by the Assistant Secretary of the Air Force (Financial Management and Comptroller); and (4) An explanation of steps the Air Force has taken to correct budget deficiencies in civilian pay

stemming from the fiscal year 2016 Budget Estimate Submission, which led to a \$212.0 million reprogramming request from Congress to correct the budget shortfall created by the Air Force.



## **TITLE VII—HEALTH CARE PROVISIONS**

### **Subtitle A—Tricare and Other Health Care Benefits**

#### **TRICARE Advantage demonstration program (sec. 701)**

The committee recommends a provision that would require the Secretary of Defense, in consultation with the Secretary of Health and Human Services, to establish a demonstration program, not later than 1 year after the date of the enactment of this Act, to enable eligible beneficiaries to enroll in Medicare Advantage plans. The Secretary would carry out the demonstration program for a minimum of 5 years. In conducting the demonstration program, the Secretary would competitively select, in market areas with large concentrations of beneficiaries eligible for TRICARE for Life, one or more Medicare Advantage plans from which the Secretary of Health and Human Services has waived or modified requirements under section 1857(i) of the Social Security Act (42 U.S.C. 1395w–27(i)). The Secretary would use risk-bearing, capitated contracts with Medicare Advantage organizations to administer the demonstration program, and only those Medicare Advantage plans with minimum quality star ratings of four or higher could participate in the program.

Under the demonstration program, the Secretary may include medical services provided by military medical treatment facilities and pharmaceutical agents provided by the TRICARE Pharmacy benefits program as additional services provided by the Department. The provision would require enrollment of all applicable eligible individuals located in an area participating in the demonstration program, but individuals could opt out of the program if desired. The provision would require the Secretary and the Secretary of Health and Human Services to determine jointly the appropriate distribution of costs and potential savings that result from the demonstration program. Finally, the provision would require the Secretary to submit: (1) An initial report to the Committees on Armed Services of the Senate and the House of Representatives, within 1 year of the date of the enactment of this Act, on implementation of the demonstration program; and (2) A final report to the same committees not later than 4 years after the date of the enactment of this Act.

Upon becoming eligible for Medicare, TRICARE beneficiaries gain Medicare wrap-around coverage through the Department's TRICARE for Life (TFL) program. Currently, there are over 2 million beneficiaries enrolled in the TFL program. Estimated federal spending on health care services for this population totaled about \$16.0 billion last year with Medicare paying about \$12.0 billion and TFL paying about \$4.0 billion. The committee believes that a TRICARE Advantage demonstration program, customized for the

TFL population, would result in better health outcomes for TFL beneficiaries with costly chronic health conditions and help to prevent utilization of high-cost, unnecessary health care services. Additionally, a TRICARE Advantage demonstration program should improve the experience of care while reducing government spending in both the Medicare and TRICARE programs.

**Continued access to medical care at facilities of the uniformed services for certain members of the reserve components (sec. 702)**

The committee recommends a provision that would amend sections 1076d(f) and 1076e of title 10, United States Code, to clarify the eligibility for medical services for beneficiaries enrolled in TRICARE Reserve Select and TRICARE Retired Reserve.

**Modification of eligibility for TRICARE Reserve Select and TRICARE Retired Reserve of certain members of the reserve components (sec. 703)**

The committee recommends a provision that would amend sections 1076d(a) and 1076e(a) of title 10, United States Code, to authorize enrollment in TRICARE Reserve Select or TRICARE Retired Reserve of a servicemember who is enrolled, or is eligible to enroll, in a health benefits plan under chapter 89 of title 5, United States Code.

**Expedited evaluation and treatment for prenatal surgery under the TRICARE program (sec. 704)**

The committee recommends a provision that would require the Secretary of Defense to implement processes and procedures to ensure a covered beneficiary under the TRICARE program, whose pregnancy is complicated with a fetal condition or suspected fetal condition, receives at the discretion of the covered beneficiary, expedited evaluation, non-directive counseling, and treatment from a perinatal or pediatric specialist capable of providing surgical management and intervention in utero.

**Specification that individuals under the age of 21 are eligible for hospice care services under the TRICARE program (sec. 705)**

The committee recommends a provision that would amend section 1079(a)(15) of title 10, United States Code, to authorize hospice care services for eligible beneficiaries under the age of 21.

**Modifications of cost-sharing requirements for the TRICARE Pharmacy Benefits Program and treatment of certain pharmaceutical agents (sec. 706)**

The committee recommends a provision that would amend paragraph 6 of 1074g(a) of title 10, United States Code, to modify cost-sharing amounts for the TRICARE pharmacy benefits program for years 2018 through 2026. After 2026, the Department could establish cost-sharing amounts equal to the cost-sharing amounts for the previous year adjusted by an amount, if any, to reflect increases in costs of pharmaceutical agents and pharmacy dispensing fees. With this provision, beneficiaries would continue to receive pharma-



ceuticals at no cost in military medical treatment facilities. For years 2018 through 2020, the cost-share amount for up to a 90-day supply of a generic pharmaceutical agent dispensed through the mail order pharmacy would be \$10, which would partially cover the Department's administrative costs for the drug and would result in a consistent drug cost-share with generic drugs dispensed in retail pharmacies. Under this provision, there would be no changes to cost-sharing amounts for survivors of members who died on Active Duty or for disabled retirees and their family members.

To encourage use of pharmaceutical agents that provide the greatest value to beneficiaries and the Department, the provision would authorize the Secretary of Defense, upon recommendation from the Pharmacy and Therapeutics Committee and review by the Uniform Formulary Beneficiary Advisory Panel, to exclude from the pharmacy benefits program any pharmaceutical agent that the Secretary determines provides little or no value to covered beneficiaries and the Department. Additionally, the Secretary would give preferential status to any non-generic pharmaceutical agent on the uniform formulary by treating it, for the purposes of cost-sharing, as a generic product under the TRICARE retail pharmacy and mail order programs. Finally, the provision would amend section 1079 of title 10, United States Code, to authorize the Secretary to adopt special reimbursement methods, amounts, and procedures in medical contracts to encourage physicians to use high-value pharmaceutical agents and to discourage use of low-value agents.

**Consolidation of cost-sharing requirements under TRICARE Select and TRICARE Prime (sec. 707)**

The committee recommends a provision that would amend section 1075 of title 10, United States Code, to consolidate cost-sharing requirements under TRICARE Prime and Select. This provision would eliminate the grandfathering of cost-sharing requirements for beneficiaries enrolled in the TRICARE program prior to January 1, 2018, as authorized in section 701 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). The amendments under this provision would take effect on January 1, 2018.

**TRICARE technical amendments (sec. 708)**

The committee recommends a provision that would make several technical amendments to statutory language regarding the TRICARE program.

**Contraception coverage parity under the TRICARE program (sec. 709)**

The committee recommends a provision that would amend section 1074d of title 10, United States Code, to require coverage of contraception services for all female covered beneficiaries under the TRICARE program. The provision would prohibit cost-sharing for certain contraception services, including all methods of contraception approved by the Food and Drug Administration, contraceptive care, sterilization procedures, and education and counseling, provided to beneficiaries covered by TRICARE.

### **Subtitle B—Health Care Administration**

#### **Modification of priority for evaluation and treatment of individuals at military treatment facilities (sec. 721)**

The committee recommends a provision that would amend section 717(b) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to authorize the Secretary of Defense to waive the priority of covered beneficiaries to receive evaluation and treatment at military treatment facilities in order to provide evaluation and treatment for the following individuals: (1) Persons severely wounded or injured by acts of terror in the United States; or (2) Residents of the United States severely wounded or injured by acts of terror outside the United States.

#### **Selection of directors of military treatment facilities and tours of duty of such directors (sec. 722)**

The committee recommends a provision that would require the Secretary of Defense, not later than January 1, 2019, to develop common qualifications and core competencies required for selection of directors of military medical treatment facilities. The provision would also establish a minimum length of 3 years for tours of duty, with limited exceptions, for those directors to ensure greater stability in health system executive management at each facility and throughout the military health system.

#### **Clarification of administration of military medical treatment facilities (sec. 723)**

The committee recommends a provision that would amend section 1073c(a) of title 10, United States Code, to clarify that the individual responsible for ensuring readiness of the members of the Armed Forces and civilian employees of a military medical treatment facility and for furnishing the health care and medical treatment at that facility can be either a military or civilian director under the authority, direction, and control of the Defense Health Agency. Additionally, the provision would authorize, if the Secretary of Defense determines it appropriate, that a military director (or other senior military officer or officers) of a military medical treatment facility (MTF) may be a commanding officer for purposes of Chapter 47 of this title (the Uniformed Code of Military Justice) with respect to military personnel assigned to the MTF.

#### **Modification of execution of TRICARE contracting responsibilities (sec. 724)**

The committee recommends a provision that would amend subsection (b) of section 705 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to clarify the execution of contracting responsibility for acquisition of managed care support contracts under the TRICARE program initiated after the date of the enactment of this Act. Under this provision, the Under Secretary of Defense for Acquisition and Sustainment would serve as the acquisition decision authority and be responsible for approving the acquisition strategy and conducting pre-solicitation, pre-award, and post-award acquisition reviews.

**Pilot program on establishment of integrated health care delivery systems (sec. 725)**

The committee recommends a provision that would require the Secretary of Defense, within 1 year of the date of the enactment of this Act, to conduct a pilot program of not less than 5 years duration to establish integrated health care delivery systems among the military health system, other federal health systems, and private sector integrated health systems. In consultation with the Secretaries of Veterans Affairs and Health and Human Services, the Secretary would establish a multi-disciplinary task force to develop a plan to implement the pilot program. Not later than 180 days after the date of the enactment of this Act, the task force would submit an implementation plan for the pilot program to the Secretary that would: (1) Create high-value integrated health systems; (2) Empower health care providers with real-time advanced information technology solutions; (3) Empower patients with transparent information on health care costs, quality outcomes, and safety within health care provider networks; and (4) Provide incentives to patients and health care providers to prevent overuse of low-value health care services. The provision would require the Secretary to submit a report on the implementation plan to the Committees on Armed Services of the Senate and the House of Representatives not later than 270 days after the date of the enactment of this Act. Finally, the Secretary would submit a final report on the pilot program to the same committees not later than 4 years after the date of the enactment of this Act.

**Subtitle C—Reports and Other Matters**

**Extension of authority for Joint Department of Defense-Department of Veterans Affairs Medical Facility Demonstration Fund (sec. 731)**

The committee recommends a provision that would extend the authority for the joint Department of Defense-Department of Veterans Affairs Demonstration Fund from September 30, 2018, to September 30, 2019.

**Additional emergency uses for medical products to reduce deaths and severity of injuries caused by agents of war (sec. 732)**

The committee recommends a provision that would amend section 1107a of title 10, United States Code, to authorize the Secretary of Defense to approve the emergency use of medical products, outside the United States, in situations in which an emergency use of an unapproved product or an emergency unapproved use of an approved product cannot be authorized under section 564 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 360bbb-3) because the emergency does not involve an actual or threatened attack with a biological, chemical, radiological, or nuclear agent.

The committee understands that hemorrhage is a leading cause of survivable death from battlefield wounds, and complex blood components, when used in a battlefield environment, can quickly control hemorrhage and save lives. Traditional pathways to the Food and Drug Administration's approval and licensure of critical

medical products, like freeze dried plasma, for battlefield use are too slow to allow for rapid insertion and use of these products on the battlefield. The committee believes this provision could lead to even higher survival rates from severe battlefield wounds suffered by servicemembers.

**Prohibition on conduct of certain medical research and development projects (sec. 733)**

The committee recommends a provision that would prohibit the Secretary of Defense and each service secretary from funding or conducting a medical research and development project unless the secretary concerned submits a written certification to the Committees on Armed Services of the Senate and the House of Representatives that the project is directly designed to protect, enhance, or restore the health and safety of members of the Armed Forces. Additionally, the secretary concerned could not initiate the funding or conduct of any such project until 90 days after submission of written certification to the committees.

**Modification of determination of average wait times at urgent care clinics and pharmacies at military medical treatment facilities under pilot program (sec. 734)**

The committee recommends a provision that would amend subsections 744(c)(2) and 744(d)(2) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to require the Secretary of Defense to utilize a formula derived from health care industry best practices in determining the average wait times to display under such paragraphs.

**Report on plan to improve pediatric care and related services for children of members of the Armed Forces (sec. 735)**

The committee recommends a provision that would require the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives a report setting forth a plan of the Department to improve pediatric care and related services for children of members of the Armed Forces.

**Inclusion of gambling disorder in health assessments and related research efforts of the Department of Defense (sec. 736)**

The committee recommends a provision that would require the Secretary of Defense to incorporate medical screening questions specific to gambling disorder into the Annual Periodic Health Assessment (DD Form 3024) conducted by the Department for members of the Armed Forces. Additionally, the provision would require the Secretary to incorporate questions on gambling disorder into its ongoing research survey efforts.

### **Items of Special Interest**

#### **Aircraft medical kits on rotary aircraft responding to mass casualty incidents**

The committee recognizes that rotary wing aircraft are the most common platforms to respond first to mass casualty incidents even if they are not fully capable medical evacuation aircraft. Updating aircrew equipment and helicopter medical kits to the latest standards will enhance patient and aircrew survivability. The committee encourages the Secretary of Defense to ensure that survival medical equipment on these aircraft is consistent with the most current standards for U.S. military tactical combat casualty care for all casualty evacuation capable platforms.

#### **Assessment of ability of Department of Defense to use modeling and simulation capabilities to address medical training requirements**

The committee recognizes the importance of technological developments that allow the Department of Defense (DOD) to use modeling and simulation capabilities to improve medical training requirements. Accordingly, the committee directs the Secretary of Defense to enter into an agreement with the National Academies of Sciences, Engineering, and Medicine under which the National Academies assess the ability of DOD to use modeling and simulation capabilities to address medical training requirements of the Department.

In conducting the assessment, the National Academies of Sciences, Engineering, and Medicine shall assess, but not be limited to: (1) The modeling and simulation technology available to the Federal Government and the private sector; (2) Research and development programs that the Department could undertake to enhance the modeling and simulation technology available to the Department; (3) Programs to transition modeling and simulation technology into operational use by the Department; (4) The advantages and disadvantages of using modeling and simulation, including fiscal and educational advantages and disadvantages; and (5) Any other aspects deemed relevant and appropriate.

The assessment shall also include recommendations to the Secretary on: (1) Improvements to policies and programs of the Department to increase the use of modeling and simulation technology; (2) Research and development priorities of the Department that will enhance modeling and simulation capabilities; (3) The development of specific technical metrics to improve modeling and simulation training; and (4) Any other recommendations deemed relevant and appropriate. The committee further directs that the assessment shall be delivered not later than June 1, 2018.

#### **Comptroller General report on Department of Defense measures to maintain critical wartime medical readiness skills and core competencies of health care providers**

The committee directs the Comptroller General of the United States to submit a report, not later than 90 days after the Secretary of Defense submits the report required by section 721(b) of

the National Defense Authorization Act (NDAA) for Fiscal Year 2017 (Public Law 114–328), to the Committees on Armed Services of the Senate and the House of Representatives that contains: (1) An assessment of the methodology used by the Secretary of Defense, under section 721 of the NDAA for Fiscal Year 2017, to define and determine the medical and dental personnel requirements necessary to meet operational medical force readiness requirements; (2) A determination of whether the list of medical and dental personnel requirements necessary to meet operational medical force readiness requirements, submitted in the report by the Secretary, reflects the methodology described above; (3) A determination of whether the Secretary has developed and implemented measures described in paragraphs (b)(1) through (b)(3) of section 725 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328); and (4) An assessment of the methodology used by the Secretary in developing and implementing measures described in section 725 to maintain the critical wartime medical readiness skills and core competencies of health care providers within the Armed Forces.

**Comptroller General review of the Department of Defense's recruitment and retention programs for military dentists**

The committee understands that the Department of Defense (DOD) experiences challenges in the recruitment and retention of certain dental specialists due in part to an increasingly competitive civilian dental health care job market and projected future nationwide shortages of dentists as the demand for dental care in the United States exceeds supply. To address these challenges, the Services offer a variety of recruitment and retention programs to encourage dentists to serve, including accession bonuses, scholarship programs, special pays, loan repayment programs, retention bonuses, and advanced training and education programs. The extent to which the DOD's approach to identify military dental requirements and to achieve recruitment and retention goals for military dentists is unclear to the committee. Therefore, the committee directs the Comptroller General of the United States to conduct a review of DOD's approach to recruit and retain military dentists and to provide a briefing on preliminary observations to the Committees on Armed Services of the Senate and the House of Representatives not later than January 24, 2018. At that time, a date for the final product will be determined. The review shall address, at a minimum, the following:

- (1) What are the Services' processes for developing the military health system's requirements for dentists and to what extent are the Services' authorizations filled to meet requirements?
- (2) To what extent has DOD examined the effectiveness of its programs for recruiting and retaining dentists?
- (3) To what extent have the Services developed plans to address any identified gaps in military dental corps officer specialties?

### **Comptroller General review of workforce mix within the military health system**

The Department of Defense (DOD) has estimated that an inefficient medical workforce mix—the combination of military personnel, federal civilian employees, and contractors—costs the department about \$3 billion over the future years defense program. In addition, a recent study sponsored by DOD found that the complete cost to the taxpayer of military medical personnel far exceeds the cost of civilian health care providers with comparable skills. Due to concerns about these and other inefficiencies within the military health system, Congress enacted a series of reforms in the National Defense Authorization for Fiscal Year 2017 (Public Law 114–328), including a provision authorizing conversions of military health care provider positions to civilian or contractor positions. Given DOD’s potential for realizing substantial financial benefits by implementing such conversions and for optimizing its mix of medical personnel, DOD’s careful attention toward medical workforce management will be important as it moves forward with health system reforms.

Therefore, the committee directs the Comptroller General of the United States to conduct a review of DOD’s approach to assess and determine its workforce mix within the military health system and to provide preliminary observations to the Committees on Armed Services of the Senate and the House of Representatives by the end of February 2018. At that time, a final product date will be determined. The review shall address, at a minimum, the extent to which: (1) The military departments have policies and procedures in place for periodically evaluating their health care workforces to ensure efficient and effective use of personnel resources; (2) The composition of healthcare workforces within each of the military departments is based on analyses of alternative populations—including active and reserve military personnel, civilians, contractors, and a mix thereof—and their related costs and benefits; and (3) The military departments have developed long-range strategies and workforce plans for ensuring that an appropriate number and mix of personnel are maintained within their healthcare workforces.

### **Department of Veterans Affairs/Department of Defense electronic health record interoperability**

The committee applauds the decision by the Secretary of Veterans Affairs (VA) to adopt the electronic health record (EHR) of the Department of Defense (DOD), MHS Genesis, which consists of a commercial off-the-shelf EHR system, Cerner Millennium. The Secretary’s bold decision will ensure seamless transition of real-time medical records information between healthcare providers of the DOD and the VA. The committee encourages the VA to work closely with DOD to leverage the platform, architecture, tools, and processes established for MHS Genesis to ensure successful implementation of its new EHR throughout VA’s hospitals and clinics. Additionally, the committee expects both DOD and VA to work collaboratively to establish seamless interoperability among MHS Genesis, the VA’s EHR, and private sector EHRs.

### **Epidemiological study on the association between certain cancers and military aircraft operations**

The committee is aware of anecdotes of potentially increased occurrences of certain cancers in military personnel associated with military aircraft operations. For example, acute myeloid leukemia may occur at higher rates for personnel involved in military aircraft operations, such as U.S. Air Force F-15 pilots, than for the general U.S. population because of long-term exposure to microwave radiation. Therefore, the committee directs the Secretary of Defense to conduct a retrospective epidemiological study on personnel involved in military aircraft operations: (1) To measure the frequency and assess the distribution of certain cancers in this population; and (2) To determine if there is a correlation between environmental exposures associated with military aircraft operations and the development of certain cancers in this population.

### **Impact of medical care referrals on servicemembers assigned to remote and isolated military installations in the United States**

The committee notes with concern that military operational capabilities may be degraded when military medical treatment facilities refer Active-Duty servicemembers and their families, assigned to remote and isolated military installations in the United States, for specialty care services provided only in large metropolitan areas. For example, the minimum travel time to and from a specialty care referral appointment can be 5 hours or more in remote locations like Cannon Air Force Base. Excess travel times for medical appointments remove servicemembers from their duty locations for lengthy periods, which degrades operational capabilities and ultimately harms readiness. Therefore, the committee directs the Department to explore additional opportunities to develop military-civilian integrated health systems near remote and isolated military installations in the United States to provide a comprehensive range of primary and specialty medical care services for servicemembers and their families where they live and work.

### **Improper medical claims payments**

Section 725 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113-66) required the Comptroller General of the United States to examine the similarities and differences between TRICARE and Medicare regarding how each program identifies and recovers improper medical claims payments. In a February 2015 report, the Comptroller General found that the Department of Defense uses a less comprehensive methodology than the methodology Medicare uses to measure improper payments. The Department's methodology fails to examine the medical records documentation underlying medical claims, an important process step that can help determine whether claims were improperly paid. As a result of the findings and recommendations of the Comptroller General, the committee directs the Department to implement a robust methodology to monitor medical claims for improper payments.



### **Licensed mental health counselors**

The committee is aware of varying standards within the Department of Defense regarding the practice authorities of licensed mental health counselors. Therefore, the committee directs the Assistant Secretary of Defense for Health Affairs to review existing policies and guidance regarding licensed mental health counselors throughout the military health system and make recommendations regarding the establishment of a uniform Department-wide standard regarding privileging and independent practice authority.

### **Licensing of federally owned medical inventions**

The committee directs the Department of Defense (DOD) to exercise its rights under sections 209(d)(1) or 203 of title 35, United States Code, to authorize third parties to use inventions that benefited from DOD funding whenever the price of a drug, vaccine, or other medical technology is higher in the United States than the median price charged in the seven largest economies that have a per capita income at least half the per capita income of the United States.

### **Military dental research**

The Military Dental Research Program (MDRP) focuses on developing successful procedures and technology to reconstruct and restore function of craniofacial (face and skull) tissues and structures of severely wounded warfighters. No other federal dental program duplicates this research. Craniofacial injuries cause significant physical and emotional challenges for servicemembers and often result in difficulty breathing, eating, and speaking.

Additionally, research at the MDRP seeks to develop improved methods to contain and eliminate antibiotic-resistant infections resulting from severe burns. The MDRP also maintains its traditional focus on troop readiness by conducting research to target preventive efforts to reduce the incidence of dental disease, thereby, improving overall combat effectiveness. The committee believes that the MDRP deserves greater priority within the Department of Defense's efforts to advance combat trauma research.

### **Novel drug therapies for PTSD**

The committee has long supported the development of new therapies for the treatment of post-traumatic stress disorder (PTSD). The committee urges the Department to prioritize the development and approval of novel drug therapies for the treatment of PTSD. To accomplish this task, the committee encourages the Department to consider the Food and Drug Administration's (FDA) Breakthrough Therapy Designation program. This program is one of four FDA programs intended to help ensure rapid approval and availability of beneficial therapies for serious medical conditions. The Committee directs the Department to consider carefully any guidance that the FDA's Breakthrough Therapy program may provide for the identification, development, and approval of novel therapies for the treatment of PTSD.

### **Report on action to address mental health of remotely piloted aircraft community**

The Air Force is pursuing efforts to improve the quality of life and quality of service of the remotely piloted aircraft (RPA) community. This plan seeks to address the burden on RPA crews due to significant demand for persistent intelligence, surveillance, reconnaissance, and strike capabilities. The committee is concerned about the potentially unique impacts on RPA pilots and airmen who are stationed in the United States while operating aircraft engaged in combat abroad.

Section 1712A of title 38, United States Code, provides for counseling and mental health services for a veteran or member of the Armed Forces who engaged in combat by “remotely controlling an unmanned aerial vehicle, notwithstanding whether the physical location of such veteran or member during such combat was within such theatre of combat operations or area.” A 2011 School of Aerospace Medicine report titled “Psychological Health Screening of Remotely Piloted Aircraft Operators and Supporting Units,” found “there is a high incidence of emotional exhaustion/fatigue among RPA operators as a group in comparison to noncombatant airmen” and that “efforts to reduce occupational burnout should focus on operational stressors and be equally devoted to weapon- and non-weapon-deploying RPA operators.”

Therefore, the committee directs the Secretary of the Air Force to provide a report to the Committees on Armed Services of the Senate and the House of Representatives on steps the Air Force, Air Force Reserve, and Air National Guard are taking to address the mental health of RPA pilots and airmen supporting RPA operations, particularly those stationed in the United States flying missions with aircraft assigned operationally to Combatant Commands. This report should also include detailed efforts the Air Force is taking to retain these pilots, given the potential for exhaustion and occupational stress.

### **Traumatic brain injury research**

Servicemembers and veterans can experience immediate and latent symptoms of traumatic brain injury (TBI), including headaches, mental confusion, memory loss, impulsivity, and depression. The committee commends the Department’s efforts to promote research addressing symptoms of TBI in the acute stages after injury and the prevention of such injuries. Key challenges facing the Department of Defense, however, are: (1) Understanding how to reverse neurodegeneration in the brain to restore lost brain function; and (2) Understanding the short and long-term effects of mild TBI on the brain to develop therapies that improve the function of those regions of the brain that may have escaped damage. The committee encourages the Department to continue its collaboration with public and private partners to accelerate the development of pharmaceutical therapies to reverse the latent and delayed-onset effects of TBI and to support clinical grade research of directly reprogrammed autologous neural precursor cells.

## **TITLE VIII—ACQUISITION POLICY, ACQUISITION MANAGEMENT, AND RELATED MATTERS**

### **Implementation of acquisition reforms**

The committee notes that with the passage of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) and the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), the Department of Defense has been provided with the most expansive legislative reform agenda on acquisition in a generation. While such reforms will take time to fully implement, the committee is disappointed with the Department’s slow rate of implementation and apparent unwillingness to embrace meaningful change in order to improve its acquisition outcomes.

The Department of Defense has suffered under a cumbersome acquisition bureaucracy for the majority of its existence. However, over the course of its history, the Department has still been able to increase the United States’ military technical advantage over the nation’s adversaries and competitors. In recent years, however, the Department has presided over a diminution of military technical advantage due to an inability to adapt to the global proliferation of technology, particularly in the commercial sector. The self-imposed and congressionally driven bureaucratic processes that have slowed the acquisition system have provided current and potential adversaries an opportunity to challenge our military today and in the future. The Department’s current acquisition challenge, and the threats that it enables, therefore, goes beyond important traditional concerns of efficiency and financial stewardship.

All elements of the Department of Defense’s acquisition enterprise must innovate in order to increase the United States’ military technical advantage. This innovation cannot be limited to the kinds of technology the Department seeks to acquire. The methods by which such technologies are acquired are of equal significance in providing our Armed Forces with a timely technical edge. It is the responsibility of all elements of the Department’s acquisition system to drive such innovation and to recognize that different types of innovation are required for an office such as the Under Secretary of Defense for Research and Engineering than for the Under Secretary of Defense for Acquisition and Sustainment.

It is the intent of the committee that the Department of Defense pursue military technical advantage through multiple pathways. Basic research, experimentation, prototyping, rapid acquisition, acquisition and adaptation of commercial items, middle tier acquisition, and major defense acquisition programs all play vital roles in developing and fielding the capability required by our Armed Forces. These pathways require different approaches to risk management, requirements development, contracting, and governance.

The committee therefore expects to see the Department align acquisition methods with the nature of the capability being acquired. This will require, for example, making use of flexible tools like Other Transaction Authorities to speed early research and prototyping efforts to transition into production while using firm-fixed price contracts to manage costs of large-scale acquisition of systems with lower technical risk.

Allowing for more nuanced approaches to supporting multiple acquisition pathways requires a workforce that is well-educated, trained, and provided with incentives to apply judgement in tailoring acquisition approaches while appropriately managing risk. The committee notes the success of the Defense Acquisition Workforce Development Fund in allowing the Department to recruit, educate, and retain the talent it needs. Provisions elsewhere in this Act seek to raise awareness of additional acquisition methods, such as the use of Federal Acquisition Regulation Part 12 Acquisition of Commercial Items, Other Transaction Authorities, and Agile Acquisition while also supporting the development of tools to enable easier tailoring of the acquisition process.

The committee is particularly concerned about the Department's approach to developing, acquiring, and managing software and software-intensive systems. The Department's acquisition processes are too cumbersome to develop traditional military hardware effectively, let alone modern software systems. Accordingly, this Act directs the Department to commence pilot activities to restructure struggling software-intensive programs and start new programs in a more effective manner. The committee will provide strong oversight on software-intensive acquisitions to ensure that the Department of Defense adopts effective methods of developing and managing its software.

In conclusion, this Act clarifies and reinforces the reforms of previous years. It is the intent of the committee to provide the Department of Defense with as much flexibility as possible to develop its own processes, organizational structures, and initiatives to improve its acquisition view and culture. The committee expects, and will support to the maximum extent possible, innovative initiatives from the Department that improve acquisition outcomes. In the meantime, the committee will continue to perform oversight over the Department's efforts to reform and improve its acquisition culture and practices, and hold senior leaders responsible and accountable for those efforts and their success.

### **Subtitle A—Acquisition Policy and Management**

#### **Repeal of temporary suspension of public-private competitions for conversion of Department of Defense functions to performance by contractors (sec. 801)**

The committee recommends a provision that would repeal section 325 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111–84; 123 Stat. 2253), one year after the date of enactment of this Act.

**Technical and conforming amendments related to program management provisions (sec. 802)**

The committee recommends a provision that would make technical and conforming amendments related to program management provisions from the National Defense Authorization Act of 2017 (Public Law 114–328).

**Should-cost management (sec. 803)**

The committee recommends a provision that would require the Secretary of Defense, within 180 days after the date of enactment of this Act, to amend the Defense Supplement to the Federal Acquisition Regulation to provide for the appropriate use of the should-cost review process in a manner that is transparent, objective, and provides for the efficiency of the systems acquisition process in the Department of Defense. The committee remains concerned that the current process utilized by the Department of Defense does not meet basic elements of transparency or define objective criteria by which should-cost determinations are made. Further, the committee expects that the Department will incorporate elements that prioritize efficiency into the regulations required by this provision.

The regulations required should incorporate, at a minimum, the following elements: (1) a description of the feature distinguishing a should-cost review and the analysis of program direct and indirect costs; (2) establishment of a process for communicating with the contractor the elements of a proposed should-cost review; (3) a method for ensuring that identified should-cost savings opportunities are based on accurate, complete, and current information and are associated with specific engineering or business changes that can be quantified and tracked; (4) a description of the training, skills, and experience, including cross functional experience, that Department of Defense and contractor officials carrying out a should-cost review should process; (5) a method for ensuring appropriate collaboration with the contractor throughout the review process; (6) establishment of review process requirements that provide for sufficient analysis and minimize any impact on program schedule; and (7) a requirement that any separate audit or review carried out in connection with the should-cost review be provided to the prime contractor under the program.

**Clarification of purpose of Defense acquisition (sec. 804)**

The committee recommends a provision that would create consistency between the Defense Federal Acquisition Regulation and current Department of Defense policies and instructions with respect to the purpose of the defense acquisition system. The committee notes that the Department of Defense is constantly forced to balance equities related to the near and far term defense needs as well as defense and national security goals and broader national and public policy goals. The Department also struggles to align goals relative to improving the speed and response to threats with public transparency and fiscal stewardship and in executing a growing set of missions within a defined budget. The committee remains concerned that these balances and goals sometimes drive the Department into practices that drive up costs, slow down the acqui-

sition process, and result in sub-optimal capabilities being developed and deployed to operational forces.

**Defense policy advisory committee on technology (sec. 805)**

The committee recommends a provision that would require the Secretary of Defense to establish a committee of senior executives from U.S. firms in the national technology and industrial base who would meet with the Secretary, the secretaries of the military departments, and members of the Joint Chiefs of Staff. The committee would meet annually with the Department of Defense from fiscal years 2018 to 2022 to discuss technology threats to the national security of the United States and emerging technologies that could be used to counter such threats. This committee would be exempt from the Federal Advisory Committee Act (5 U.S.C. App.) due to the sensitive and, at times, classified nature of its work.

**Report on extension of development, acquisition, and sustainment authorities of the military departments to the United States Special Operations Command (sec. 806)**

The committee recommends a provision that would require the Secretary of Defense to carry out a review of the acquisition authorities available to the secretaries of the military departments and the acquisition executives of the military departments to determine the feasibility and advisability of providing such authorities to the Commander of the United States Special Operations Command (SOCOM) and the acquisition executive of the Command for the development, acquisition, and sustainment of special operations-peculiar technology, equipment, and services. The provision would further require the Secretary, not later than 120 days after the enactment of this Act, to submit to the Committees on Armed Services of the Senate and the House of Representatives a report on the required review, including the results of the review, an identification of the authorities the Secretary recommends be extended to SOCOM, recommendations for any modifications of such authorities the Secretary considers appropriate for SOCOM, recommendations for legislative or administrative action as the Secretary considers appropriate for the specified authorities, and any other matters the Secretary considers appropriate.

The committee notes that under section 167 of title 10, United States Code, the Commander of SOCOM and the acquisition executive of the Command have responsibility for the development and acquisition of special operations-peculiar equipment and the acquisition of special operations-peculiar material, supplies, and services in support of Special Operations forces, which have been commonly referred to as SOCOM's "service-like" responsibilities. However, the committee understands that there is a lack of clarity about the applicability of acquisition and sustainment authorities provided to the secretaries and acquisition executives of the military departments to the Commander and acquisition executive of SOCOM, which could result in unnecessary bureaucratic burden and delays to SOCOM's rapid research and development, prototyping, and fielding of technology, equipment, and services that are critical to ensure the success of the Command in carrying out its missions.

As such, the committee believes that to the maximum extent practicable, the Secretary should provide to the Commander and the acquisition executive of SOCOM acquisition and sustainment authorities that are equivalent to those provided to the secretaries and acquisition executives of the military departments for such purposes.

**Subtitle B—Amendments to General Contracting  
Authorities, Procedures, and Limitations**

**Waiver authority for purposes of expanding competition  
(sec. 811)**

The committee recommends a provision that would add a new subsection to section 2304 of title 10, United States Code, that would grant discretionary authority to the Secretary of Defense to expand competition for Department of Defense (DOD) contracts where there is only one responsible bidder for any provision of law other than subsection 2304(c) of title 10, United States Code. The committee notes that this provision is not intended to affect the authorities of current set aside programs including those under the Small Disadvantage Business (8(a)) program, the Ability One program, the Berry amendment, and small business programs. It is intended to enhance opportunities for competition in traditional solicitations for DOD goods and services.

**Increased simplified acquisition threshold applicable to Department of Defense procurements (sec. 812)**

The committee recommends a provision that would amend chapter 137 of title 10, United States Code, to set the simplified acquisition threshold at \$250,000 for the Department of Defense in order to reflect a modest increase in inflation due to the erosion of purchasing power under the current threshold. This will expand opportunities for Small Disadvantaged Businesses, Women-Owned Small Businesses, Service Disabled Veteran Owned Small Business, and businesses in Historically Underutilized Business Zones to contract with the Department of Defense to provide innovation and rapid solutions and services to the Department.

**Increased threshold for cost or pricing data and truth in negotiations requirements (sec. 813)**

The committee recommends a provision that would amend section 2306a of title 10, United States Code, to increase the threshold for certified cost or pricing data and truth in negotiation requirements to \$1.0 million. Section 824 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) sets goals for the Secretary of Defense to follow in reducing reimbursable costs pertaining to bid and proposal submissions. This provision would aid the Department of Defense in realizing that goal.

**Contract authority for advanced development of initial or additional prototype units (sec. 814)**

The committee recommends a provision that would amend chapter 137 of title 10, United States Code, and would add a new section related to the contract authority allowed for advanced development of initial or additional prototype units.

**Treatment of independent research and development costs on certain contracts (sec. 815)**

The committee recommends a provision that would amend section 2372 of title 10, United States Code, to modify the requirements for the Secretary of Defense to create an Advisory Panel Related to the Goal for Reimbursable Bid and Proposal Costs. The panel should be established if the amount of reimbursable bid and proposal costs paid by the Department of Defense for a fiscal year exceeds 0.75 percent of the total aggregate industry sales to the Department for the fiscal year and it should be created by the Secretary within 180 days of exceeding such threshold.

**Non-traditional contractor definition (sec. 816)**

The committee recommends a provision that would amend section 2302(9) of title 10, United States Code, to clarify the definition of a non-traditional contractor to better align with the definition of an entity, which was intended to be interpreted as allowing specific business units within a corporation to be considered as non-traditional contractors.

**Repeal of domestic source restriction related to wearable electronics (sec. 817)**

The committee recommends a provision that would clarify that the domestic source restrictions authorized under the Berry Amendment do not apply to wearable electronics. The committee notes that these technologies will provide advanced communications, sensing, and medical diagnostics capabilities to operational forces.

**Use of outcome-based and performance-based requirements for services contracts (sec. 818)**

The committee recommends a provision that would require a justification requirement for use of personnel and labor hours for the procurement of services valued in excess of \$10.0 million based on specific descriptive personnel and labor hour requirements unless the program manager and contracting officer first submit to the Under Secretary of Defense for Acquisition and Sustainment a written justification including the reasons for basing the contract on those requirements instead of outcome- or performance-based requirements. This authority would sunset at the close of September 20, 2022.

Not later than 2 years after the date of the enactment of this Act, the Comptroller General of the United States should submit to the Committee on Armed Services of the Senate and the House of Representatives a report on justifications submitted pursuant to this provision. The report should review the adequacy of the justifications and identify any recurring obstacles to the use of outcome- and performance-based requirements instead of specified personnel and labor hour requirements for purposes of awarding services contracts.



**Pilot program for longer term multiyear service contracts (sec. 819)**

The committee recommends a provision that would authorize the Secretary of Defense to use the existing authority under subsection (a) of section 2306c of title 10, United States Code, to enter into up to 5 contracts for periods of not more than 10 years for services described in subsection (b) of such section, which may be extended for up to 5 additional 1-year terms. This authority would be subject to a reporting requirement for the Secretary of Defense to submit a progress report to the Committees on Armed Services of the Senate and the House of Representatives no later than 1 year after the date of enactment of this Act. The provision would also require a review by the Comptroller General of the United States, who would be required to submit a report of to the congressional defense committees not later than 2 years after the date of enactment of this Act.

The Secretary of Defense would also be required to enter into an agreement no later than 90 days after enactment of this Act with an independent organization with relevant expertise to study best practices and lessons learned from using services contracts for periods longer than 5 years by commercial companies, foreign governments, and state governments, as well as service contracts for periods longer than 5 years used by the Federal Government, such as Energy Savings Performance Contracts. Such Energy Savings Performance Contracts provide an existing example of longer term multiyear service contracts and are an alternative financing mechanism designed to accelerate investment in cost effective energy conservation measures in existing federal buildings.

**Identification of commercial services (sec. 820)**

The committee recommends a provision that would amend section 876 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–283) to require the Secretary of Defense to identify those industry subcategories in facilities-related services, knowledge-based services (excluding engineering services), construction services, medical services, or transportation services in which there are significant numbers of commercial services providers able to meet the requirements of the Department of Defense.

**Government Accountability Office bid protest reforms (sec. 821)**

The committee recommends a provision that would amend chapter 137 of title 10, United States Code, to require contractors who file bid protests with the Government Accountability Office on a contract with the Department of Defense to pay to the Department of Defense costs incurred for processing a protest at the Government Accountability Office and the Department of Defense when such a protest is filed by a party with revenues in excess of \$100.0 million during the previous year where all of the elements of such protest are denied in an opinion by the Government Accountability Office.

The provision would also require contractors who file a protest on a contract on which they are the incumbent to have all payments above incurred costs withheld on any bridge contracts or

temporary contract extensions awarded to the contractor as a result of a delay in award resulting from the filing of such protest. Such withheld funds should be released to a protesting incumbent contractor if: (1) the solicitation that is the subject of the protest is cancelled and no subsequent request for proposal is released or planned for release; or (2) the Government Accountability Office issues an opinion that upholds any of the protest grounds filed under the protest. If the protested contract for which payments are withheld is not awarded to a contractor, the withheld payments should be released to the Department of Defense and deposited into an account that can be used by the Department to offset costs associated with Government Accountability Office bid protests.

**Enhanced post-award debriefing rights (sec. 822)**

The committee recommends a provision that would require the Secretary of Defense, no later than 120 days after the date of enactment of this Act, to revise the Department of Defense Supplement to the Federal Acquisition Regulation to require that all mandatory post-award debriefings must provide details and comprehensive statements of the agency's rating for each evaluation criterion and of the agency's overall award decision. The revision would encourage the release of all information that would otherwise be releasable in the course of a bid protest challenge to an award to protect the confidential and proprietary information of other offerors. This provision would allow for the opportunity for follow-up questions for a disappointed offeror within 2 business days of receiving a post-award debriefing to be answered in writing by the agency within 5 business days.

**Limitation on unilateral definitization (sec. 823)**

The committee recommends a provision that would apply limitations and a notice and wait period to all undefinitized contractual actions of \$50.0 million or greater. Such limitations would require that if an agreement is not reached on contractual terms, specifications, and price by a date certain, the contracting officer may not unilaterally definitize those terms, specifications, and price over the objection of the contractor until the head of the agency approves the definitization in writing, the contracting office provides the written approval to the contractor, and the head of the agency notifies the congressional defense committees of the approval. The contract modification unilaterally definitizing the action should not take effect until 60 calendar days after the congressional defense committees have been notified.

**Restriction on use of reverse auctions and lowest price technically acceptable contracting methods for safety equipment (sec. 824)**

The committee recommends a provision that would amend section 814 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) in order to restrict the Department of Defense (DOD) from the use of reverse auctions and lowest price technically acceptable contracting methods when procuring critical safety equipment.

**Use of lowest price technically acceptable source selection process (sec. 825)**

The committee recommends a provision that would amend section 813 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) in order to ensure that the Department of Defense is acquiring goods that are providing valuable solutions and technology and not just offering contracts to bidders with the lowest cost.

**Middle tier of acquisition for rapid prototype and rapid fielding (sec. 826)**

The committee recommends a provision that would amend section 804(c)(2) of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) to eliminate the cost-sharing requirement for the rapid prototyping and fielding for middle tier acquisition programs.

**Elimination of cost underruns as factor in calculation of penalties for cost overruns (sec. 827)**

The committee recommends a provision that would amend section 828(b) of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92; 10 U.S.C. 2430 note) to remove the use of cost underruns to offset cost overruns and avoid the cost overrun penalty, beginning in fiscal year 2018.

**Contract closeout authority (sec. 828)**

The committee recommends a provision that would amend section 836(b)(1) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to extend contract closeout authority to those contracts entered into at least 17 years before the current fiscal year.

Service contracts of the Department of Defense (sec. 829)

The committee recommends a provision to require the Department of Defense to include certain information on services contracts in annual future years defense programs. The amendment prohibits initiation of public-private (A–76) competitions until this information is provided or until the Secretary of Defense certifies that a plan to provide such information by the next fiscal year has been developed.

**Department of Defense contractor workplace safety and accountability (sec. 830)**

The committee recommends a provision that would require contracting officers, prior to awarding or renewing covered contracts, to consider any identified violations of the Occupational Safety and Health Act of 1970 or equivalent State laws by the offeror or covered subcontractors using publicly available information. Contractors would have the right to protest bids and appeal actions taken pursuant to this provision.

The Comptroller General of the United States would also be required to submit a report not later than 180 days after the date of enactment of this Act to the Department of Defense and the congressional defense committees on the following elements: (a) A description of the Department of Defense’s existing procedures to

evaluate the safety and health records of current and prospective contractors; (b) An evaluation of the Department's adherence to those procedures; (c) An assessment of the current incidence of health and safety violations by Department Contractors; (d) An assessment of whether the Department of Labor has the resources to investigate and identify safety and health violations by Department of Defense contractors; and (e) An assessment of whether the Department of Labor should consider assuming an expanded investigatory role or a targeted enforcement program for ensuring the safety and health of workers under Department of Defense contracts.

**Department of Defense promotion of contractor compliance with existing law (sec. 831)**

The committee recommends a provision that would express the sense of the Congress that: (1) the Department of Defense should aim to ensure that parties contracting with the Federal Government abide by existing law, including worker protection laws; (2) worker protection laws, including chapter 43 of title 38, United States Code and the American with Disabilities Act of 1990 were enacted to ensure equitable workplace practices; (3) identifying and helping to improve the compliance of contractors with worker protection violations will help avoid setbacks and delays stemming from contracting with non-compliant contractors; and (4) the Secretary of Defense has the authority to ensure contractors' compliance with existing laws and should establish a goal to work with responsible contractors who are in compliance with worker protection laws.

**Subtitle C—Provisions Relating to Major Defense Acquisition Programs**

**Revisions to definition of major defense acquisition program (sec. 835)**

The committee recommends a provision that would amend section 430(a) of title 10, United States Code, to prevent programs formerly designated as major automated information systems and programs currently designated as business systems from being designated as major defense acquisition programs.

**Prohibition on use of lowest price technically acceptable source selection process for major defense acquisition programs (sec. 836)**

The committee recommends a provision that would amend chapter 144 of title 10, United States Code, to add a new section that would prohibit the use of a lowest price technically acceptable source selection process for the development contract of a major defense acquisition program (MDAP), beginning with programs requested for fiscal year 2019. The Secretary of Defense would be required to submit to the congressional defense committees a notification of the source selection process that the Department of Defense plans to use for the development contract of an MDAP, with the budget for which authority is requested for the development

contract of an MDAP, or within 30 days before release of the request for proposals for the development contract.

Federal acquisition regulations provide for a best value continuum where the relative importance of cost or price may vary. Where the requirement is clearly definable, cost or price may play a dominant role. The less definitive the requirement, the more development work is required. The greater the performance risk, the more technical or past performance may play a dominant role. The lowest price technically acceptable source selection approach is appropriate when best value is expected to result from selection of the technically acceptable proposal with the lowest evaluated price. By contrast, a trade-off process is appropriate when best value is expected to result in selecting other than the lowest price or other than the highest technically rated proposal and when the process allows the government to make trade-offs among cost or price and non-cost factors.

The committee believes that a contract to develop a MDAP does not lend itself to a strictly lowest price technically acceptable source selection approach. The source selection approach used for the development contract for the B-21 long-range strike bomber, an MDAP, was not characterized by the Department of Defense as a lowest price technically acceptable process. However, the committee believes that the Department's source selection approach more resembled a lowest price technically acceptable process rather than a trade-off process. Given the high degree of development work required for the program and the high degree of performance risk for the vendor, as evidenced by the fact that the Department awarded a cost plus contract for this effort, the committee believes that a source selection process that allowed the government to make trade-offs among cost or price and non-cost factors was warranted. Going forward, the committee expects the Department to use a trade-off source selection process for the development contract of a major defense acquisition program.

#### **Subtitle D—Provisions Relating to Acquisition Workforce**

##### **Training in commercial items procurement (sec. 841)**

The committee recommends a provision that would require the President of the Defense Acquisition University (DAU) to establish a training program on part 12 of the Federal Acquisition Regulation (FAR).

The committee believes that since enactment of the Federal Acquisition Streamlining Act of 1994 (FASA), the Congress has articulated a policy of favoring commercial procurements, including commercial "of a type" items. However, 2 decades after passage of the FASA, acquisition workforce training in the use of FAR Part 12 remains deficient. One of the guiding principles of the FAR is to "maximize the use of commercial products and services," and section 2377 of title 10, United States Code, requires market research to determine what commercial items or commercial items "of a type" are available in the marketplace. FAR part 12 implements the Federal Government's preference for the acquisition of commercial items contained in sections 1906, 1907, and 3307 of title 41, United States Code, and sections 2375–2377 of title 10,

United States Code, by establishing acquisition policies more closely resembling those of the commercial marketplace and encouraging the acquisition of commercial items and components.

Despite this, the committee believes that DAU courses have very little content involving the training of the acquisition workforce in matters related to FAR part 12 and the procurement of commercial items. The 2014 Defense Business Board report, “Innovation: Attracting and Retaining the Best of the Private Sector,” noted that acquisition training by DAU was “insufficient to meet the needs of the Department” and “an example of training deficiency is the lack of training on market research . . . [causing] acquisition and contracting personnel [to] fall back on cost-based judgments for contracting decisions.” Accordingly, this provision would aim to provide comprehensive training to the acquisition workforce on the use of part 12.

**Modification of definition of acquisition workforce to include personnel engaged in the acquisition or development of cybersecurity systems (sec. 842)**

The committee recommends a provision that would amend section 1705(h)(2)(A) of title 10, United States Code, to include personnel who are engaged in the acquisition of systems related to cybersecurity to the list of personnel who may be trained under the Department of Defense Acquisition Workforce Development Fund.

**Training and support for programs pursuing agile acquisition methods (sec. 843)**

The committee recommends a provision that would direct the Secretary of Defense, in consultation with the President of the Defense Acquisition University, to establish an in-resident targeted training course at the Defense Acquisition University on agile acquisition.

**Credits to Department of Defense Acquisition Workforce Development Fund (sec. 844)**

The committee recommends a provision that would amend section 1705(d)(2)(D) of title 10, United States Code, to clarify that the Secretary of Defense may adjust the amount for a fiscal year to an amount that is more than \$600.0 million or less than \$400.0 million if the Secretary determines that the amount is greater or less than reasonably needed for the purposes of the Department of Defense Acquisition Workforce Development Fund for such fiscal year to assist with acquisition workforce planning and development.

**Subtitle E—Provisions Related to Commercial Items**

**Modification to definition of commercial items (sec. 851)**

The committee recommends a provision that would amend section 2376 of title 10, United States Code, to amend the definition of “commercial item” for minor modifications ensure that government-unique systems and technologies are not treated as commercial items.

### **Revision to definition of commercial item (sec. 852)**

The committee recommends a provision that would amend section 103(8) of title 41, United States Code, to clarify that non-developmental items are commercial items when the procuring agency determines, in accordance with conditions in the Federal Acquisition Regulation, that the item was developed exclusively at private expense and has been sold in substantial quantities on a competitive basis to multiple local, state, or foreign governments.

### **Commercial item determinations (sec. 853)**

The committee recommends a provision that would amend section 2380 of title 10, United States Code, to clarify that a contract or sub-contract relating to the prior acquisition of an item using commercial item acquisition procedures under part 12 of the Federal Acquisition Regulation (FAR) should serve as a prior commercial item determination under this section of title 10.

Additionally, the committee notes that a significant barrier to retaining commercial item determinations occurs when a determination is made by a prime contractor as part of the acquisition of a major weapons system. The Department of Defense (DOD) contracting officers and Defense Contracting Activity officials have recently not recognized prime contractor commercial item determinations for sustainment contracts, despite the fact that these items have been sold under FAR part 12 to prime contractors for years. Accordingly, this provision would also amend section 2306a(b)(4)(A) of title 10, United States Code, to clarify the current statute to provide that previous commercial item determinations made by a prime contractor in the acquisition of a commercial item for DOD will be afforded the same presumption as if that determination were made by a contracting officer.

### **Preference for acquisition of commercial items (sec. 854)**

The committee recommends a provision that would amend section 2377(b) of title 10, United States Code, to ensure that the acquisition of commercial items and nondevelopmental items take priority over any small business set-aside program that would result in a non-commercial offering but to clarify that contracts for commercial items may be set aside for small business.

### **Inapplicable laws and regulations (sec. 855)**

The committee recommends a provision that would require the Secretary of Defense to review and, if necessary, revise the Procedures by which the Department of Defense applies government-unique regulations to the process by which it buys commercial items. It further eliminates all regulations not required by law that were promulgated after the Federal Acquisition Streamlining Act of 1996 (Public Law 103-355) that create government-unique clauses in contracts or subcontracts for the acquisition of commercial items and commercial off the shelf (COTS) items, except for regulations that the Secretary determines are vital to national security or required by law.

**Subtitle F—Industrial Base Matters****Review regarding applicability of foreign ownership, control, or influence requirements of national security industrial program to national technology and industrial base companies (sec. 861)**

The committee recommends a provision that would require the Secretary of Defense to review whether companies whose ownership is based in countries that are part of the national technology and industrial base (as defined by section 2500 of title 10, United States Code) should be exempted from the foreign ownership, control, or influence (FOCI) requirements of the National Security Industrial Program. This provision would also allow the Secretary of Defense, with the concurrence of the Secretary of State, to maintain a list of companies whose ownership is based in countries that are part of the national technology and industrial base that are eligible for such an exemption from FOCI.

**Pilot program on strengthening manufacturing in defense industrial base (sec. 862)**

The committee recommends a provision that would create a pilot program that would authorize the Department of Defense to use existing authorities to support investments that enhance the ability of the defense industrial base to meet military needs. The committee notes that the Department of Defense depends on a strong manufacturing and industrial base, especially as it seeks to modernize weapons systems to address global threats. This base is increasingly tied to the commercial manufacturing and industrial base, and a growing number of defense systems are dependent on dual-use commercial technologies and systems.

The provision authorizes the Department to invest in the manufacture of these kinds of technologies and systems, especially through the use of contracts, loan guarantees, direct loans, and purchases of equipment to support the startup of needed production lines. Further, the provisions allows the Department to engage with private sector financing and investment instruments, including instruments that take equity stakes in concerns—so as to support needed advanced manufacturing capabilities. The committee believes that these kinds of activities will improve the return on investment of government research programs, as well as helping critical defense suppliers maintain domestic manufacturing capabilities in the face of global competition.

**Sunset of certain provisions relating to the industrial base (sec. 863)**

The committee recommends a provision that would amend section 2534 of title 10, United States Code, to sunset the miscellaneous limitation on the procurement of goods other than United States goods at the close of September 30, 2018 relating to photovoltaic devices.



### **Subtitle G—International Contracting Matters**

#### **Procurement exception relating to agreements with foreign governments (sec. 865)**

The committee recommends a provision that would amend section 2533a of title 10, United States Code, to clarify that the requirement pertaining to procurement of items grown, reprocessed, reused, or produced in the United States does not preclude the acquisition of items as part of a weapon system if the acquisition is necessary in furtherance of an agreement with a foreign government in which both governments agree to remove barriers to purchases of supplies produced in the other country or services performed by sources of the other country.

#### **Applicability of cost and pricing data certification requirements (sec. 866)**

The committee recommends a provision that would amend section 2306a(b)(1) of title 10, United States Code, to clarify that additional certification is not required for a foreign military sale where there is already an existing U.S. Government contract for the same or similar item or service for which the U.S. Government has current cost and pricing data and insights into the reasonableness of price.

#### **Enhancing program licensing (sec. 867)**

The committee recommends a provision that would require the Secretary of Defense, with the concurrence of the Secretary of State, to establish a structure implementing a revised program export licensing framework in order to provide comprehensive export licensing authorization to support large international cooperative defense programs between multiple nations and determine what, if any, regulatory authorities require modification.

### **Subtitle H—Other Transactions**

#### **Use of Other Transaction Authority**

The passage of section 815 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) created the authority to use Other Transaction Authority (OTA) for prototyping and production purposes. The committee is pleased to see new and longstanding users of other transactions make additional use of this important and flexible contracting method. However, the committee remains frustrated by an ongoing lack of awareness and education regarding other transactions, particularly among senior leaders, contracting professionals, and lawyers. This lack of knowledge leads to an overly narrow interpretation of when OTAs may be used, narrow delegations of authority to make use of OTAs, a belief that OTAs are options of last resort for when Federal Acquisition Regulation (FAR) based alternatives have been exhausted, and restrictive, risk averse interpretations of how OTAs may be used. These behaviors force innovative projects and programs into unnecessarily restrictive contracting methods, needlessly adding bureaucracy, cost, and time.

The statutory authority for other transactions as delineated in section 2371 and 2371b of title 10, United States Code, is written in an intentionally broad manner. The Department of Defense (DOD) should interpret these authorities accordingly, recognizing that it has authority to use OTAs with the most flexible possible interpretation unless otherwise specified in those particular sections. Making use of OTAs, and their associated flexibility, may require senior leaders and Congress to tolerate more risk. The committee is willing to tolerate that risk, as long as it is well understood and communicated to oversight officials, and when responsibility for such risk is assigned to appropriate, accountable officials. Such risks can, and should, be mitigated through various means from oversight to program design and acquisition strategies. Importantly, any such risk must be viewed as lesser than the risks of stymieing innovation or slowing the development and fielding of critical new capabilities.

Elsewhere in this Act, the committee removes additional barriers to the use of OTAs while also requiring DOD to increase education and awareness of these authorities. The committee does not wish to add further explicit authorities for specific functions under section 2371 or section 2371b of title 10, United States Code, as doing so may lead to the incorrect impression that all potential functions that may be executed under OTAs must be stated in statute. However, two common misinterpretations deserve clarification here.

First, it is necessary to clarify the definition of small business for purposes of prototype project authority. The committee notes that OTAs have proven to be successful in helping the Department attract nontraditional performers, including small businesses. These performers carry out prototype projects that enhance the mission effectiveness of military personnel. The committee encourages and supports DOD's efforts to expand its use of OTA for funding agreements under the Small Business Innovation Research program and Small Business Technology Transfer program.

The mission of these two small business programs is to support scientific excellence and technological innovation through the investment of federal research funds in critical American priorities to build a strong national economy. Encouraging and supporting the Department of Defense to use proven innovative procurement processes such as OTAs for funding agreements under the small business programs will both enhance the mission effectiveness of the Department and help accomplish the mission of the programs.

Second, it is necessary to clarify the follow-on production contracts using OTA. The committee notes that there has been some uncertainty about the proper interpretation of the requirements for follow-on production when using a consortium OTA model. Paragraph (f)(2) of section 2371b of title 10, United States Code, detailing the authority created in section 815, states that follow-on production "may be awarded to the participants in the transaction without the use of competitive procedures . . . if

(A) competitive procedures were used for the selection of parties for participation in the transaction; and

(B) the participants in the transaction successfully completed the prototype project provided for in the transaction."

“Competitive procedures” refers to a competition for award of an OTA to a consortium or a competition for a particular project. Follow-on production contracts and transactions entered into pursuant to this section should be structured to maximize access to the participant’s products, as appropriate, from any organization within DOD. Accordingly, contracting officers should use a variety of established acquisition tools, including a modification to the original consortium-based or individual prototype project award, a separate OTA, or a FAR acquisition instrument. This will allow for a swifter, seamless transition of cutting-edge technologies to the warfighter throughout the acquisition process.

**Other transaction authority (sec. 871)**

The committee recommends a provision to streamline the process by which authorized officials may enter in “other transaction agreements” by removing the requirement for the specific approval by senior acquisition officials for the use of such agreements for large projects. This provision would also amend this authority to allow for the required one-third cost share to be supplied by third party private investment.

**Education and training for transactions other than contracts and grants (sec. 872)**

The committee recommends a provision that would amend subsection (g) of section 2371 of title 10, United States Code, to require the Secretary of Defense to ensure that the Department of Defense provides sufficient education and training in the use of transactions other than contracts and grants.

The committee is pleased with the successful use of Other Transactions to support acquisition speed and innovation. However, those seeking to make use of Other Transaction Authorities are too frequently stymied in their efforts by an acquisition workforce unfamiliar with the use of those authorities. Accordingly, the committee directs the United States Army Contracting Command, U.S. Navy Research Laboratory, United States Air Force Office of Transformational Innovation, and the Defense Advanced Research Projects Agency to develop, in collaboration with the Defense Acquisition University, an Other Transaction Authority curriculum of education, training, and experiential learning for executives, program managers, contracting officers, lawyers, and other relevant stakeholders. This curriculum may be developed and executed using funds from the Defense Acquisition Workforce Development Fund.

**Preference for use of other transactions and experimental authority (sec. 873)**

The committee recommends a provision that would require the Secretary of Defense to establish a preference for using transactions other than contracts, contracts, cooperative agreements, and grants for science and technology, prototyping, and experimental purposes pursuant to sections 2371, 2371b, and 2373 of title 10, United States Code. This preference should include funds expended from 6.1, 6.2, 6.3, 6.4, and other accounts used for the pur-

poses of science and technology, prototyping, and experimental purposes.

**Methods for entering into research agreements (sec. 874)**

The committee recommends a provision that would amend section 2358 of title 10, United States Code, to explicitly authorize the use of Other Transactions Authority and Experimental Procurement Authority as methods for entering into research agreements with industry, academia, and other researchers and technology developers.

The committee supports Department efforts to improve the pace of technological development of advanced military systems to meet current and future threats, and it believes that these types of research agreements can be effective in improving the speed of development and operational use of technologies and can reduce program costs. The committee believes that the use of these approaches for research efforts is already authorized and legal under existing law, but there is bureaucratic and cultural resistance to using these methods that limits their use by the bulk of the defense research and engineering enterprise. The committee notes that this provision is intended to provide more encouragement for the Department to use these types of approaches as it seeks to speed the process of technological innovation.

**Subtitle I—Development and Acquisition of Software  
Intensive and Digital Products and Services**

**Digitizing the Department of Defense business, enterprise,  
and warfighting capabilities**

The committee notes that the Department of Defense's warfighting, business, and enterprise capabilities are increasingly reliant on or driven by software and information technology. The committee notes with concern that the Department is behind other federal agencies and industry in implementing best practices for acquisition of software and information technology capabilities, to include agile and incremental development methods and associated training, tools, and infrastructure.

The committee notes that existing law and acquisition regulation provide significant flexibility to the Department and that the Department has explicitly provided for tailoring in its acquisition directives and instructions. The committee is concerned, however, that, despite the aforementioned, the organizational culture and tradition of acquiring capabilities using a hardware-dominant approach remains the status quo and as such represents a significant impediment to effectively tailoring acquisition approaches to incorporate agile and incremental development methods suited to software-intensive business, enterprise, and warfighting capabilities.

The committee contends that the implementation of such methods—which represent best practices for both industry and government—is absolutely vital to delivering capabilities. To ensure the adoption of such practices, the committee expects the Department to:

- (1) Strengthen the Chief Information Officer's role in software intensive and information technology reliant business,

enterprise, and warfighting capabilities as described elsewhere in this Act, by establishing and enforcing information technology policies and standards, planning and programming, and budget formulation and execution;

(2) Make use of existing flexibilities via, through two pilot programs described elsewhere in this Act;

(3) Push forward in implementing agile development methods via additional flexibilities in conducting a third pilot described elsewhere in this Act; and

(4) Invest in tools and training through efforts described elsewhere in this act to better support the acquisition workforce.

#### **Rights in technical data (sec. 881)**

The committee recommends a provision what would amend section 2302 of title 10, United States Code, to define technical data with respect to software acquired by, and the means by which that data is provided to, the Department of Defense. The committee is concerned that the Department of Defense does not have access to, or make use of, all the data associated with software required to develop, configure, adapt, or maintain its software assets.

The technical data required to effectively manage and maintain software assets goes well beyond documentation to include source code and also the data associated with the development, configuration, and testing of that code. The Department of Defense must ensure that it maintains access to such data as a prerequisite for improving its software practices and outcomes.

#### **Defense Innovation Board analysis of software acquisition regulations (sec. 882)**

The committee recommends a provision that would require the Defense Innovation Board to complete an analysis of software development and acquisition regulations for the Department of Defense. The committee is concerned about the state of software development and acquisition within the Department of Defense and is seeking recommendations on authorities and regulations the committee might create or remove in order to better enable the Department to improve its software outcomes. The committee is particularly interested in the Defense Innovation Board's recommendations on methods by which to enable the use of industry best practices within the Department of Defense. The Secretary of Defense should ensure that the Defense Innovation Board has access to any information it requires to undertake this analysis.

This provision would require the Secretary of Defense to report to the congressional defense committees on the preliminary findings no later than 150 days after the enactment of this Act. No later than 1 year after the Secretary tasks the Defense Innovation Board with the study, the Board should submit its report to the Secretary; no later than 30 days after receipt, the Secretary should submit the final report, together with such comments as the Secretary determines appropriate, to the congressional defense committees. The committee has authorized \$1.0 million to be spent on personnel conducting this review, as reflected in the military personnel budget item.

**Pilot to tailor software-intensive major programs to use agile methods (sec. 883)**

The committee recommends a provision that would direct the Department of Defense to identify one major program per service and one major program acquired by a defense agency or other DOD component and use tailoring to realign those programs into smaller increments to deliver meaningfully useful capability within 180 days of realignment.

To achieve this objective the Department shall use the tools, resources, and expertise of digital and innovation organizations, such as the Defense Innovation Board; Defense Innovation Unit Experimental; Defense Science Board; Defense Digital Service; federally funded research and development centers, research laboratories, and other technical, management, and acquisition experts; the General Services Administration's Office of 18F; and the science, technology, and innovation activities established pursuant to section 217 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92).

**Review and realignment of defense business systems to emphasize agile methods (sec. 884)**

The committee recommends a provision that would direct the Secretary of Defense to conduct a comprehensive review of investments in business systems and use tailoring to realign those programs to emphasize agile methods. The committee is encouraged by the flexibility outlined in the Department of Defense's (DOD) recent instruction DOD 5000.75 regarding categorization, development, and acquisition of defense business systems. Recognizing the Department's efforts to challenge the limitations of traditional approaches to developing and acquiring defense business systems, in executing section 2222(b)(4) of title 10, United States Code, via the Department's new instruction, the committee encourages the Department to act swiftly and boldly to implement tailoring of existing investments to reflect best practices in software-intensive programs and portfolio and category management of such programs.

In conducting this review, the Secretary should use: the tools, resources, and expertise of digital and innovation organizations, including the Defense Innovation Board, Defense Innovation Unit Experimental, Defense Science Board, Defense Digital Service, federally funded research and development centers, research laboratories, and other technical, management, and acquisition experts; the General Services Administration's Office of 18F; and the science, technology, and innovation activities established pursuant to section 217 the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92).

**Software development pilot using agile best practices (sec. 885)**

The committee recommends a provision that would direct the Secretary of Defense to identify between four and eight software development activities within the Department of Defense or military departments and pilot the use of modern agile methods as well as oversight metrics appropriate for agile development.

To achieve this objective the Secretary should: direct the use of streamlined processes and available rapid solicitation procedures (and not lowest price technically acceptable or cost plus contracts); direct a vision and a road map; leverage the Digital Services Playbook; direct the use of commercial best practices for advanced computing systems; award within three months of identification, delivery of functionality; direct delivery of follow-on capability 2 weeks apart.

Personnel resourced toward these efforts should include a program manager, product owner, engineering lead, design lead, with certain qualifications best suited for agile development.

Data rights should obtain such that software is open source and such that the copyright holder provides for it to be publicly available or such that sufficient data rights enable any third party to continue or to maintain it.

Certain restrictions regarding the use of funds and contract types apply.

In conducting this review, the Secretary should use the tools, resources, and expertise of digital and innovation organizations, including the Defense Innovation Board, Defense Innovation Unit Experimental, Defense Science Board, Defense Digital Service, federally funded research and development centers, research laboratories, and other technical, management, and acquisition experts; the General Services Administration's Office of 18F; and science, technology, and innovation activities established pursuant to section 217 the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92).

The Secretary should report on commencement and completion of the pilot activity under this section.

#### **Use of open source software (sec. 886)**

The committee recommends a provision to improve the Department of Defense's management of the source code, and other technical data, associated with its custom developed computer software. This provision covers unclassified, non-defense item software and does not apply to any items covered by section 38 of the Arms Export Control Act (22 U.S.C. 2778). The provision directs the Secretary to update the Defense Federal Acquisition Regulation Supplement (DFARS) to ensure that the Department negotiates access to its own code, manage that code using open source licenses, and identify means by which it can better manage the code base associated with its legacy software. The Secretary of Defense is also directed to consult with experts from the Defense Innovation Board, DARPA, the NSA, and the Defense Digital Service when updating the DFARS and drafting additional policy or instructions on the use of open source software and to make use of existing Department of Defense open source resources where possible. The provision further directs the Department to make use of technology prize competitions for improving, repurposing, or reusing software, and to identify methods to reverse engineer Department of Defense software for which source code is unavailable.

### **Subtitle J—Other Matters**

#### **Improved transparency and oversight over Department of Defense research, development, test, and evaluation efforts and procurement activities related to medical research (sec. 891)**

The committee recommends a provision that would prohibit the Secretary of Defense from entering into a contract, grant, or cooperative agreement for congressional special interest medical research program under the Congressionally Directed Medical Research Program of the Department of Defense unless there is sufficient compliance with cost accounting standards and other specified requirements.

#### **Rights in technical data related to medical research (sec. 892)**

The committee recommends a provision that would require special interest medical research programs under the Congressionally Directed Medical Research Program of the Department of Defense to include agreements that provide the United States Government with the same rights to the technical data that apply to items or processes developed under the contract, grant, or cooperative agreement as applicable under section 2320(a)(2)(A) of title 10, United States Code, to items and processes developed exclusively with federal funds.

#### **Oversight, audit, and certification from the Defense Contract Audit Agency for procurement activities related to medical research (sec. 893)**

The committee recommends a provision that would require the Defense Contract Audit Agency to certify the adequacy of the accounting systems and perform an incurred cost audit prior to the obligation of funds for congressional special interest medical research programs under the Congressionally Directed Medical Research Program of the Department of Defense.

#### **Requirements for Defense Contract Audit Agency report (sec. 894)**

The committee recommends a provision that would establish a standard definition for the Defense Contract Audit Agency's (DCAA) reporting on its backlog. In future reporting, DCAA should include any individual incurred cost audit that has not been completed within 18 months after receipt of a qualified proposal as part of the incurred cost audit backlog.

#### **Prototype projects to digitize defense acquisition regulations, policies, and guidance, and empower user tailoring of acquisition process (sec. 895)**

The committee recommends a provision that would direct the Secretary of Defense, acting through the Under Secretary of Defense for Research and Engineering, to develop prototypes to digitize defense acquisition regulations, policies, and guidance. The committee is concerned that the Department of Defense lacks the tools to effectively tailor its acquisition practices for specific



projects. Acquisition policy itself states that policies are tailorable, but such flexibilities are rarely made use of in practice. The Department should therefore leverage a digital support tool to facilitate such tailoring in accordance with existing laws, regulations, and guidance.

**Pilot program for adoption of acquisition strategy for Defense Base Act insurance (sec. 896)**

The committee recommends a provision that would require the Secretary of Defense to establish a pilot program for the United States Army Corps of Engineers for purposes of adopting an acquisition strategy for insurance required by the Defense Base Act (32 U.S.C. 1651, et seq.) in order to minimize the cost of such insurance to the Department of Defense. The contract entered into under this authority would be effective for at least 3 years, or as considered appropriate by the Secretary. The committee notes that this provision is not intended to change policies on support of workmen's compensation or reduce compensation practices. The committee believes that the provision should result in a more efficient acquisition strategy that reduces costs to the Department of Defense.

**Phase III awards (sec. 897)**

The committee recommends a provision that would amend section 9(r)(4) of the Small Business Act (15 U.S.C. 638(r)(4)). The provision would clarify that the issuance of Phase III awards should give preference to the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) award recipients who developed the technology. This provision would also clarify that SBIR and STTR award recipients should fulfill the competition requirements under section 2304 of title 10, United States Code, for military procurement.

**Pilot program for streamlined technology transition from the SBIR and STTR programs of the Department of Defense (sec. 898)**

The committee recommends a provision that would require the Secretary of Defense to establish a pilot program for the commercialization of products and services produced by covered small business concerns developed through the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. For this pilot program, the Secretary of Defense should set up a multiple award contract for those products and services. The pilot program would terminate on September 30, 2023.

**Annual report on limitation of subcontractor intellectual property rights (sec. 899)**

The committee recommends a provision that would require the Secretary of Defense to submit to the congressional defense committees, no later than 180 days after the enactment of this Act and annually for 5 years afterwards, a report listing all contracts entered into during the previous fiscal year using procedures under part 15 of the Federal Acquisition Regulation where the prime contractor limited the intellectual property rights of one or more sub-

contractors without being required to do so by the United States Government.

**Extension from 20 to 30 years of maximum total period for Department of Defense contracts for storage, handling, or distribution of liquid fuels and natural gas (sec. 899A)**

The committee recommends a provision that would amend section 2922(b) of title 10, United States Code, to raise the maximum period of Department of Defense contracts for storage, handling, or distribution of liquid fuels and natural gas from 20 to 30 years. The committee believes that the 20-year limitation is outdated, since modern fuel storage infrastructure is capable of operating for up to 30 years and could produce substantial savings.

**Exception for Department of Defense contracts from requirement that business operations conducted under government contracts accept and dispense \$1 coins (sec. 899B)**

The committee recommends a provision that would amend section 5112(p)(1) of title 31, United States Code, to exempt Department of Defense contracts from the requirements in order to relieve the cost burden on the Department associated with these regulations.

**Investing in rural small businesses (sec. 899C)**

The committee recommends a provision that expands the pool of eligible communities for the Small Business Administration's (SBA) Historically Underutilized Business Zone (HUBZone) program and provides much-needed flexibility to rural small businesses participating in the program. This provision allows governors to directly petition SBA to designate additional rural areas as HUBZones; reduces the number of a small firm's employees required to live within a HUBZone from 35 to 33 percent; and requires SBA's HUBZone office to make a decision on a governor's application within 60 days.

**Items of Special Interest**

**Assess requirements in certain categories of business systems for consolidation to pursue cost-effective solutions**

The committee notes with concern that the military services continue to separately procure business systems in categories where requirements could be consolidated for efficiency and cost-effectiveness, such as contract writing, personnel and pay, and enterprise resource programs. Accordingly, the committee has recommended reductions in the research and development and procurement accounts for systems in these categories.

The committee encourages the Department of Defense to refocus its efforts toward common solutions in these categories. As outlined under DOD Instruction 5000.75 pertaining to defense business systems, the Department should take a portfolio approach to categories, should leverage the use of fixed-price contracting, and pursue the use of commercial-off-the-shelf solutions that minimize customization, and more frequent delivery of increments.

Leveraging the use of fixed-price contracts entails that sufficient technical risk, business process re-engineering, and software engineering work has been done prior to contract award.

Elsewhere in this Act, the committee has established a pilot program for business systems that would encourage use of commercial best practices in cost-effective agile development, and the committee recommends that the systems separately pursued by the military services in these categories be considered for participation in that pilot.

#### **Avoidance of specification of contractor facility locations in solicitations and contract requirements**

The committee notes with concern the use by the United States Department of the Army organizations of contract requirements that set specific criteria for locations of contractor facilities. The committee notes that in some cases these restrictive requirements are driven by law or policy, and that in some cases the location of a contractor's facility may be a legitimate factor in source selection designed to produce the best value for warfighters and taxpayers. However, these types of restrictions may also be used to unfairly limit competitions to favor specific contractors. Therefore, the committee directs the Secretary of the Army to identify all solicitations released in the past 2 years which specify contractor location as a requirement for contract award. The Secretary should then determine whether this requirement was justified based on statutory, regulatory, or policy requirements, or are legitimately a differentiator in determining the best value to soldiers and to the taxpayer. The committee directs the Secretary to report the results of this review and analysis to the Committees on Armed Services of the Senate and the House of Representatives, no later than June 1, 2018.

#### **Commercial off-the-shelf power supplies**

The Committee understands the implementation of commercial items in military systems offers significant opportunities for reduced development time, faster insertion of new technology, and lower life-cycle costs. Maximizing the use of commercially mature technology provides the greatest opportunity to meet program cost, schedule, and performance objectives and is consistent with an evolutionary acquisition strategy to address today's threats.

However, the committee is concerned that program managers apply a broad brush stroke to the use of commercial items in an effort to address these objectives, introducing unnecessary risk to systems in the interest of a cost or schedule tradeoff. The fact remains, commercially available power supplies remain a primary failure mode of military systems. The cost and schedule savings driven from the implementation of commercially available power supplies in military aircraft, ground vehicles, and ships is rarely worth the risk introduced to the system based on the unreliable design of commercial power supplies. Commercially available power supplies are not robustly designed to account for military environments, including the threats posed by electromagnetic interference, varying temperature and humidity conditions, or the shock and vibration loads commonly found on military platforms.

Today's industrial base does offer a range of robust power supply products specifically designed for military environments. These robust products consider design specifications in line with the rugged environments in which they'll be subjected to throughout their lifecycle. These considerations lead to a highly reliable power supply that significantly reduces this as a failure mode.

The committee encourages program managers and acquisition professionals to pay particular attention to the intended product use environment and understand the extent to which this environment differs from the commercial use environment. Further, the committee expects appropriate testing and qualification of power supplies to ensure technical risk is reduced.

### **Comptroller General evaluation of Contractor Business Systems Improvement Program**

The committee directs the Comptroller General of the United States to submit to the congressional defense committees a report evaluating the extent to which the Contractor Business Systems Improvement Program established pursuant to section 893 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (Public Law 111-383; 10 U.S.C. 2302 note) has improved the ability of the contractors to perform work on Department programs and the ability of the Department of Defense to manage and oversee contractor performance. This report is due no later than 180 days after the enactment of this Act. The evaluation should cover the following topics:

- (1) A description of how the program was implemented, including scope, roles, and responsibilities; data generated; and program activities;
- (2) An accounting of program implementation costs to the Department;
- (3) An assessment of program implementation costs to contractors, including an accounting of costs to implement and how these costs compare to the value of the contractor's total gross revenue allocated to United States Government contracts;
- (4) Identification of how the Contractor Business Systems Improvement Program led to improvements in contractor performance on programs or improved Department management and Department oversight of the programs, considering the various phase of the acquisition process (acquisition planning, award, administration, oversight, and closeout);
- (5) An assessment of the relative value and role of independent third party auditors and government auditors in assessing a contractor's business systems;
- (6) Identification of information that would be useful to the Department and contractors in assessing contractor business systems;
- (7) Identification of improvements in management and oversight in situations where contractors perform on more than one Department program;
- (8) Representative case studies; and
- (9) A description of any other matters the Comptroller General determines to be relevant.

### **Cybersecurity in modernizing the Department of Defense healthcare management system**

The Department of Defense Healthcare Management System Modernization (DHMSM) program is designed to support a continuum of medical care for military personnel and enable healthcare personnel to easily access service members' medical records worldwide. In fiscal year 2017, the Department successfully fielded DHMSM to a small, outpatient-only hospital at Fairchild Air Force Base. The committee notes that the Program Executive Office DHMS has worked closely with both the Department's medical community and the DHMSM contractor to re-engineer the Department's medical business processes to adapt to the contractor's existing, off-the-shelf medical business software solution. The committee also notes that the Department's swift deployment of capability to Fairchild demonstrates the Department's progress in implementing best practices for IT acquisition. The committee strongly approves of these actions as they reduce risk and save time and money for the Department.

The committee is encouraged by the recent decision that the Department of Veterans Affairs will use Department of Defense's Military Health System (MHS) Genesis as its future electronic health record system, as this represents an opportunity for significant efficiencies and to ease transition and interoperability between service members' and veterans' records who are entering the VA's medical system.

The committee notes that the program has funded extensive cybersecurity testing and this is appropriate for a system that will eventually store medical and financial information for over 9 million DOD beneficiaries worldwide. However, the committee is concerned that many of the cybersecurity problems discovered to date have not yet been fixed. The committee is concerned it would put the medical records of DOD personnel — and, given the VA's recent decision to use MHS Genesis, potentially veterans as well—at unnecessary risk, and accordingly the committee strongly encourages the Department to address cybersecurity vulnerabilities prior to additional deployments.

### **Cybersecurity Regulation—Small Business Compliance Assistance**

The committee supports efforts by the Department of Defense to develop a new cyber security and incident reporting process for defense contractors with access to controlled unclassified information stored on or processed by contractor information systems, as required by Section 914 of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–239). The committee is aware, however, that the Department's implementation of this requirement through the new contracting clause on Safeguarding Covered Defense Information and Cyber Incident Reporting in DFARS 252.204–7012 has been a cause of concern and confusion from many in industry, including small businesses and businesses for which defense revenue is a small portion of their overall operations. The committee is aware of the Department's efforts to assist industry with implementation of this new guidance, but remains concerned by the degree to which small businesses and other non-

traditional defense contractors are struggling to meet this requirement. Therefore, the Committee urges the Department to collaborate with universities or other organizations to provide low-cost cybersecurity services to small businesses, as recommended by the U.S. Small Businesses Administration Office of Advocacy in a public comment published on February 29, 2016, and increase outreach efforts to small businesses regarding their obligations under the regulation.

The committee further directs the Secretary of Defense to review industry compliance with the DFARS clause, including particular compliance challenges among small businesses producing commercial items with defense revenue as only a small share of overall revenue. The review should also assess the efficacy of the Department's efforts to assist industry with implementation and should include input from affected contractors, including both prime and subcontractors. Finally, the review should consider and make a recommendation regarding any delay or exception to the December 31, 2017 compliance deadline and the associated impact on both the Department's access to the industrial base and cyber and information security standards. The Secretary shall brief the armed services committees of the House and Senate on the results of the review no later than October 15, 2017.

#### **Defense Acquisition University research collaboration with academia**

The committee notes that the Defense Acquisition University performs some research on acquisition policy issues in order to improve training of acquisition professionals and to support development of innovative acquisition models and practices. The committee believes that these activities should be expanded and better connected with research efforts and expertise in academia. Therefore, the committee directs the Director of the Defense Acquisition University to develop, maintain, and promulgate a list of high priority academic research and analysis topics on defense acquisition policy issues. The intent of this list is to make academic and government-affiliated researchers aware of the topics that are of particular concern to the defense acquisition community and to guide their research to areas that will have a higher likelihood of impact. The committee notes that the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) provided specific authority for the Department of Defense to use funds within the Defense Acquisition Workforce Development Fund to support some of these types of research activities and that section 217 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) authorized a program of science and technology activities that were in part intended to leverage research capabilities to improve acquisition policies and practices.

#### **Defense Innovation Unit Experimental**

The committee applauds the Defense Innovation Unit Experimental (DIUx) for accelerating the adoption of private sector innovations by the Department. The services DIUx offers are important to accessing technological advances from nontraditional defense

contractors, for whom the speed of defense contracting presents too great a hurdle to do business.

The committee encourages DIUx to continue to support Department of Defense missions by providing flexible and streamlined acquisition of new technologies. The committee directs the Department to consider expanding the mission of the Unit to include new physical locations at which DIUx may post reservists as in the model piloted in Austin, Texas, with a specific emphasis on evaluating locations that would allow a close collaboration with Department of Defense laboratories.

#### **Department of Defense exemptions from certain regulations**

The committee directs the Secretary of Defense to review, no later than January 1, 2018, the costs and benefits of exempting purchases by the Department of Defense and the National Nuclear Security Administration from the following executive orders and presidential memorandum as necessary: (1) Executive Order 13706 (Establishing Paid Sick Leave for Federal Contractors); (2) Executive Order 13655 (Non-Retaliation of Disclosure of Compensation Information) (3) Executive Order 13655 (Non-Retaliation for Disclosure of Compensation Information); (4) Presidential Memorandum: Advancing Pay Equality Through Compensation Data Collection; (5) Presidential Memorandum: Updating and Modernizing Overtime Regulations; (6) Memorandum for the Heads of Executive Departments and Agencies on Contractor Tax Delinquency; (7) Executive Order 13495 (Nondisplacement of Qualified Workers Under Service Contracts); (8) Executive Order 13494 (Economy in Government Contracting); (9) Executive Order 13496 (Notification of Employee Rights Under Federal Labor Laws); and (10) Executive Order 13502 (Use of Project Labor Agreements for Federal Construction Projects).

The committee directs the Secretary of Defense to recommend exemptions or changes as necessary to best support efficient and effective execution of Department of Defense missions.

#### **Exchanges with industry before receipt of proposals**

Consistent with existing acquisition regulations and committee initiatives, the committee believes that exchanges of information among all interested parties, from the earliest identification of a requirement through receipt of proposals, should be highly encouraged. Any exchange of information must be consistent with procurement integrity requirements so as to avoid creating unfair advantages for potential proposers. The committee believes that the purpose of exchanging information is to improve the understanding of DOD requirements and industry capabilities, thereby allowing potential offerors to judge whether or how they can satisfy the DOD's requirements, and increasing DOD's knowledge of what solutions industry could offer to satisfy the requirement, enhancing the ability to obtain quality supplies and services, at reasonable prices, and increase efficiency in proposal preparation, proposal evaluation, negotiation, and contract award.

### **Impact of Indefinite Delivery Indefinite Quantity (IDIQ) contract vehicles on small businesses and innovation**

The committee is concerned about the effect of the Department's use of the One Acquisition Solution for Integrated Services (OASIS) multiple award, Indefinite Delivery Indefinite Quantity (IDIQ) contract vehicles on the small business community and on innovation. The structure and the use of the OASIS vehicles may be creating disincentives for small businesses, reducing competition and negatively affecting innovation.

The committee is concerned OASIS does not have a consistent or transparent process for on boarding or off boarding companies, nor does it have a consistent review of companies currently on the vehicle. OASIS does not contain a pathway for subcontractors to gain the experience necessary to compete to on board as a prime contractor, and incumbent companies not already on the vehicle are unable to compete for contracts they currently hold. Finally, the committee is concerned OASIS requirements may be too burdensome for some small businesses to meet reasonably. Understanding IDIQ contract vehicles may offer efficiencies to the Department; the committee believes these efficiencies must be balanced with support for the small business community and the innovation that community can offer.

The committee directs the Secretary of Defense to analyze and submit to the congressional defense committees a report on the effect of Department's use of the OASIS IDIQ contract vehicles on the small business community and on innovation.

### **Increase in licensing fees and the negative competitive impact on the services sector**

The committee is concerned with the recent surge in licensing fees being charged to acquire necessary parts and components used in the maintenance of the military's aging aviation and ground fleet. This increase in licensing fees is unnecessarily increasing costs to the government and having a negative impact on competition within the services sector. The committee strongly recommends that the government negotiate data rights and intellectual property costs directly with the original equipment manufacturers to encourage competition to achieve the best value for the government.

### **Integrity of patented intellectual property in reverse engineering programs**

The committee supports the Defense Logistics Agency's (DLA's) reverse engineering program but is concerned that small business intellectual property is not being adequately protected, especially in those cases where end items are developed without federal funding and are patented. The Committee directs the Comptroller General of the United States to conduct a review of DLA's application of reverse engineering. The review will determine: if DLA has adequate measures in place to protect small business intellectual property; if DLA is providing patented materials to third-party contractors; if Department of Defense Instruction 4140.57 requires modification to provide guidance to protect small business intellectual property.



**Notice of cost-free federal procurement technical assistance in connection with registration of small business concerns in procurement systems**

The Director of the Defense Logistics Agency, in consultation with the Administrator of General Services and the Director of the Office of Management and Budget, shall establish procedures to ensure that any notice or direct communication regarding registration of a small business concern in a procurement system contains information about cost-free federal procurement technical assistance services that are available through the Small Business Administration, Procurement Technical Assistance Centers of the Defense Logistics Agency, the Department of Commerce (including the Minority Business Development Agency), and other Federal agencies and programs.

**Ongoing improvement to the management of the National Technology and Industrial Base**

The committee strongly supports international cooperative defense agreements that serve to reduce barriers and enhance collaboration between the United States and our strongest allies. The committee is concerned, however, that even following the conclusion of these agreements certain barriers remain that restrict cooperation on an industrial level, limiting the exchange of information, data, and technology between domestic industry and our closest allied industrial partners participating in the national technological and industrial base. The committee believes that enabling such collaboration would contribute significantly to the successful development, production, and fielding of the highest-quality systems at the most reasonable costs. Specifically, the committee is concerned that certain barriers to cooperation may be discouraging domestic industry from fully leveraging mature systems and technology solutions already developed by our allies that could benefit the U.S. and allied operating community, resulting in unnecessary, costly, and redundant development initiatives. These barriers also impact the ability of those countries that are part of the U.S. national technology and industrial base to modify U.S.-origin equipment, preventing proper integration and uniformity across their armed forces and discouraging them from purchasing equipment from the United States.

The committee notes that the Department of Defense is currently undertaking a review, in consultation with interagency partners, of various authorities, requirements, and their implications, related to National Technology and Industrial Base countries. The committee directs the Secretary of Defense to brief the relevant congressional defense committees no later than 30 days after completion of the review or no later than 180 days after the enactment of this Act.

The committee further directs the Secretary of Defense to ensure that this review addresses:

- (1) The manner in which National Technology and Industrial Base countries may transfer controlled material within the National Technology and Industrial Base, including once materials have been exported from the United States to one of these countries;

(2) The mechanisms by which National Technology and Industrial Base countries can raise and address concerns in a multilateral forum; and

(3) The extent to which the authorities and obligations of National Technology and Industrial Base countries conflict with existing bilateral treaties.

#### **Procurement Technical Assistance Center transitional cost share**

The committee recognizes the valuable role of Procurement Technical Assistance Centers (PTACs) in assisting small businesses to compete in the defense marketplace. The Procurement Technical Assistance Program (PTAP) was authorized in 1985 and is administered by the Defense Logistics Agency (DLA). DLA provides funding through PTAP on a cost share basis. The federal cost share is limited to no more than 50 percent, unless a PTAC provides services in a distressed area, as defined by regional unemployment rates, in which case the government cost share is limited to no more than 75 percent. The Fiscal Year 2014 National Defense Authorization provided DLA discretion to fund up to 65 percent of program costs for PTACs serving non-distressed service areas but DLA has not yet used the discretion to do so.

The committee is concerned that for PTACs serving regions transitioning from distressed to non-distressed status, a reduction in government cost share from 75 percent to 50 percent would have a significant negative impact on PTAC activities and undermine small business activity in regions that are only beginning to experience reduction in unemployment. This creates uncertainty for those PTACs which may be required to reduce small business assistance which could serve to increase unemployment in the impacted region. The committee urges DLA to use existing authority to provide up to a 65 percent cost share to PTACs serving non-distressed service areas that within the prior three years served distressed service areas, prioritizing applications that have the highest likelihood of delivering best value to the Department of Defense.

#### **Program Management Report**

The committee is interested in how the Department of Defense can incorporate nationally accredited standards for project, program, and portfolio management—as required by Public Law 104–113 and Public Law 114–264—into its existing project, program, and portfolio management policy, guidance, and instruction, as well as how it may replace or revise existing policy, guidance, and instruction related to project, program, and portfolio management.

The committee directs the Comptroller General of the United States to deliver, not later than 90 days after enactment, a report to Congress on the adoption of project, program, and portfolio management standards within the Department of Defense.

#### **Report on Monopolistic Practices**

The Defense Logistics Agency is responsible for achieving fair and reasonable prices for noncompetitive spare parts required for Department of Defense equipment. The committee is concerned about allegations that, in some cases, the Defense Logistics Agency

is paying excessive prices for noncompetitive spare parts without conducting thorough cost analyses. The committee is also aware of allegations that some contractors who provide spare parts to the government may be disguising their cost structures from procurement officers, in effect acting as hidden monopolists, decreasing competition and increasing prices to the government.

The committee therefore directs the Comptroller General of the United States to conduct a study of Department of Defense and Defense Logistics Agency processes for purchasing noncompetitive spare parts and make recommendations for how to improve transparency and reporting in this area. The committee further directs the Comptroller General to provide a final report to the congressional defense committees by February 1, 2018, on the results of the study.

### **Strategic Capabilities Office Support**

The committee is concerned that the Department of Defense acquisition process has proven ineffective for on-time procurement due to institutional reliance on military development that does not capitalize on the private sector, which is the driving force of innovation today and for the future.

Furthermore, the committee recognizes that the Strategic Capabilities Office (SCO) is demonstrating promising concepts and systems with innovative programs that average completion in three years using a comparatively small budget.

In order to enhance Department of Defense acquisition, the committee encourages the transition of technology developed by SCO for rapid fielding of new capabilities, the adoption of SCO culture of both competition and failing without fear of punishment, as well as the application of SCO lesson's learned to improve the Department of Defense acquisitions process.

### **Supporting the Development and Commercialization of National Security Technologies**

The committee supports the efforts of the Department of Defense's MD5 National Security Technology Accelerator Program to build new partnerships to connect innovators and entrepreneurs with the education, networks, and resources to capitalize on Defense-inspired technologies to advance U.S. security and economic priorities. The Committee recognizes the national security imperative for developing a network of innovators and entrepreneurs both inside and outside of the Department of Defense equipped with the incentives, expertise, know-how, and resources required to successfully develop, commercialize, or apply technology relevant to the military. The Committee recommends continued support of the MD5 National Security Technology Accelerator's activities, further building and scaling the necessary components to support civil military partnerships in technology research and development.

### **Use of Commercial Services**

The committee notes that for some services, like transportation and communications, security and reliability requirements of the Department of Defense are often more strict than those of the commercial market. In May 2017, TRANSCOM Commander General

Darren McDew testified during a Senate Armed Services Committee hearing on the distinct vulnerability USTRANSCOM faces because the majority of the command's transportation data resides and travels through the unsecure commercial internet. In his testimony Commander McDew stated, "I do not have the authority to compel a commercial industry to bring their standards up to the level that we have inside. Nor are we assured exactly what that standard is. We do know that inside the Department of Defense, U.S. CYBERCOM and others have established a standard that we believe that our networks are protected. Outside, I guarantee you that every CEO thinks that they have the level that they think they need. Reconciling what they think and what reality is, is important." The Committee urges the Department of Defense to carefully balance requirements, risk, and cost when procuring commercial services, especially in circumstances where the Department requires higher standards than are generally available in the commercial marketplace. While commercial service providers can offer innovation, efficiencies, and cost savings, these benefits should not be to the detriment of security or other military unique standards.

## **TITLE IX—DEPARTMENT OF DEFENSE ORGANIZATION AND MANAGEMENT**

### **Subtitle A—Office of the Secretary of Defense and Related Matters**

#### **Chief Management Officer of the Department of Defense (sec. 901)**

The committee recommends a provision clarifying and expanding the responsibilities of the Chief Management Officer of the Department of Defense. The committee notes the upcoming establishment of the Chief Management Officer position as required by the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). Last year’s legislation established the role with the mission of managing the business operations of the Department, through the establishment of policies on, and supervision of, such operations. The Chief Management Officer was also charged with serving as the principal advisor to the Secretary of Defense on specified activities and programs, and given explicit authority to direct the secretaries of the military departments and the heads of all other elements of the Department with regard to business operations.

The committee remains committed to an empowered and active Chief Management Officer, exercising these authorities across the Department to transform business operations of all components. The committee recommends this provision to create three areas of expanded authority for the Chief Management Officer, including: (1) Oversight, direction and control of the business-focused defense agencies and field activities; (2) The assumption of some Chief Information Officer roles for the purpose of federal statute and in business systems; and (3) Coordination of enterprise governance and utilization of data for management purposes.

The committee notes that defense agencies and field activities require increased oversight in order to ensure effective and efficient performance. The current structure of assignment to staff principals within the Office of the Secretary of Defense has led to insufficient oversight for the agencies’ performance and for their ability to support the Department in core functions. Therefore, the committee recommends a provision that would assign to the Chief Management Officer (upon establishment of the position) the responsibility for oversight, direction and control of the business-support Defense Agencies and Field Activities identified by the Secretary of Defense by January 15, 2018. Of course, principal staff assistants aligned to these organizations would continue to be closely connected to their operations. The Secretary of Defense shall make arrangements for the transfer of these entities to be effected with minimal disruption to their functioning and broader support of the

Department. The Secretary shall submit to the congressional defense committees a report on the specified elements of this transfer. Within the provision, 'Shared business services' is meant to indicate those activities that constitute the business operations of the Department of Defense, and not those activities that are directly tied to specific technical missions (e.g., intelligence, threat response).

The committee notes that the current Chief Information Officer is expected to perform roles ranging from traditional Chief Information Officer functions to warfighting capabilities like offensive cyber and technical operations. However, decisions related to business systems could be more effectively handed by the entity coordinating business management and reform across the Department. Therefore, the committee recommends the shifting of several major Chief Information Officer functions to the Chief Management Officer organization, and consolidation of the rest in a Chief Information Warfare Officer.

Further, the committee notes that true transformation of the Department's business operations will require the availability and use of large amounts of data from a number of diverse systems across the Department. The committee directs the Chief Management Officer to develop an enterprise-level plan for data governance for the Department, with a particular emphasis on the gathering and usage of data with clear management implications. Subject to the authority, direction and control of the Secretary of Defense, the Chief Management Officer shall have the authority to direct all Department elements to share their business operations and/or management-related data in order to inform the business transformation mission.

The committee's intent is not for the addition of large internal bureaucracy to manage these new responsibilities, and expects the Chief Management Officer to instead gather those personnel currently fulfilling these roles within the Office of the Secretary of Defense and the Chief Information Officer organization. However, the committee acknowledges the overriding importance of fundamental business transformation across the Department, and expects the Department to use the direct hiring authority for management experts referenced elsewhere in this bill to encourage a robust capability aimed at improving business management across the enterprise.

**Realignment of responsibilities, duties, and powers of Chief Information Officer of the Department of Defense (sec. 902)**

The committee recommends a provision that would amend section 142 of title 10, United States Code, concerning the Chief Information Officer (CIO), by elevating the role and realigning its authorities and responsibilities to two other officials. This provision would establish a Chief Information Warfare Officer (CIWO) who would assume responsibility for defense-wide information warfighting functions. The roles and responsibilities of the current CIO concerning business systems and statutory requirements not specified within the CIWO's purview would fall to the Chief Management Officer (CMO) of the Department of Defense.

The CIWO would be a presidentially appointed, Senate-confirmed position that reports directly to the Secretary of Defense and is responsible for all matters relating to the information environment of the Department of Defense. The CIWO would have the authority to establish policy for and direct the secretaries of the military departments and the heads of all other elements of the Department on matters concerning: (1) Space and space launch systems; (2) Communications networks and information technology (other than business systems); (3) National Security Systems; (4) Information assurance and cybersecurity; (5) Electronic warfare and cyber warfare; (6) Nuclear command and control and senior leadership communications systems; (7) Command and control systems and networks; (8) The electromagnetic spectrum; (9) Positioning, navigation, and timing; and (10) Any other matters assigned to the Chief Information Officer of the Department of Defense, not relating to business systems or management, in section 2223 and 2224 of title 10, United States Code, sections 11315 of title 40, United States Code, and sections 3506 and 3544 of title 44, United States Code.

The provision would also establish the CIWO with the authority, direction, and control over the missions, programs, and organizational elements pertaining to the Information Assurance mission (formally the Information Directorate) of the National Security Agency. The provision would assign the CIWO with the authority, direction, and control over the Defense Information Systems Agency and with responsibilities for policy, oversight, guidance, and coordination for all Department matters relating to electromagnetic spectrum.

The provision would specify that the authority of the CIWO to direct the secretaries includes: (1) Playing a significant and directive role in the decision processes for all annual and multi-year planning, programming, budgeting, and execution decisions, including the authority to realign relevant elements of the budget requests of the military departments; (2) Reviewing and approving any funding request or reprogramming request; (3) Ensuring that the military departments comply with Government and Department standards; (4) Reviewing and approving the appointment of any other employee who functions in the capacity of a Chief Information Officer or a Chief Information Warfare Officer for any component within the Department (except for the Chief Management Officer of the Department of Defense); and (5) Participating in all relevant meetings, management, and decision-making forums. The provision would also assign to the CIWO the authority to require the military departments to comply with U.S. Government and Department standards.

The provision would establish the CIWO as the Principal Cyber Advisor to the Secretary of Defense and the Principal Department of Defense Space Advisor. The provision would also establish collaborative mechanisms with other relevant Department entities for developing and overseeing the execution of offensive and defensive information warfare strategies, plans, programs, and operations.

The committee has concerns that the existing organizational construct and resourcing authorities within the Department of Defense for space, cyber, and information are not commensurate with the organizational structure and resourcing required to meet the de-

mands of 21st century warfare. Information is central to modern warfare, yet it is treated as an afterthought in a Department postured to man, train, and equip forces to operate in the land, air, and sea domains. As a result, the space and cyberspace domains and the overall information environment have failed to receive the dedicated focus and prioritization required to meet the demands of a rapidly changing battlefield centered on the transmittal, surety, exploitation, and dominance of information.

Moreover, the committee believes that the existing authorities of the Chief Information Officer (CIO) are insufficient to address the multitude of management challenges across the Department of Defense information environment. Countless efforts across the Department of Defense are plagued by poorly enforced standards and a CIO position whose policy and guidance are largely considered as advisory by the Services. As a result, each Service continues to pursue disparate information technology and business systems efforts. In some instances, such as the Joint Information Environment, two of the Services have largely agreed to adopt standards for implementation, yet the Navy has only agreed to support the “spirit and intent” of this foundational effort for implementing a defendable Department-wide infrastructure.

The information environment challenges do not end with the acquisition of information technology. Space and cyber are equally under-prioritized and require an organizational construct that recognizes information dominance as a critical element of warfighting.

With respect to space, numerous studies over the past 2 decades have exposed issues with the programmatic decision-making that is fragmented across more than 60 offices in the Department of Defense. Funding for space programs within the Air Force is also near 30-year lows, while the threats and our reliance on space are at their highest and growing. The Air Force was also unable to prioritize and fund \$772.0 million worth of space priorities in its fiscal year 2018 budget request, opting instead to include those requirements on an unfunded priorities list.

Similarly in cyber, the Cyber Mission Force is scheduled to achieve Full Operational Capability for manning and training. However, the funding necessary to equip that force has not been fully budgeted for by the Services. As a result, the Department of Defense is on the path to fielding a hollow cyber force: 6,200 trained personnel who lack the tools required to protect, deter, and respond to malicious cyber behavior. The Services failed to prioritize a combined \$700.0 million in their fiscal year 2018 budget requests, instead opting to shift those burdens to the unfunded requirements list. Some of the Services have also demonstrated an inability to manage their people within the Cyber Mission Force, which is especially alarming to the committee given the level of importance being placed on building the force.

Until there is an official in the Department of Defense who can prioritize these missions, the committee is concerned that the priorities for space, cyber, and information will never receive the resourcing and senior level attention necessary to compete against the parochial interests of each individual Service. The Services should be postured to achieve dominance in their respective unique domains; however, tradeoffs should be considered against Depart-



ment-wide resourcing, not as a subset forced to compete against the parochial tendencies of each of the Services.

The committee believes the establishment of the CIWO should require very few, if any, additional personnel. The committee believes personnel should be resourced from offices and personnel currently within the office of the CIO or among other offices, such as that of the Principal Department of Defense Space Advisor and Principal Cyber Advisor, currently scattered across the Department in various existing stovepipes.

**Clarification of the authority of the Under Secretary of Defense for Acquisition and Sustainment with respect to service acquisition programs for which the service acquisition executive is the milestone decision authority (sec. 903)**

The committee recommends a provision that would amend section 901 of title 10, United States Code, to clarify the authority of the future Under Secretary of Defense for Acquisition and Sustainment (USD (A&S)) under section 133b(b) of title 10, United States Code, with respect to service acquisition programs for which the service acquisition executive is the milestone decision authority.

**Executive schedule matters relating to Under Secretary of Defense for Acquisition and Sustainment (sec. 904)**

The committee recommends a provision that would establish the Under Secretary of Defense for Acquisition and Sustainment (A&S) as an Executive Level III position. When the committee reorganized the office of Acquisition, Technology, and Logistics, the Under Secretary for Research and Engineering (R&E) was established as an Executive Level II position, which is one step below a cabinet official, in order to prioritize innovation efforts which had become moribund in recent years. The other Under Secretaries in the Office of the Secretary of Defense are Executive Level III, which is appropriately one step below the Deputy Secretary of Defense. This aligns the Under Secretary of Defense for A&S with the level of the other Under Secretaries.

**Technical amendment (sec. 905)**

The committee recommends a provision that would amend section 901(a) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) in order to repeal the section regarding service of the incumbent Under Secretary of Defense for Acquisition and Technology relative to the position of the Under Secretary of Defense for Research and Engineering.

**Redesignation of Under Secretary of Defense for Personnel and Readiness as Under Secretary of Defense for Personnel and Health (sec. 906)**

The committee recommends a provision that would amend section 136 of title 10, United States Code, to redesignate Under Secretary of Defense for Personnel and Readiness as the Under Secretary of Defense for Personnel and Health and make necessary conforming amendments.

**Qualifications for appointment and additional duties and powers of certain officials within the Office of the Under Secretary of Defense (Comptroller) (sec. 907)**

The committee recommends a provision that would amend section 135 of title 10, United States Code, to require individuals appointed to the positions of Under Secretary of Defense (Comptroller) and Deputy Chief Financial Officer to have significant financial management service, which includes having previously served as the chief financial officer, deputy chief financial officer, or an equivalent executive-level position with direct authority for financial management in a large public- or private-sector organization that received an audit with an unqualified opinion on its financial statements.

**Five-year period of relief from Active Duty as a commissioned officer of a regular component of the Armed Forces for appointment to Under Secretary of Defense positions (sec. 908)**

The committee includes a provision that would establish the requirement for a 5-year separation from Active Duty as a commissioned officer before serving in a position of Undersecretary of Defense. The current requirement currently exists for three of the Under Secretaries (Research and Engineering; Acquisition and Sustainment; and Policy).

**Redesignation of Principal Deputy Under Secretaries of Defense as Deputy Under Secretaries of Defense and related matters (sec. 909)**

The committee recommends a provision that would amend section 137a of title 10, United States Code, to redesignate all Principal Deputy Under Secretaries of Defense as Deputy Under Secretaries of Defense and would increase the authorized number of Deputy Under Secretaries of Defense from five to six. This amendment reflects the elimination of subordinate Deputy Under Secretaries and reflects that these positions are the immediate and senior subordinate to the Under Secretaries of Defense.

Additionally, this provision would designate the newly authorized Deputy Under Secretary of Defense for Research and Engineering and the Deputy Under Secretary of Defense for Acquisition and Sustainment as two of the authorized positions, consistent with the Office of the Secretary of Defense reorganization provisions in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

**Reduction of number and elimination of specific designations of Assistant Secretaries of Defense (sec. 910)**

The committee recommends a provision that would amend section 138(a)(1) of title 10, United States Code, to reduce the total number of authorized Assistant Secretaries of Defense from 14 to 13, and eliminate specific designation for all but two.

**Limitation of maximum number of Deputy Assistant Secretaries of Defense (sec. 911)**

The committee recommends a provision that would set the maximum number of authorized Deputy Assistant Secretaries of Defense to 46.

**Modification of definition of OSD personnel for purposes of limitation on number of Office of Secretary of Defense personnel (sec. 912)**

The committee recommends a provision that would amend section 143(b) of title 10, United States Code, to include contractor personnel working in the Office of the Secretary of Defense (OSD) in the total number of OSD personnel, for purposes of adhering to the reduction in headquarters mandated by section 903(a) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

**Subtitle B—Organization of Other Department of Defense Offices and Elements**

**Reduction in authorized number of Assistant Secretaries of the military departments (sec. 921)**

The committee recommends a provision that would amend section 3016(a), section 5016(a), and section 8016(a) of title 10, United States Code, to reduce the number of authorized Assistant Secretaries of each of the services by one.

**Qualifications for appointment of Assistant Secretaries of the military departments for financial management (sec. 922)**

The committee recommends a provision that would amend sections 3016, 5016, and 8016 of title 10, United States Code, to require individuals appointed to the positions of Assistant Secretary of the military departments for financial management to have significant financial management service, which includes having previously served as the chief financial officer, deputy chief financial officer, or an equivalent executive-level position with direct authority for financial management in a large public- or private-sector organization that received an audit with an unqualified opinion on its financial statements.

**Subtitle C—Organization and Management of the Department of Defense Generally**

**Reduction in limitation of number of Department of Defense SES positions (sec. 931)**

The committee recommends a provision that would amend section 1109(a)(1) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to reduce the number of Department of Defense Senior Executive Service positions from 1,260 to 1,140.

**Manner of carrying out reductions in major Department of Defense headquarters activities (sec. 932)**

The committee recommends a provision that would amend section 346 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) to require that the reductions to headquarters activities made pursuant to that section be carried out after a consideration of current manpower levels, historic manpower levels, mission requirements, and anticipated staffing needs of such headquarters activities necessary to meet national defense objectives. The committee is concerned that the Department of Defense will execute the reductions required by section 346 in a uniform, or so-called “salami-slice” manner, divorced from analysis and critical assessment of national defense objectives, and the differing relative responsibilities between headquarters, particularly the combatant commands. For example, the committee is aware that manpower levels at Pacific Command have actually decreased since 1975, even as the threats in that region have grown, resulting in the President in 2011 identifying the need to intensify the U.S. presence there, stating his goal that “the United States will play a larger and long-term role in shaping this region and its future.” The committee, consequently, believes it imperative that the Department assess manpower requirements critically, and use the headquarters reduction requirement of section 346 to redistribute resources, rather than to mindlessly meet a statutory requirement.

**Certifications on cost savings achieved by reductions in major Department of Defense headquarters activities (sec. 933)**

The committee recommends a provision that would amend section 346 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) to require that the Director of Cost Assessment and Program Evaluation certify mandated cost savings estimated for headquarters reductions.

**Direct hire authority for the Department of Defense for personnel to assist in business transformation and management innovation (sec. 934)**

The committee recommends a provision that would grant the Secretary of Defense the authority to appoint a small group of individuals to assist the Department in management innovation. The provision specifies that the appointments covered in this section must be completed on a term basis, specified at the time of the appointment, and that each must have experience in management and organizational change.

The committee strongly encourages that this authority be used to create a small organization focused on business transformation across the Department of Defense, outside of the line management of defense agencies. The committee intends that these personnel be used to recommend opportunities to eliminate waste and inefficiency, reduce the cost of Department of Defense operations, and consolidate functions where appropriate.

The committee expects this provision to be used in conjunction with section 913 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) and section 1111 of the Na-

tional Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92).

**Data analytics capability for support of enhanced oversight and management of the Defense Agencies and Department of Defense Field Activities (sec. 935)**

The committee recommends a provision that would require the Deputy Chief Management Officer (and successor positions) to establish and maintain a data analytics capability for oversight and management of the defense agencies and field activities. This capability would include an accurate tabulation of the expenditures by each of these entities on personnel, an accurate tabulation of personnel within each entity, and a clear mapping of the functions being performed by these agencies and the resources allocated against each. This capability would be informed by data gathered from the defense agencies and field activities, as well as elsewhere within the Department of Defense. An interim report on the standup of this capability would be required to be submitted to the congressional defense committees, as well as a final report due no later than December 31, 2020.

**Enhanced use of data analytics to improve acquisition program outcomes (sec. 936)**

The committee recommends a provision that would require the Secretary of Defense, acting through the Deputy Chief Management Officer (and successor positions), in coordination with the Armed Forces and the Under Secretary of Defense for Acquisition, Technology and Logistics (and successor positions), to establish a set of activities that use data analysis, measurement, and other evaluation-related methods to improve the acquisition outcomes of the Department of Defense and enhance organizational learning.

**Pilot programs on data integration strategies for the Department of Defense (sec. 937)**

The committee recommends a provision that would require that the Secretary of Defense, acting through the Chief Management Officer, to develop data integration strategies to address high priority management challenges of the Department. The committee notes that many of the challenges currently faced by the Department are driven by the lack of shared information and data governance for relevant actors. Challenges to address would include data related to the budget, to logistics management, and to personnel security and insider threat. The Secretary would be responsible for submitting a report on the outcomes of these pilot programs within 180 days of the enactment of this act.

Broadly, the committee encourages the Department to consider developing data strategies that cover all relevant components, to ensure that sharing of information occurs and that both collection and analysis of data are valued and contribute toward management of the component.

### **Background and security investigations for Department of Defense personnel (sec. 938)**

The committee recommends a provision that would require the Secretary of Defense to take actions to allow the Defense Security Service to conduct before October 1, 2020 all personnel background and security investigations adjudicated by the Consolidated Adjudication Facility of the Department of Defense (DOD). This provision is based on the committee's judgement that the current situation of massive clearance delays has serious adverse effects on national security and must be addressed in order to avoid any further damage to DOD's readiness.

The background investigation process is broken. It is composed of decades-old security practices, is grossly inefficient, and has costs that have been rising steadily and substantially for years. In addition, persistent mismanagement and ill-considered changes to standards have resulted in a very large and rapidly growing backlog. In sum, the current situation has led to accumulation of huge indirect costs to customers like DOD; operational risks, as personnel are idled while waiting for clearances; and a degradation in workforce quality, as high-performing personnel with the best alternatives are unlikely to wait for many months to begin work for the U.S. Government. The committee lacks confidence that the current owner of the background investigation mission has the will, culture, or capability to effect vital reforms in current processes and practices.

Current practices are mired in outdated methods and non-digital, non-automated technology. Expensive human investigative resources are consumed with fact checking and data collection functions (ripe candidates for automation) as opposed to investigating substantive issues about the actions and circumstances of prospective and current employees.

A better model has been clear to policymakers for at least a decade: a "continuous evaluation" concept based on automated access to a wide array of digital sources and records. Constant access and reporting from these data sources has been demonstrated to turn up greater volumes of more serious issues than current practices; expensive human resources would then be devoted to investigating concerns arising from the continuous evaluation process. Derogatory information that crossed adjustable thresholds of seriousness would be automatically "pushed," as alerts, to analysts for action. For current employees, information from modern insider threat programs would become an important component of the continuous evaluation process, providing information from counterintelligence, cybersecurity, human resources, physical security, and law enforcement databases and investigations. These continuous vetting techniques would eliminate the need for infrequent but expensive "periodic re-investigations" (PRs) that are mandated today—though under the current system, PRs are so infrequent that threats are missed for long periods.

The executive branch made policy decisions starting a decade ago to shift to this continuous evaluation approach but has achieved little actual progress. One factor contributing to this inertia has been the position of the Security Executive Agent, a function assigned to the Director of National Intelligence (DNI). The Office of the DNI

has supported the continuous evaluation (CE) model but only as an add-on or augmentation to existing practices: not as a substitute. While CE promises to be more effective and efficient than current practices, costs would soar if CE is conducted in addition to what is done today instead of serving as a true replacement.

DOD is already paying over \$1.0 billion annually for background investigations; the backlog exceeds 650,000 cases and is growing at a rate of 10,000–20,000 per month. The Government is not going to truly address this backlog unless it substitutes technology and smart risk-based decision-making for labor-intensive activities of questionable relative value. The committee is prepared to consider legislative change to investigative requirements applicable to the Department of Defense if the executive branch does not address this policy problem swiftly on its own.

The committee believes that DOD must take back responsibility for background investigations of its employees and contractors and change how these investigations are conducted. The committee believes that this is the best way to ensure effective oversight by the congressional defense committees of this troubled program. At the same time, the committee believes it would be a grave mistake to import back into DOD the existing OPM organization, culture, and practices. A fresh start is needed that is built incrementally on existing CE initiatives and encompasses a phased transition of responsibility from OPM to DOD.

The committee also fully realizes that there is no quick fix for the immense problems DOD faces and that the backlog and the cost of doing business could get worse before they can get better. The committee continues to have serious concerns about the ability of DOD to manage the development of a robust CE information technology (IT) capability. The committee also continues to be at least equally concerned about DOD's ability to orchestrate the creation of an integrated, automated, enterprise-wide insider threat detection and analysis capability. The committee's apprehension is that the Department's leadership has not realized the level of resource commitment and time that will be involved in creating digital access and analysis capabilities to the data collected and held by all the different functional organizations—counterintelligence, personnel security, human resources, physical security, cybersecurity, law enforcement, intelligence, etc.—across the Services, combatant commands, Joint Staff, the Office of the Secretary of Defense, and all the defense agencies and field activities. This is an organizational management challenge as well as a technical challenge of the first order. The committee expects the Department to take advantage of existing direct hiring authorities in order to build up the necessary investigative workforce to execute this mission. The committee also recognizes that the Department may need to consider establishing an appropriate funding mechanism to support this mission. The reference to DOD usage of existing commercial data within this provision is not meant to extend the Department's authorities with regard to the handling and usage of personal data.

The committee is committed to monitoring the Department's progress in taking over this new mission and seeks to ensure that DOD has a robust implementation plan with clear targets for the

standup of these interrelated capabilities. DOD should also look, where possible, to take advantage of the work done across government to modernize the background investigation process.

#### **Subtitle D—Other Matters**

##### **Transfer of lead of Guam Oversight Council from the Deputy Secretary of Defense to the Secretary of the Navy (sec. 951)**

The committee includes a provision that would redesignate the Secretary of the Navy as the lead for the Guam Oversight Council. This would transfer the responsibility for the activities involving the relocation of forces, primarily Marines from Okinawa to Guam, from the Deputy Secretary of Defense to the Secretary of the Navy.

##### **Corrosion control and prevention executive matters (sec. 952)**

The committee recommends a provision that would amend section 903(a) of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Public Law 110–417) to clarify the qualifications and position of a corrosion control and prevention executive (CCPE) of a military department.

The committee remains very concerned that the resources and priorities given to corrosion control and prevention by the military departments are lessened when the duties of the corrosion executive are additive to that official's other duties as assigned and performed. From an organizational perspective, the Departments of the Navy and Air Force have been most effective in corrosion control and prevention when they have had individuals in place whose primary responsibility was to perform the functions of the CCPE. The committee views the Department of the Army's model of appointing a Deputy Assistant Secretary of the Army for Acquisition, Logistics, and Technology as the CCPE and having action-officer level individuals assist in those duties as ineffective. The committee believes, however, that the CCPEs are most effective when they are provided resources that enable them to perform studies, analyses, inspections, and other duties as prescribed in section 903 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Public Law 110–417).

#### **Items of Special Interest**

##### **Comptroller General of the United States report on Department of Defense oversight of the defense agencies and Department of Defense field activities**

The committee notes that the Secretary of Defense is authorized to provide for the performance of a supply or service activity that is common to more than one military department by a single agency of the Department of Defense. Further, the Secretary of Defense is required to provide oversight of these agencies, known Defense Agencies and Field Activities (DAFA), by reviewing the services and supplies provided by the DAFA to ensure that there is a continuing need for each such agency and activity. The Secretary is also required to determine that the provision of those services and



supplies by each DAFA, rather than by the military departments, is a more effective, economical, or efficient manner of providing those services and supplies, among other things (section 192 of title 10, United States Code). Several of these agencies and activities have been established to support business operations, including the Defense Media Activity, Defense Human Resources Activity, and Defense Legal Services Agency.

The committee is interested in understanding the scope and impact of DOD's previous reviews of this fourth estate community. The committee is also interested in how the results of previous reviews were measured.

Accordingly, the committee directs the Comptroller General of the United States to evaluate: (1) The extent to which DOD has examined the continuing need for its DAFAs as required under section 192 of title 10, United States Code; (2) Potential duplication or overlap of services and supplies provided between the military departments and selected DAFAs; and (3) Potential improvements to more effectively assess the results of any reform initiatives within these DAFAs.

The committee further directs the Comptroller General of the United States to brief the Committee on Armed Services of the Senate not later than April 15, 2018, on preliminary findings of the evaluation with a final report to be due by June 30, 2018.

#### **Deputy Assistant Secretary of Defense for the Arctic**

The committee notes that the strategic importance of the Arctic continues to increase as the United States and other countries recognize the military significance of the Arctic's sea lanes, choke points, and its potential for power projection into multiple regions. The committee also recognizes that the Department of Defense's mission requirements in the Arctic are expected to grow, as increases in human and maritime activity bring heightened risk of maritime accidents, oil spills, illegal fishing and harvesting of other natural resources in the exclusive economic zone of the United States, and other potential threats or challenges to United States sovereignty.

The committee notes that Russia has aggressively focused on the development of Arctic capabilities and has made significant investments in military infrastructure in the Arctic. The committee remains concerned that the current Department of Defense jurisdiction over the Arctic region presents operational seams between three geographic combatant commands and two functional combatant commands: U.S. Northern Command, U.S. European Command, and U.S. Pacific Command, U.S. Strategic Command, and U.S. Transportation Command, with U.S. European Command holding the primary responsibility for the major adversary in the region, U.S. Pacific Command retaining operational control of U.S. forces located in Alaska, and U.S. Northern Command assigned as the Department's advocate for Arctic capabilities.

Therefore, the committee encourages the Secretary of Defense to designate a Deputy Assistant Secretary of Defense with primary responsibilities for the Arctic region, in order to coordinate the formation of Arctic defense policy with relevant Department of Defense entities. The Deputy Assistant Secretary of Defense for the

Arctic Region would have the responsibilities of: advocating for United States national security interests in the Arctic region; mitigating operational seams between relevant geographic and functional combatant commands in order to improve unity of effort; identifying any capability and resource gaps in the Arctic region and formulating plans to mitigate these gaps; identifying the actions by foreign nations which increase the threat to United States interests in the Arctic region; formulating plans to mitigate these actions; and planning military-to-military cooperation with partner nations that have mutual security interests in the Arctic region.

## **TITLE X—GENERAL PROVISIONS**

### **Subtitle A—Financial Matters**

#### **General transfer authority (sec. 1001)**

The committee recommends a provision that would authorize the Secretary of Defense to transfer up to \$4.0 billion of fiscal year 2018 funds authorized in division A of this Act to unforeseen higher priority needs in accordance with normal reprogramming procedures. Transfers of funds between military personnel authorizations would not be counted toward the dollar limitation in this provision.

#### **Calculations for payments into Department of Defense Military Retirement Fund using single level percentage of basic pay determined on Armed Force-wide rather than Armed Forces-wide basis (sec. 1002)**

The committee recommends a provision that would amend section 1465 of title 10, United States Code, to change the calculation of the single level percentage applied to basic pay with respect to the required monthly deposits into the Military Retirement Fund by the military services to a single rate for each military service, rather than the single aggregate normal cost method now used, in order to increase budgetary transparency with respect to the relative long-term costs associated with changes in end strength and benefits among the military services. The change in the method of calculation would be effective for contributions to the Fund beginning in fiscal year 2019.

#### **Certifications on audit readiness of the Department of Defense and the military departments, Defense Agencies, and other organizations and elements of the Department of Defense (sec. 1003)**

The committee recommends a provision that would require the Department of Defense, in addition to the military departments, defense agencies, and other organizations and elements that are subject to a financial audit, to certify its financial statements as ready for audit by the September 30, 2017, deadline established by the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113–66), and annually each fiscal year thereafter, until the Department, or the relevant military department, defense agency, or other organization or element, obtains a qualified audit opinion on its full financial statements. The committee is concerned that almost 3 decades after the Chief Financial Officers Act of 1990 (Public Law 101–576) and with an estimated \$7.4 billion invested in audit, audit readiness, and ERP efforts since 2012, the Department remains unable to obtain an opinion on its financial statements.

The committee defines audit ready/readiness as a defense agency's, organization's, or military department's having in place the critical audit capabilities and associated infrastructure to successfully start and support a financial audit of its financial statements. The committee directs that the management assertion letters issued by the military departments, defense agencies, and defense organizations that receive audit opinions on their financial statements be used to determine compliance with this provision. The committee fully supports the Department's focus on audit going forward but continues to believe in the importance of the Department certifying that it has met the deadline for audit readiness to account for the investment of taxpayer dollars in audit readiness activities since 2008.

**Failure to obtain audit opinion on fiscal year full financial statements of the Department of Defense (sec. 1004)**

The committee recommends a provision that would reduce the annual rate of basic pay for calendar year 2020 and for each year thereafter for each secretary of a military department who does not obtain an audit opinion on their service's fiscal year 2018 financial statements. This requirement is consistent with section 1003(a) of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113-66). The committee does not consider a disclaimer of opinion to comply with Congress' intent because a disclaimer of opinion is issued when the audited entity is unable to provide sufficient supporting evidence to enable the auditor to express an opinion. This provision would also require the Secretary of Defense to establish a team of private sector experts on financial audits to assess the Department's progress and make recommendations for improvements to its process for achieving an opinion on its full financial statements.

**Improper payment matters (sec. 1005)**

The committee recommends a provision that would require the Department of Defense to comply with recommendations made by the Comptroller General of the United States that it improve the method and procedures by which it estimates, identifies susceptible programs, and reduces improper payments.

The committee is concerned, based on reports published by the Department of Defense Inspector General (DOD IG) and the committee's own research, that improper payments are currently under-reported (for example, the DOD IG report estimates an 8 percent error rate as opposed to the 2-3 percent commonly referenced by the Department). Both the Government Accountability Office (GAO) and the DOD IG have reported that the Department's methods for sampling and estimating improper payments is inadequate. The committee is also concerned that the Department only attempts to recover improper payments in the small sample population used to estimate the scale of improper payments—overpayments in the larger population are essentially written off. For example, only \$5.5 million of the fiscal year 2014 travel overpayments were subject to recovery, indicating that DFAS did not take any effort to recapture around 99 percent of the overpayments from this program.

### **Financial operations dashboard for the Department of Defense (sec. 1006)**

The committee recommends a provision that would direct the Under Secretary of Defense (Comptroller) to establish a searchable database that contains key indicators of the financial performance of the Department of Defense, and is accessible across the government. The committee recognizes the value of transparency and the ability of information to drive effective and accountable government. The committee also recognizes that while the statutory language guiding the Department in its financial improvement efforts is primarily focused on the requirement for annual financial audits, Congress' intent for requiring the Department to audit its financial statements is to ensure not only that the Department complies with its Constitutional and legal obligation to account for all taxpayer funds received and expended but also that Department leadership has available reliable financial information with which to make better program management and budgeting decisions. An auditable financial statement is simply the means by which the accuracy of the financial data being used in day-to-day and strategic decision making processes is validated. More importantly, the financial controls required to achieve and sustain a clean audit opinion reduce wasteful spending resulting from inefficiencies. For example, as evidence of quantifiable savings resulting from improved financial controls and reduced payment inefficiencies, the Marine Corps reported in 2008 that its efforts to achieve audit readiness yielded real mission value by generating enough savings to purchase either 1 additional Cobra attack helicopter, 3 M1A1 tanks, or 70 million rounds of rifle ammunition. Extrapolated across the entire Department of Defense, this experience of 1–2 percent savings points to a potential annual savings of billions of dollars available to fund critical national defense requirements (assuming budget top-line stability). Without the control environment that underpins auditability, it costs more to achieve our desired levels of military readiness.

To facilitate the adoption of better financial controls and provide much-needed transparency on the cost of the Department's financial operations, this dashboard would contain key indicators of the financial performance of the Department of Defense, to include outstanding accounts payable, abnormal accounts payable, outstanding advances, unmatched disbursements, abnormal undelivered orders, negative unliquidated obligations, Anti-Deficiency Act violations, interest penalty payments, improper payment amounts for each budget account, total costs deriving from payment delays, and actual savings realized through improvement initiatives. The database should include these data elements for the military departments, defense agencies, and all defense organizations subject to a financial audit, and it should permit a user to track financial performance over time for each defense organization individually and the Department of Defense cumulatively. The data elements should be reported monthly.

This provision would also require the Secretary of Defense to report annually on a target savings and the actual mission value realized as a result of improvements to financial management and related cost-savings initiatives.

**Comptroller General of the United States recommendations  
on audit capabilities and infrastructure and related  
matters (sec. 1007)**

The committee recommends a provision that would require the Department of Defense to comply with recommendations made by the Comptroller General of the United States that it establish a consolidated corrective action plan (CAP) and a centralized monitoring and reporting process whereby it reports bi-monthly on the status of the CAPs of the military departments, defense agencies, and other organizations and elements of the Department.

**Subtitle B—Counterdrug Activities**

**Extension and modification of authority to support a unified counterdrug and counterterrorism campaign in Colombia (sec. 1011)**

The committee recommends a provision that would extend by three years section 1021 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (Public Law 108–375), as most recently amended by section 1013 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). Additionally, the provision would modify existing authorities to provide assistance to the Government of Colombia to address the emergence of new threats to peace and stability.

The committee strongly supports the vital partnership between the United States and Colombia and notes the remarkable security gains the Government of Colombia has achieved over the last 15 years and its contributions to regional security. The committee believes that an enduring security relationship between the United States and Colombia is essential to sustaining and building on these gains as the peace process and demobilization of the Revolutionary Armed Forces of Colombia (FARC) proceeds. The committee also notes with concern reports of record yields of coca and the persistence and emergence of other illegally armed groups, ranging from terrorist organizations to drug trafficking organizations, that threaten peace, stability, and security. Finally, the committee urges the Secretary of Defense to continue to coordinate through inter-agency process to ensure that the Department's security cooperation programs and authorities reflect the evolving security environment in Colombia and the region.

**Subtitle C—Naval Vessels and Shipyards**

**Policy of the United States on minimum number of battle force ships (sec. 1016)**

The committee recommends a provision that would codify at least a 355-ship Navy battle force as U.S. policy. The committee notes the Navy's latest Force Structure Assessment (FSA), completed in December 2016, increased the battle force requirement from 308 ships to 355 ships. This requirement includes inventory objectives by ship category, which the committee views as the optimal mix of platforms for the purposes of this provision.

The committee further notes the latest Navy FSA concluded, "[The 355-ship requirement] reflects an in-depth assessment of the

Navy's force structure requirements—it also includes a level of operational risk that we are willing to assume based on the resource limitations under which the Navy must operate ... To fully resource [Combatant Commander demands,] enduring missions, ongoing operations and setting the theater for prompt warfighting response, [the] Navy would require a 653-ship force."

Recognizing this unconstrained demand for 653 ships and recent testimony on the increasingly dangerous security environment, the committee believes the Navy's requirement of 355 ships should be achieved and all options for doing so should be reviewed as soon as possible.

The committee further believes that a clear policy statement on achieving the 355-ship objective, which could take at least 18 years according to an April 2017 Congressional Budget Office report, is warranted because of the long-term commitment required by current and future Congresses and administrations.

#### **Operational readiness of Littoral Combat Ships on extended deployment (sec. 1017)**

The committee recommends a provision that would amend title 10, United States Code and provide the Secretary of the Navy with additional flexibility to maintain Littoral Combat Ships (LCS) by allowing government or contractor personnel to conduct maintenance on LCS vessels operating on deployment regardless of ship locations.

This provision would codify the authorities successfully employed in a pilot program authorized by section 1025 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291).

The pilot program was conducted to evaluate maintenance options for LCS vessels on extended deployments from December 2014 to September 2016. The Navy's assessment of the pilot program, which was submitted in a March 2017 report to Congress found, "Based on the pilot program results, cost savings are expected to be notable. Even more importantly, the flexibility to provide timely maintenance in support of schedule changes and mission execution is crucial to long-term success of the LCS Fleet . . ."

The committee concurs with the Navy's assessment of the pilot program and recommends codifying the associated authorities in title 10, United States Code.

#### **Authority to purchase used vessels to recapitalize the Ready Reserve Force and the Military Sealift Command surge fleet (sec. 1018)**

The committee recommends a provision that would amend section 2218 of title 10, United States Code, to provide the Secretary of Defense with the authority to purchase used vessels as part of a program to recapitalize the Ready Reserve Force (RRF) and Military Sealift Command (MSC) surge fleet. In addition, the provision would provide the U.S. Navy with greater flexibility in using the National Defense Sealift Fund (NDSF) for such recapitalization purposes.

The committee understands that the Department of Defense (DOD) has developed a recapitalization strategy for RRF and MSC

surge fleet vessels, consisting of building new construction vessels, extending the service lives of certain vessels already in the inventory, and acquiring used vessels, in order to maintain capacity at an acceptable level of risk. The committee further understands that such recapitalization is necessary because the current vessels in the inventory are reaching the limit of safe operation at an affordable cost.

The committee notes that this provision would permit the Secretary of Defense to purchase vessels that have previously served in the U.S. Maritime Security Fleet, which is a component of the U.S. Maritime Security Program. The committee further notes that the DOD has requested this authority.

The committee believes this provision is a prudent measure to ensure continued access to adequate U.S. military surge sealift. In addition, the committee recognizes that maintenance for and activations of any vessels added to the RRF inventory would be conducted in U.S. shipyards.

#### **Surveying ships (sec. 1019)**

The committee recommends a provision that would require the Chief of Naval Operations to conduct a force structure assessment for the purpose of establishing a surveying ship requirement and provide the results to the congressional defense committees not later than 120 days after the date of enactment of this Act. This assessment may be limited in scope to identifying a force structure assessment requirement for surveying ships.

The committee notes the U.S. Navy currently has six surveying ships in service, but does not have a force structure assessment requirement for this class of ships because it is not included in the Navy battle force. The committee further notes surveying ships perform critical missions in support of fleet operations, including gathering much of the U.S. military's ocean environment information.

The committee further believes a greater number of these ships may be required as surveying ships continue to operate around the world with an expanding mission set. For example, in December 2016 a Chinese navy ship illegally seized a U.S. Navy unmanned underwater vehicle, which was collecting oceanographic data, while operating with the USNS *Bowditch* (T-AGS-62) in the South China Sea. In addition, the newest surveying ship, USNS *Maury* (T-AGS-66), includes an innovative moon pool for deployment and retrieval of autonomous underwater vehicles.

Accordingly, the committee urges the Chief of Naval Operations to review the full range of potential applications for surveying ships in conducting this force structure assessment.

#### **Pilot program on funding for national defense sealift vessels (sec. 1020)**

The committee recommends a provision that would allow the Secretary of the Navy to establish a pilot program related to national defense sealift vessels for funds appropriated in fiscal years 2018 and 2019.

This pilot program would allow obligations and expenditures for the operation, maintenance, lease, or charter of national defense



sealift vessels to be made from the National Defense Sealift Fund (NDSF) or Operations and Maintenance, Navy (OMN) appropriation accounts.

This pilot program would also allow obligations and expenditures for the research and development relating to national defense sealift vessels to be made from the NDSF or Research, Development, Test & Evaluation, Navy (RD TEN) appropriation accounts.

In addition, the pilot program would allow funds appropriated in the OMN or RD TEN appropriations for national defense sealift purposes to not be required to be deposited into the NDSF appropriation.

The committee notes the NDSF was created in the National Defense Authorization Act for Fiscal Year 1993 (Public Law 102–484) to address sealift funding issues. While recognizing the importance of continuing to fund sealift requirements, the Department of the Navy, in coordination with the U.S. Transportation Command and the U.S. Maritime Administration, has proposed a more efficient funding mechanism. This provision would allow the Navy to conduct a pilot program to evaluate this alternative mechanism, which would use the OMN and RD TEN appropriations rather than the NDSF, to fund specified national defense sealift activities.

The committee understands this pilot program is intended to preserve funding for sealift requirements while providing the Department of the Navy one fewer appropriations account to manage, prepare financial statements for, and address for financial auditability purposes. The committee further understands this pilot program seeks to streamline the funding flow by reducing reimbursable documents between Navy commands when a national defense sealift vessel is activated.

The provision would require independent reports from the Secretary of the Navy, Commander of the U.S. Transportation Command, and Administrator of the U.S. Maritime Administration to be submitted to the congressional defense committees within 120 days of completion of the pilot program.

#### **Subtitle D—Counterterrorism**

##### **Extension of prohibition on use of funds for transfer or release of individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to the United States (sec. 1031)**

The committee recommends a provision that would extend until December 31, 2018, the prohibition on the use of funds provided to the Department of Defense to transfer or release individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to the United States.

##### **Extension on prohibition on use of funds to construct or modify facilities in the United States to house detainees transferred from United States Naval Station, Guantanamo Bay, Cuba (sec. 1032)**

The committee recommends a provision that would extend until December 31, 2018, the prohibition on the use of funds provided to the Department of Defense to construct or modify facilities in the

United States to house detainees transferred from United States Naval Station, Guantanamo Bay, Cuba.

**Extension on prohibition on use of funds for transfer or release to certain countries of individuals detained at United States Naval Station, Guantanamo Bay, Cuba (sec. 1033)**

The committee recommends a provision that would extend until December 31, 2018, the prohibition on the use of funds provided to the Department of Defense to transfer or release individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to Libya, Somalia, Syria, and Yemen.

**Extension of prohibition on use of funds for realignment of forces at or closure of United States Naval Station, Guantanamo Bay, Cuba (sec. 1034)**

The committee recommends a provision that would extend until December 31, 2021, the prohibition on the use of funds provided to the Department of Defense to close or abandon United States Naval Station, Guantanamo; to relinquish control of Guantanamo Bay to the Republic of Cuba; or to implement a material modification to the Treaty between the United States of America and Cuba signed at Washington, D.C. on May 29, 1934, that constructively closes United States Naval Station, Guantanamo Bay.

**Authority to transfer individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to the United States temporarily for emergency or critical medical treatment (sec. 1035)**

The committee recommends a provision that would authorize the temporary transfer of individuals detained at United States Naval Station, Guantanamo Bay, Cuba to the United States for necessary medical treatment that is not available at Guantanamo.

**Subtitle E—Miscellaneous Authorities and Limitations**

**Matters relating to the submittal of future-years defense programs (sec. 1041)**

The committee recommends a provision that would amend section 221 of title 10, United States Code, to require the Secretary of Defense to publish an unclassified electronic database on the Comptroller's U.S. government restricted website for the future years defense program and, where applicable, a separate classified annex to the congressional defense committees, Congressional Budget Office, Congressional Research Service, and Government Accountability Office. The committee notes that this should be in accordance with existing guidance as set forth by Department of Defense Financial Management Regulation 7000.14-R to include that all electronic files include the source extensible markup language (XML) files to be embedded.

**Department of Defense integration of information operations and cyber-enabled information operations (sec. 1042)**

The committee recommends a provision that would require the Secretary of Defense to establish a cross-functional task force to integrate across organizations of the Department of Defense responsible for information operations, military deception, public affairs, electronic warfare, and cyber operations to produce integrated strategy, planning, and budgeting to counter, deter, and conduct strategic information operations and cyber-enabled information operations. In carrying out the requirements of subsection (b)(1), the committee directs that the Secretary require the commander of each combatant command to develop specific plans to conduct information operations through cyberspace that could threaten those things, entities, resources, assets, and systems that the leaders of adversary countries value most highly, with the goal of establishing an effective deterrent to information operations and cyber attacks against the United States, its allies, and its interests. These capabilities and plans should be tailored to specific potential adversaries. Additionally, the provision would require the task force to review the Department of Defense Strategy for Operations in the Information Environment, dated June 2016, and submit to the congressional defense committees an implementation plan. Lastly, the provision would establish a Defense Intelligence Officer for Information Operations and Cyber Operations within the Department of Defense.

**Prohibition on lobbying activities with respect to the Department of Defense by certain officers of the Armed Forces and civilian employees of the Department within two years of separation from military service or employment with the Department (sec. 1043)**

The committee recommends a provision that would apply a 2-year limitation on certain officers and civilian employees of the Department of Defense from engaging in any lobbying activity with respect to issues involving the Department of Defense.

**Definition of “unmanned aerial vehicle” for the purposes of title 10, United States Code (sec. 1044)**

The committee recommends a provision that would establish the definition of an unmanned aerial vehicle as an aerial vehicle that is not controlled by a human being, but would not include a vehicle that is remotely piloted.

**Technical amendment relating to management of military technicians (sec. 1045)**

The committee recommends a provision that would make a technical modification to section 1053 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92; 129 Stat. 981; 10 U.S.C. 10216 note) by striking 20 percent and replacing it with 12.6 percent.

**Extension of prohibition on use of funds for retirement of legacy maritime mine countermeasures platforms (sec. 1046)**

The committee recommends a provision that would extend the prohibition on use of funds for retirement of legacy maritime mine countermeasures platforms to include fiscal year 2018.

The committee notes the Navy's current plan to reach an initial operational capability of replacement mine countermeasures systems is not scheduled to occur until fiscal year 2020 at the earliest. However, the Navy's latest Annual Long-Range Plan for Construction of Naval Vessels calls for the Avenger-class mine countermeasures ships to begin retiring in fiscal year 2019.

The committee remains concerned a capability gap may result if current mine countermeasures systems are not maintained until operationally effective and suitable replacements are fielded in sufficient quantities.

**Sense of Congress on the basing of KC-46A aircraft outside the continental United States (sec. 1047)**

The committee recommends a provision that would express the sense of Congress regarding the basing of KC-46A tanker aircraft outside of the continental United States.

**Authorization to procure up to six polar-class icebreakers (sec. 1048)**

The committee recommends a provision that would allow the Secretary of the Department in which the Coast Guard is operating, in consultation with the Secretary of the Navy, to enter into a contract or contracts for the procurement of up to six polar-class icebreakers, including both polar-class heavy icebreakers and polar-class medium icebreakers. The committee notes that section 3 of title 14, United States Code, states, "the Coast Guard shall be a service in the Department of Homeland Security."

As codified in a May 19, 2017 Memorandum of Agreement between the Department of the Navy and Department of Homeland Security (DHS), the committee notes the Undersecretary of Management in the DHS serves as the Acquisition Decision Authority for the Polar Icebreaker Program and that this program is governed in accordance with DHS Acquisition Management Directive 102-01 and Instruction 102-01-001. The committee believes maintaining authority, responsibility, and accountability with the Acquisition Decision Authority is essential to delivering icebreakers on cost and schedule.

Accordingly, the committee believes the Secretary of the Department of Homeland Security should be the single official provided with authorities, limitations, or other legislative direction related to the Polar Icebreaker Program.

**Subtitle F—Studies and Reports**

**Assessment of global force posture (sec. 1061)**

The committee recommends a provision that would require the Secretary of Defense, in consultation with the Chairman of the Joint Chiefs of Staff and the combatant commanders, to conduct an

assessment of the global force posture of the Armed Forces. The provision would also require the Secretary to submit a report on the assessment to the Committees on Armed Services of the Senate and the House of Representatives not later than the earlier of 180 days after production of the 2018 National Defense Strategy or December 31, 2018. The committee believes that a number of factors have increased the importance of and need for forward-based U.S. military forces and capabilities, including the proliferation of new and more lethal anti-access/area denial capabilities of peer and near-peer threats, and increased vulnerability of air and sea lines of communication. Forward-based forces could provide increased deterrence and regional security and stability, and would have the capability to respond to both overt military aggression and to adversarial competition activities with tangible actions short of armed conflict. The ability of U.S. Armed Forces to respond in a timely manner and at an appropriate scale is increasingly constrained by growing threats to air and sea lines of communication, and likely requires a fundamental shift in the calculus regarding forward basing of U.S. military capabilities and force structure.

The use by adversaries of major short- or no-notice military exercises as cover for military aggression, as well as the daily persistence of threats in areas such as the South China Sea, place a premium on having an adequate forward-based force presence. As our forces experienced in the opening phases of Operation Inherent Resolve, ad hoc creation of a headquarters for major military operations can result in confused and overly complicated command and control relationships, and fundamentally undermining holistic joint, combined, and multi-agency deliberate and contingency plans and operations.

The committee believes the assessment must include a clear concept for command and control of both peacetime operations and wartime combat operations, whether through the use of existing combatant command headquarters and their respective component commands, or through the creation of stand-alone Joint Task Force headquarters. It must also ensure appropriate forward-based force structure and capabilities are in place and in a sufficient state of readiness.

The committee expects the Department to assess and recommend the appropriate ratio of U.S.-based to forward-based forces, as well as apply the appropriate mix of forward-based force structure capabilities and end strength growth to respond to increased threats to the security of extended lines of communication, the proliferation of anti-access/area denial capabilities, and the emerging necessity to respond to adversarial competition activities occurring below the threshold of armed conflict.

#### **Army modernization strategy (sec. 1062)**

The committee recommends a provision that would require the Secretary of the Army to develop a comprehensive modernization strategy for the total Army. This strategy should explicitly address the Army's vision, end-state, key objectives, war fighting challenges, and risks. It should be sufficiently descriptive to drive requirements, set priorities, identify opportunity costs, and establish acquisition timelines. The committee assesses that a comprehen-

sive strategy would give strategic purpose to existing acquisition programs. The strategy should provide the congressional defense committees an understanding of potential long-term costs beyond the future year defense program (FYDP) and aid in the decision-making process to terminate unneeded or underperforming programs. The committee directs the Secretary of the Army to submit its modernization strategy to the congressional defense committees within 90 days after the enactment of this Act.

The strategy shall describe how the Army intends on fighting and winning as part of a joint force engaged in combat across all operational domains. It should account for current trends and developments in weapons and equipment technologies. It should also account for the rapid pace potential peer adversaries are evolving new tactics and force design. Key is an understanding of what the Army will need to maintain command, control, communications, and sustainment of dispersed combat and combat support units in the face of electronic and cyber-attack.

The committee is concerned the Army is not modernized to fight and win high-intensity combined arms, maneuver battle against a peer adversary. The committee is aware of specific capability gaps that would significantly affect Army maneuver forces' freedom of action, mobility, lethality, and sustainment.

The committee notes that the Army has published numerous strategies for specific programs such as small arms, tracked combat vehicles, wheeled vehicles, and aviation. Yet the Army does not possess an all-encompassing modernization strategy that provides purpose and priority to the above. Given the Army expends tens of billions of dollars each year on procurement, research, development, testing, and evaluation, the committee views a comprehensive Army modernization strategy as essential.

The committee acknowledges the Army remains engaged in active operations across the world and accordingly has made readiness its first priority. However, the committee assesses modernization as requirement for readiness in the very near future.

**Report on Army plan to improve operational unit readiness by reducing the number of non-deployable soldiers assigned to operation units (sec. 1063)**

The committee recommends a provision that would require the Secretary of the Army to submit a report to the congressional defense committees detailing the Army's plan to improve operational unit readiness by reducing the number of non-deployable soldiers assigned to those units and replacing them with soldiers capable of worldwide deployment. The committee is concerned that 10 percent of soldiers in the Army's operational units are currently non-deployable. This is resulting in units that are deploying to operational theaters with far less than 90 percent of their authorized personnel.

The committee is also concerned that these levels of non-deployable soldiers assigned to operational units are negatively affecting training, training management efficiencies, equipment maintenance, small unit cohesion, and combat effectiveness. High levels of non-deployable soldiers may be affecting other measurable

aspects of unit readiness such as training and maintenance of assigned equipment.

The committee understands readiness is the Army's first priority given the current national security situation. The committee assesses that, if the Army can improve the readiness of individual soldiers so that they may deploy and participate in all scheduled unit training, overall readiness rates will improve.

**Efforts to combat physiological episodes on certain Navy aircraft (sec. 1064)**

The committee recommends a provision that would require the Secretary of the Navy to provide quarterly updates on the progress of the Navy's Physiological Episode Team and their efforts to combat physiological episodes in F/A-18 Hornets and Super Hornets, EA-18 Growlers, and T-45 Goshawks.

The committee is concerned by the continued prevalence of physiological episodes occurring in a number of Navy aircraft including F/A-18 Hornets and Super Hornets, EA-18 Growlers, and T-45 Goshawks. The problems affecting the Naval Aviators and Naval Flight Officers flying these aircraft range in frequency and severity, but are consistent in their degradation of Naval Aviation safety and readiness. Physiological episodes, with apparent root causes in the environmental control systems and Onboard Oxygen Generating System (OBOGS), have been named Naval Aviation's number one safety priority. While the committee understands Navy senior leadership is focused on the issue and a Physiological Episode Team (PET) has been in place since 2010 to try to solve the issues, the committee is concerned that no solutions have been found at the same time that recent events indicate the situation may be getting worse in legacy Hornets and T-45s.

The committee is also concerned that while the Navy has repeatedly stated that their efforts to solve the problems are "resource unconstrained", it is unclear how much money and manpower is being expended on the effort. As funding for the engineering analysis and mitigation efforts comes from a variety of sources, it is difficult to get a clear picture of the total effort, inhibiting proper oversight and limiting analysis of where resources could potentially be added to further the effort.

The committee is further concerned by the breakdown in communications within the Naval Aviation Enterprise, most especially between the engineers working the problem at Naval Air Systems Command (NAVAIR) and the aviators on the flight line. While a lot of good work was being done and data being created and analyzed, those efforts were not always being effectively communicated down to the flightline, where the dangers of physiological episodes are most acute. The committee urges the Navy to consider designating a single individual for each affected platform to act as the bridge between engineer and operator to ensure that a positive and frequent communication flow becomes a strength of the solution process.

Therefore, the committee directs the Secretary of the Navy to provide the committees on Armed Services of the Senate and House of Representatives quarterly updates on the Department's efforts to mitigate and solve Naval Aviation's number one safety priority.

The required updates shall contain, but may not be limited to, activities of the Naval Aviation Enterprise addressing physiological episodes over the course of the previous quarter; identified funding expended in support of such activities; any planned or executed changes to PET structure or processes; and planned activities for the next two upcoming quarters.

#### **Studies on aircraft inventories for the Air Force (sec. 1065)**

The committee recommends a provision that would direct the Secretary of Defense to commission three studies to be submitted to the congressional defense committees in unclassified, and to the extent necessary, in classified versions to recommend future aircraft inventories and capability mixtures of Air Force aircraft no later than March 1, 2019. These studies would provide competing visions and alternatives for a future set of choices regarding Air Force aircraft capabilities and capacities. One study would be performed by the Secretary of the Air Force with the participation of the Director of the Office of Net Assessment in the Office of the Secretary of Defense. The second study would be performed by a federally funded research and development center. The third study would be conducted by a qualified independent, non-governmental institute, as selected by the Secretary of Defense.

The committee believes two enduring tenets of our national security strategies over the years have served the United States well: (1) the United States will maintain sufficient military forces and capabilities to engage around the world to encourage peace and stability; and (2) in the event we do need to conduct military operations, the U.S. Armed Forces will do so away from U.S. territory in a fashion that puts adversary value structures at risk, as well as retain the ability to win more than one major regional conflict simultaneously. To accomplish both of these fundamental tenets, the committee believes the Air Force needs a set of robust, capable, and ready forces with a rotational base sufficient to sustain such operations.

The committee also believes the Air Force currently lacks an understandable and sufficient aircraft inventory force-sizing rationale. Force structure is a direct determinant of the extent to which the national security strategy of the United States can be executed. Accordingly, the Air Force needs a logical, understandable, and easily articulated force-sizing approach that derives from the national defense strategy and that establishes a clear ability to trace strategy to task.

Finally, the committee believes Air Force aircraft inventories should be planned and procured at levels necessary to support the fundamental tenets of our national security and national defense strategies, as opposed to allowing arbitrary budget restrictions to drive U.S. national security strategy. The emergence and re-emergence of near-peer competitors with advancing military technological capabilities and growing capacity, as well as increasingly capable regional threats, are steadily eroding the technological overmatch and military dominance the United States has singularly enjoyed since the end of the Cold War period.



**Plan and recommendations for interagency vetting of foreign investments with potential impacts on national defense and national security (sec. 1066)**

The committee recommends a provision that would require the Secretary of Defense, in consultation with the Secretary of State and the Secretary of Treasury, to conduct an assessment and develop and present to Congress a plan for the Department of Defense and recommendations for other agencies for how certain foreign investments can be better vetted. The committee is concerned about the foreign use of investment tools and methods that work around existing vetting processes to gain access to critical technology or intellectual property. Such methods may also be used to deny the Department of Defense access to such technology once foreign control or influence has been established. In considering recommendations for other agencies, the Department may want to consider the following, in addition to other options:

- (1) Mandatory notification by foreign investors to the appropriate departments and agencies of the United States Government when making transactions in certain areas that are more likely to impair the ability of the Department to defend the Nation;
- (2) Expanded authority to unilaterally initiate reviews of such transactions;
- (3) The ability to suspend certain transactions during interagency vetting, if the transactions are likely to impair the ability of the Department to defend the Nation; and
- (4) Mechanisms for outside sources to provide input, as well as greater transparency in certain areas.

The Department of Defense should provide the Committees on Armed Services of the Senate and the House of Representatives an interim report within 90 days and a final report within 180 days of the enactment of this Act.

**Report on authorities for the employment, use, and status of National Guard and Reserve technicians (sec. 1067)**

The committee recommends a provision that would require the Secretary of Defense, in consultation with the Chief of the National Guard Bureau, the Chief of the Army Reserve, the Chief of the Air Force Reserve, and representatives of National Guard and Reserve technicians to submit to the Committees on Armed Services of the Senate and House of Representatives by no later than April 1, 2018, a report assessing the adequacy of current authorities for the employment, use, and status of military technicians, to include recommendations for statutory change. The purpose of the report would be to define the mission and requirements of military technicians, identify means to improve their management and administration, and identify means to enhance the capability of the Department of Defense to recruit and retain technicians.

**Conforming repeals and technical amendments in connection with reports of the Department of Defense whose submittal to Congress has previously been terminated by law (sec. 1068)**

The committee recommends a provision that would make technical and conforming amendments related to Department of Defense reporting requirements that were terminated under section 1080 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) and section 1061 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

**Annual reports on approval of employment or compensation of retired general or flag Officers by foreign governments for Emoluments Clause purposes (sec. 1069)**

The committee recommends a provision that would amend section 908 of title 37, United States Code, to require the service secretaries to submit to certain congressional committees an annual report on approval of employment or compensation of retired general or flag officers by foreign governments for which the consent of Congress is required by article I, section 9 (the emoluments clause) of the Constitution.

**Annual report on civilian casualties in connection with United States military operations (sec. 1070)**

The committee recommends a provision that would require the Secretary of Defense to submit to the congressional defense committees a report on civilian casualties caused as a result of United States military operations during the preceding year. The report is to be delivered no later than May 1 of each year.

**Report on large-scale, joint exercises involving the air and land domains (Sec. 1071)**

The committee recommends a provision that would direct the Secretary of Defense to submit a report to the congressional defense committees on large-scale, joint exercises involving the air and land domains.

**Department of Defense review of Navy capabilities in the Arctic region (sec. 1072)**

The committee recommends a provision that would require the Secretary of the Navy to submit a report on the capabilities of the Navy in the Arctic region to the congressional defense committees not later than 180 days after the date of the enactments of this Act.

**Business case analysis on establishment of active duty association and additional primary aircraft authorizations for the 168th Air Refueling Wing (sec. 1073)**

The committee recommends a provision that would direct the Secretary of the Air Force to conduct a business case analysis on the establishment of an active or classic association with the 168th Air Refueling Wing.

**Report on Navy capacity to increase production of anti-submarine warfare and search and rescue rotary wing aircraft in light of increase in the size of the surface fleet to 355 ships. (Sec. 1074)**

The committee recommends a provision that would require the Secretary of the Navy to report to the congressional defense committees, no later than September 15, 2017, on the capacity of the United States Navy to increase production of anti-submarine warfare and combat search and rescue rotary wing aircraft given the stated intent to increase the size of the fleet to 355 ships.

The committee is aware that the Navy is currently performing an assessment for the fleet. The committee is also aware that much of the current fleet of MH-60 helicopters are approaching the end of their planned service life and will have to undergo a service life extension in the next few years which will take roughly thirty aircraft out of service annually.

Given the anticipated growth of the fleet the committee assesses there will be an increased requirement for combat search and rescue and anti-submarine warfare helicopters. All of these requirements place future demand on the naval helicopter industrial base while the Navy's procurement plan is imposing a gap in production between the ending of the latest MH-60R contract and procurement to fulfill future aircraft requirements. This gap will cause a loss of skilled labor and extensively impact the broader supply chain, driving the cost per airframe up significantly and unnecessarily.

**Subtitle G—Other Matters**

**Protection against misuse of Naval Special Warfare Command insignia (sec. 1081)**

The committee recommends a provision that would add a new section 7882 to title 10, United States Code, to prohibit a person from using any covered Naval Special Warfare insignia in connection with any promotion, good, service, or other commercial activity when a particular use would be likely to suggest a false affiliation, connection, or association with, endorsement by, or approval of, the United States Government, the Department of Defense, or the Department of the Navy, and to authorize the Attorney General to initiate civil proceedings to prevent unauthorized use of such insignia.

**Collaborations between the Armed Forces and certain non-Federal entities on support of Armed Forces missions abroad (sec. 1082)**

The committee recommends a provision that would express the sense of the Senate on the contributions of qualified non-Federal entities to the effectiveness of the mission of the Department of Defense through the provision of private humanitarian, economic, and other non-lethal assistance from U.S. citizens in response to local needs identified by members of the Armed Forces in areas in which the Armed Forces are deployed abroad. Further, the provision would express the sense of the Senate that U.S. military commanders should collaborate with and, consistent with applicable

laws and regulations, provide transportation, lodging, and other logistical support to qualified non-Federal entities to enhance missions of the Armed Forces abroad. Additionally, the provision would require the Secretary of Defense not later than 120 days after the date of enactment of this Act to conduct a review of guidance within the Department of Defense applicable to collaborations between military commanders and qualified non-federal Entities and, if determined as appropriate in light of the review, issue additional guidance within 180 days after the date of enactment of this Act.

The committee is concerned that there is a lack of clarity on what constitutes appropriate interaction between Department of Defense personnel and qualified non-Federal entities. The committee believes the lack of clear, consistent guidance across the Armed Forces on such collaboration creates confusion for military commanders and could impede the ability of privately-funded qualified non-Federal entities to provide private assistance that would directly benefit the accomplishment of military objectives while also saving U.S. taxpayer funds.

**Federal charter for Spirit of America (sec. 1083)**

The committee recommends a provision that would amend title 36, United States Code, to establish a federal charter for Spirit of America.

**Reconsideration of claims for disability compensation for veterans who were the subjects of mustard gas or lewisite experiments during World War II (sec. 1084)**

The committee recommends a provision that would require the Secretary of Veterans Affairs, in consultation with the Secretary of Defense, to reconsider all claims for compensation under chapter 11 of title 38, United States Code, that were denied before the date of the enactment of this Act, and make a disability determination in connection with full-body exposure to mustard gas or Lewisite during active military, naval, or air service during World War II. The provision would require the Secretary of Veterans Affairs or the Secretary of Defense to presume that a veteran experienced full-body exposure to mustard gas or Lewisite, unless proven otherwise, when reconsidering a claim.

**Prize competition to identify root cause of physiological episodes on Navy, Marine Corps, and Air Force training and operational aircraft (sec. 1085)**

The committee recommends a provision that would allow the Secretary of Defense to establish a prize competition designed to accelerate identification of the root cause or causes of physiological episodes experienced in Navy, Marine Corps, and Air Force training and operational aircraft.

**Exception to the interdepartmental waiver doctrine for cleanup of vehicle crashes (sec. 1086)**

The committee recommends a provision that would authorize the Secretary of Defense to expend funds to clean up vehicle crashes on another Federal department or agency's property if the crash was the result of a Department of Defense activity.

**Transfer of surplus firearms to Corporation for the Promotion of Rifle Practice and Firearms Safety (sec. 1087)**

The committee recommends a provision that would amend section 40728(h) of title 36, United States Code, by directing the Secretary of the Army to transfer no more than 10,000 surplus M1911 and M1911A1 pistols to the Civilian Marksmanship Program. The committee notes that all sales shall be at fair market value and all revenues from said sales, less transfer and storage costs, shall be returned to the Treasury as miscellaneous receipts.

**Items of Special Interest**

**355 ship build-up review**

The committee supports the Navy's Force Structure Assessment requirement for 355 battle force ships. The committee is aware that the Chief of Naval Operations, Admiral John Richardson, published a white paper, *The Future Navy*, which calls for the Navy to achieve the 355 ship objective in the 2020s.

Furthermore, the committee is aware that achieving the FSA battle fleet objective may require options other than solely relying on new-construction shipbuilding. The committee understands that the Navy is examining options to extend the service life of ships currently in the fleet and reactivate inactive ships. The committee believes it is important that Congress fully understand the business case analysis for these options and others which could grow the fleet.

Therefore, not later than 180 days after the enactment of this Act, the committee directs the Secretary of the Navy to deliver a report to the congressional defense committees which shows a detailed business case analysis for each option to grow the battle fleet other than new construction. The report shall include business case analyses for service life extension and reactivation options.

**Arctic domain awareness**

The committee understands that current Department of Defense and commercial satellite constellations do not provide sufficient space coverage to offer consistent coverage of the Arctic and Polar regions. The committee further understands that the U.S. military currently faces significant challenges in its ability to operate in the Arctic region given these current communications, navigational, and domain awareness shortfalls.

The committee notes that in December 2016, the Department of Defense issued the Report to Congress on Strategy to Protect United States National Security Interests in the Arctic Region, a report required by this committee in the National Defense Authorization Act for Fiscal Year 2016 (P.L. 114-92). The committee is encouraged that the Department intends to "engage public, private, and international partners to improve domain awareness in the Arctic," but is concerned that, as the report identifies, "command and control of forces are challenged by limited satellite and terrestrial communications above 65 degrees north."

Therefore, the committee directs the Department of Defense to identify possible partnerships with commercial industry to meet immediate domain awareness and communications requirements in

the Arctic, to include improved satellite imagery and communications, terrestrial communications, unmanned aerial systems, and other urgent, identified needs of the Department.

**Assessment of Navy capabilities to support U.S. Coast Guard and partner nations' international maritime law enforcement activities**

Elsewhere in this report, the committee has expressed concern about the size of the Navy fleet and its effect on warfighting capability, and about the ability of the Navy to achieve the force derived from the Navy's latest Force Structure Assessment.

In peacetime, the Navy also is tasked with supporting other Government priorities, including law enforcement activities of the U.S. Coast Guard or allied nations.

The committee is concerned that the Navy may not give adequate consideration to supporting these priorities. This may derive from having insufficient forces, but it could also be affected by insufficiently trained personnel or inadequate authorities.

Accordingly, the committee directs the Secretary of the Navy, in consultation with the Chief of Naval Operations, to provide an assessment to the Committees on Armed Services of the Senate and the House of Representatives no later than March 1, 2018. The assessment should address the following elements:

- (1) The Navy's current capabilities and capacity to provide support to the U.S. Coast Guard or allied nations and their maritime law enforcement activities, including efforts to combat:
  - (a) human trafficking;
  - (b) illegal, unreported, and unregulated fishing; and
  - (c) other illicit activity at sea.
- (2) Technical coordination with partner nations and non-governmental organization to improve tracking and detection of vessels engaged in such activities;
- (3) Unfilled demand from the U.S. Coast Guard and allied nations for such support;
- (4) Limitations on the Navy's ability to provide such support; and
- (5) Legislative proposals for mitigating these limitations.

**Assistant Secretary of Defense for Special Operations and Low Intensity Conflict**

The committee notes that section 922 of the National Defense Authorization Act for Fiscal year 2017 (Public Law 114–328) included a number of reforms designed to enhance the role of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (ASD SOLIC) in providing for the oversight and advocacy of special operations forces (SOF). The Acting ASD SOLIC testified before the committee on May 4, 2017, that “In overseeing SOF acquisitions, technology, logistics, personnel, readiness, and talent management functions, SOLIC will be positioned to institutionalize these hard-learned lessons of contemporary conflicts. The ‘Service secretary-like’ authorities in section 922 serve as a strategic linchpin, ensuring that we lock in these hard-won gains.”

The committee believes the Department has made important progress in implementing these reforms, including by taking steps to emphasize the role of the ASD SOLIC in budgeting, programming, and personnel matters in recent months. However, the committee believes much more remains to be done to achieve the full intent of the provision.

The committee remains mindful of the congressionally-directed reductions to headquarters staff, but continues to believe that the “service secretary-like” mission of the ASD SOLIC should be more robustly resourced in order to rebalance the ASD SOLIC’s lines of effort and fulfill its mandate under title 10, United States Code. The committee also supports the ongoing review of the non-legally binding responsibilities currently assigned to the ASD SOLIC under Department guidance and looks forward to receiving recommendations for the divestiture of any such responsibilities. Additionally, the committee strongly encourages the Department to consider reforms to the organizational structure of the office that would ensure a significantly increased emphasis on its responsibility to exercise its “service secretary-like” responsibilities with respect to U.S. Special Operations Command.

#### **Audit progress**

The committee is concerned that Department of Defense has not obtained an audit opinion on its full financial statements after over 20 years of working to do so, as required by law. The Chief Financial Officer’s Act of 1990 (Public Law 101–576) mandates the preparation of audited annual financial statements for certain funds and accounts from executive agencies, including the Department. The Department of Defense is the only agency which has not received an unqualified (clean) audit opinion on their annual financial statements, which means that their statements were free of material misstatements and accord with Generally Accepted Accounting Principles. Therefore, the committee encourages the Secretary of Defense, acting through the Defense Business Board, to study audit progress to date, specifically focusing on the organizational and individual incentives that could improve the Department’s standing. The committee hopes that this effort will produce actionable recommendations for the Department and for Congress to incentivize a clean audit across the Department of Defense.

#### **Budget Control Act Repeal**

The committee has ongoing concerns about the negative impact of the Budget Control Act of 2011 (P.L. 112–25) on the Department of Defense and other agencies that contribute to our national security and supports its unconditional repeal.

#### **Comptroller General of the United States review of the U.S. Navy’s approach to nuclear-powered aircraft carrier dismantlement and disposal**

The committee notes the Department of the Navy’s planning for the dismantlement and disposal of the ex-USS *Enterprise* includes options that have not been previously utilized for nuclear-powered warship disposal. In 2012, the ex-USS *Enterprise* was inactivated and began the process of defueling. In 2014, the Navy released a

request for information to assess the potential of commercial dismantlement and disposal, based on the Navy's assessment that the traditional means of nuclear-powered warship disposal at Puget Sound Naval Shipyard (PSNS) may not be viable for the ex-USS *Enterprise*. In November 2016, the Navy released a request for proposals (RFP) for partial commercial dismantlement and disposal. In February 2017, the Navy announced this RFP was cancelled.

The committee understands current planning includes the evaluation of three alternatives: commercial recycling of the non-nuclear portions of the ex-USS *Enterprise* followed by reactor compartment packaging at PSNS, commercial recycling of the entire ship, and a disposal path decision at a later date.

The committee is concerned with several aspects of the Navy's approach to dismantlement and disposal of the ex-USS *Enterprise*, which will set a precedent for future nuclear-powered aircraft carriers, including:

- (1) Incomplete National Environmental Policy Act and Nuclear Regulatory Commission documentation necessary to evaluate the potential impacts associated with each alternative prior to preparing to award a contract;
- (2) Intention to fund the dismantlement incrementally using the Operations and Maintenance, Navy account;
- (3) Intention to award a contract for a project that could exceed the Acquisition Category II funding threshold without presenting the congressional defense committees with a contracting strategy, detailed cost estimate, or results of a formal decision review process; and
- (4) Projections of PSNS workload that do not clearly depict the government's best estimate of future workload.

Therefore, the committee directs the Comptroller General of the United States to submit to the congressional defense committees a report setting forth the results of a review no later than June 1, 2018, with preliminary observations and recommendations due no later than March 1, 2018, on the Navy's approach to dismantlement and disposal of the ex-USS *Enterprise* that shall include the following:

- (1) The extent to which each of the three alternatives comply with applicable statutes and regulations, as well as specific actions necessary to achieve such compliance prior to selecting a course of action or awarding an associated contract.
- (2) The pros and cons associated with the Navy's proposed alternatives to dismantlement and disposal of the ex-USS *Enterprise*, including analyses of the contracting strategies, cost and schedule estimates, and impact on the workload and facilities at the Navy's public shipyards.
- (3) The budgetary and program management implications of funding this effort using the Operations and Maintenance, Navy account, as compared to a procurement account (e.g., the Shipbuilding and Conversion, Navy account and treating this project similar to an aircraft carrier refueling and complex overhaul). Include a review of the Navy's intent to use an incremental funding approach, as compared to fully funding the effort.



(4) The extent to which this effort should be subject to acquisition reviews, program deliverables (e.g., a program cost and schedule baseline), and acquisition executive involvement in accordance with acquisition best practices and applicable guidance, including Department of Defense Instruction 5000.02.

(5) The extent to which the Navy's public shipyard workload estimates, including PSNS, depict the government's best estimate of projected workload and is appropriately budgeted for in the Department of Defense future years defense program.

(6) Other information regarding or related to the Navy's dismantlement and disposal strategy for the ex-USS *Enterprise* that the Comptroller General determines to be of significant importance to the execution and oversight of this effort, as well as for the dismantlement and disposal of future nuclear aircraft carriers.

The committee urges the Secretary of the Navy to consider the results and recommendations of this Comptroller General review prior to selecting a course of action for the dismantlement and disposal of the ex-USS *Enterprise* and to keep the congressional defense committees informed of significant actions related to this effort.

#### **DUI prevention and rideshares**

The committee is encouraged by the Department's continued efforts to reduce alcohol-related incidents generally and driving under the influence (DUI) in particular. For example, the Marine Corps' "Protect What You've Earned" effort teaches Marines to consider the long-term benefits of responsible decision making. The committee encourages the Secretary of Defense to consider other innovative approaches to help further reduce the number of service member DUI incidents. Installation and unit-based car-pool and rideshare programs have the potential to reduce service member costs while also providing reliable and safe methods of transportation. New transportation technology has the potential to make these, and other, innovative approaches more accessible to military installations.

#### **Efficient use of non-tactical government owned transportation**

The committee notes that significant cost savings could be achieved through the more efficient use of non-tactical government owned mobility and transportation on military installations. Notably, the Department of Defense spends roughly \$435.0 million each year for non-tactical passenger vehicles and light trucks, with a use rate of just seven percent.

To address these inefficiencies, the committee encourages the Secretary of Defense to examine the Department's approach to providing non-tactical transportation. New technologies and approaches should be utilized to meet department needs while also improving overall efficiency. The recent Department of Transportation Smart Cities Challenge provides useful insight to innovative approaches that might be beneficial to the Department of Defense. The committee also encourages the Secretary of Defense to incentivize military installations to partner with industry and local

communities to explore mutually beneficial transportation opportunities.

### **Encouraging Air Force Rescue Unit Associations**

The committee notes that United States Air Force rescue squadrons, including those in the reserve component, deliver critical combat and emergency support to military and civilian personnel in harm's way, both at home and abroad. Whether called upon to provide combat search and rescue or to respond to a natural disaster, Air Force rescue squadrons are an adaptable and invaluable capability for the nation.

The unique nature of the rescue mission lends itself well for a robust partnership between Active, Reserve, and National Guard rescue units. In particular, experience gained by National Guard units while performing their domestic duties, under title 32, United States Code, provides important opportunities to prepare units for success in combat environments. The committee believes that the significant experience residing in reserve component rescue squadrons should be better leveraged to benefit the Total Force.

Issued in 2014, the report of National Commission on the Structure of the Air Force—a report required by the National Defense Authorization Act for Fiscal Year 2013 (P.L. No. 112–239)—recommended forming additional associate units comprised of both active and reserve component personnel and equipment. As part of the House Report of the National Defense Authorization Act for Fiscal Year 2017 (H. Rept. 114–537), the House of Representatives further encouraged the Air Force to consider forming associate units with the three Air National Guard combat search and rescue units in Alaska, California, and New York.

The committee believes the Air Force should accelerate the creation of combat search and rescue associate units to promote efficiency, leverage Reserve Component expertise, improve readiness across the Total Force, and expand interoperability between Active and Reserve Components.

### **Management of Special Access Programs**

The committee understands the necessity of protecting sensitive information in Special Access Programs (SAPs). Unfortunately, implementing such special protection risks creating information silos that may result in the duplication of efforts across programs and teams. The Office of the Secretary of Defense has undertaken efforts to address this challenge and ensure appropriate information sharing, while maintaining adequate security controls. The committee applauds these efforts, but is concerned about whether the Department has yet to achieve an appropriate balance among these concerns.

Therefore, the committee urges the Secretary to review the rationalization efforts implemented to date to ensure that the Department of Defense policy results in granting access to special programs in a matter that will promote the goal of advancing mission capabilities across multiple SAPs, while maintaining appropriate security controls. The committee directs the Secretary of Defense to brief the Committees on Armed Services of the Senate and the

House of Representatives on the status of these efforts no later than December 1, 2017.

### **National Guard Counterdrug Program**

The National Guard Counterdrug Program (NGCP) is a federally-funded program that provides military-specific skill-sets to law enforcement agencies and community-based organizations to address the supply and demand for illicit drugs. The timing and allocation of funding continues to be a limiting factor for the NGCP and impedes the effective sustainment of relationships with supported agencies and impacts the retention of highly-trained individuals.

With such challenges in mind, the committee is interested in the allocation of resources to best support the Department of Defense (DOD) counternarcotics efforts. In October 2015, the Government Accountability Office (GAO) reported that the National Guard had developed performance measures to report on its counterdrug program, but the information collected was not being used to evaluate and inform funding for state-level programs or oversee the counterdrug schools training.

While the National Guard has developed its Threat Based Resource Model (TBRM) to determine the severity of the drug threat, and is using it to determine funding levels for each state within the counterdrug program, the committee is concerned that the states' use of the funds has not produced results in line with each state's counterdrug objectives. The committee would like to have a better understanding of how the NGCP allocates and expends resources in alignment with its stated objectives.

Accordingly, the committee directs the Comptroller General of the United States to evaluate the NGCP's approach to resource allocation, to include the following: (1) A description of how the NGCP aligns with the Department of Defense's overarching counter-narcotics objectives; (2) A description of how the National Guard determines funding and distribution percentages for each state in the TBRM; (3) An assessment of the extent to which funding for the National Guard counterdrug program is expended in accordance with approved state plans; and (4) An assessment of the extent to which the National Guard Counterdrug Program is achieving its stated objectives.

The committee directs the Comptroller General to brief the Committees on Armed Services of the Senate and the House of Representatives not later than March 15, 2018, on preliminary findings of the evaluation with a final report to follow by June 30, 2018.

### **National Guard role in enhanced border security**

The committee acknowledges an increased emphasis on enhancing our nation's border security to address illegal immigration, illicit drug smuggling, human trafficking, and other criminal activities that threaten our national security. The committee notes there may be additional opportunities for National Guard units to conduct valuable unit and individual training events that would contribute to readiness as well as enhanced border security.

Therefore, the committee directs the Secretary of the Army and the Secretary of the Air Force to submit to the congressional de-

fense committees, in consultation with the Chief of the National Guard Bureau, the Commander of U.S. Northern Command and the Secretary of Homeland Security, a report by December 1, 2017, with recommendations on how the Army National Guard and Air National Guard could gain effective unit and individual training while also enhancing the border security capabilities of the continental United States. This report should contain a description of: the types of activities that would achieve such training and enhanced border security; the costs associated with such activities and the delineation of state and federal funding required; the potential impact on operations and personnel tempo for tasked units; any limitations of current operating authorities for each potential training activity; and any other information the Secretaries consider relevant.

#### **Navy strategic laydown and dispersal plan**

The committee is concerned that the Navy has not yet presented detailed plans for expanding the fleet to achieve the 355-ship force structure objective identified in December 2016. As the Navy develops such plans, the committee believes that the Navy should also define the appropriate Navy infrastructure including measures to ensure that risk to the fleet from natural or manmade catastrophes is effectively mitigated.

The committee is aware that the Chief of Naval Operations promulgated OPNAV Instruction 3111.17A in May 2017 to set policy and establish responsibility for the design and assessment phases of the annual Navy Strategic Laydown and Dispersal (SLD) plan.

The committee notes OPNAV Instruction 3111.17A includes direction to consider actions that would “limit risks associated with natural disasters or manmade catastrophes” during the homeporting determination process. The committee believes that the Navy should include this direction as a key consideration in decisions regarding basing of capital ships, namely aircraft carriers and amphibious ships, particularly as these ship classes increase.

The committee further notes OPNAV Instruction 3111.17A also includes direction to consider actions that would improve Operational Plan (OPLAN) and Contingency Plan (CONPLAN) response times. The committee believes that this direction should also be a key consideration in decisions regarding basing of capital ships.

#### **Northern Triangle human rights training**

The Committee directs the Comptroller General of the United States to provide the congressional defense and foreign relations committees no later than June 30, 2018, a report on the extent to which U.S. assistance to police forces in the Northern Triangle builds professionalism and respect for human rights. The report should contain the following elements: (1) A description of the Department of Defense’s objectives in training police forces in El Salvador, Honduras, and Guatemala; (2) An assessment of the extent to which the Department of Defense is achieving its objectives with respect to human rights and increased professionalism across police institutions; (3) An assessment of any plans to sustain efforts to train police forces in the Northern Triangle; and (4) Any other mat-

ters deemed relevant by the Comptroller General of the United States.

**Plan on actions to address vulnerabilities arising from unencrypted aircraft transponders on military aircraft**

The committee recognizes the benefits to efficiency and effectiveness of the Department of Defense's integration into the Next Generation Air Transportation System. However, the committee is extremely concerned with potential vulnerabilities to operations security, physical security, and cybersecurity of military aircraft equipped with existing and planned transponders that provide unencrypted real-time, or near real-time, information available in the public domain.

The committee is also concerned that the deadline for Department of Defense aircraft to be equipped with new transponder equipment that provides further unencrypted information is currently January 1, 2020. Therefore, the committee directs the Secretary of Defense, in consultation with the Secretary of the Department of Transportation, to complete a plan that includes:

- (1) Actions that have been taken to mitigate the vulnerabilities discussed above;
- (2) Remaining actions to be taken and deadlines for completing those actions;
- (3) Identification of the primary Department of Defense official charged with overseeing the Department's coordinated efforts on such plan, and a description of the roles and responsibilities of such official; and
- (4) Other actions the Secretary deems relevant.

The Secretary of Defense shall provide a report on this plan to the congressional defense committees no later than December 31, 2017.

**Report on infrastructure required to protect national security interests of the United States in the Arctic region**

The committee directs the Secretary of Defense to provide to the congressional defense committees no later than June 30, 2018 a report on the requirements and investment plans for military infrastructure necessary to protect United States security interests in the Arctic region. The report should include the following: a review of the operational plan for the protection of United States national security interests in the Arctic region, including strategic and national assets; a description of United States military capabilities required to implement the operational plan, including types of forces, major weapons systems, and logistics required for operations in the Arctic region; a description of the installations, infrastructure, and deep water ports for deployment of assets required to support the operational plan; and an investment plan to establish the installations and infrastructure required to implement the operational plan. The report shall be submitted in unclassified form, but may include a classified annex.

**Report on initiatives for mitigating military pilot shortfalls**

The committee remains concerned with the increasing shortage of military pilots in the Armed Forces, particularly in the United

States Air Force, who report leaving the Armed Forces due to various disincentives to continued service, and the attraction of larger salaries and increased control of their personal schedules offered by the major airline industry. At a June 6, 2017 hearing, senior Air Force leaders testified the Air Force was 1,500 pilots short, with fighter pilots comprising 1,300 of that shortfall. Forecasted trends also indicate Air Force pilot retention will worsen in future years as more commercial airline pilots reach mandatory retirement age. The Navy, Marine Corps, and Army are also seeing forecasted trends toward decreased aviator retention rates. While the services have continued to request additional bonus authorities and increased maximum allowed annual bonus amounts, some of which were authorized and appropriated by Congress in recent years, underlying quality of life, quality of service, and other disincentives to continued service remain.

Therefore, the committee directs the Secretary of Defense, in consultation with the Secretary of the Army, Secretary of the Navy, and Secretary of the Air Force, to provide to the Committees on Armed Services of the Senate and House of Representatives no later than March 1, 2018, a report on initiatives for mitigating pilot shortfalls. The report shall include, at a minimum, the following elements:

- (1) The viability of and resource requirements for increasing aviator production in each military service;
- (2) A comprehensive review of aviator manning requirements in each military service;
- (3) A comprehensive review of available aircraft fleet capacities for seasoning pilots to acceptable proficiency, currency, and experience levels;
- (4) Initiatives undertaken to improve the quality of service for aviators in the Armed Forces, to include elimination of tertiary non-flying training requirements, increased monthly flying time, and more effective training;
- (5) Initiatives undertaken to improve the quality of life of aviators in the Armed Forces, to include the review of disincentives to continued service caused by high rates of deployment, insufficient pay and allowances, family hardships, and other morale-based issues;
- (6) An assessment of the feasibility of developing a career track for Armed Forces aviators that would allow continuous flying duties, as opposed to tertiary assignments and duties required for promotion to senior officer ranks;
- (7) The potential for striking partnership agreements and memoranda of understanding with flight training universities, major airlines, or other entities to achieve synergies in satisfying national pilot demands; and
- (8) Other information the Secretary considers relevant.

### **Trafficking of commodities**

The committee is concerned by the trafficking of people and illegal goods, particularly as it relates to the financing of terrorism, the empowerment of transnational organized crime organizations, and the destabilization of governments worldwide. The committee notes that in recent testimony, Admiral Kurt W. Tidd, USN, the

Commander of U.S. Southern Command, stated that in his area of responsibility, “Transregional and transnational threat networks are now the principal threat to regional security and stability,” but that their “interests, influence, capabilities, and reach extend beyond the responsibilities of any one Geographic or Functional Combatant Command, undercutting our national interests in multiple domains and many regions.” The possibility of witting or unwitting exploitation of these networks to harm the United States is a serious concern.

Trafficking worldwide encompasses a number of goods, including drugs, people, weapons, antiquities, and tobacco. The committee notes with interest that some of these goods may not be illegal in and of themselves, but that their illicit movement provides significant revenue to transnational threat networks in areas such as the Northern Triangle of Central America, the U.S.-Mexico border, the Afghanistan-Pakistan border, and elsewhere, as was pointed out with respect to tobacco products in a 2015 interagency report entitled “The Global Illicit Trade in Tobacco: A Threat to National Security.” The committee is concerned by the illicit trade in tobacco and its propensity to fund transnational organized crime and terrorist groups.

The committee, therefore, directs the Secretary of Defense (DOD), in consultation with the Department of Homeland Security, the Department of State, and other relevant departments and agencies, to provide a written update to the committee on the status of DOD’s support for efforts to combat trafficking in commodities, including tobacco. This update should include: (1) A description of the impact of trafficking in commodities on the national security of the United States, including the financing of transnational terrorism and crime organizations; (2) Current lines of effort in combating such trafficking; and (3) A description of DOD’s support for these lines of effort.

The report, which may include a classified portion, on the current strategy and implementation of efforts to address the challenge posed by commodities trafficking, should be delivered not later than September 1, 2017.

#### **Unmanned maritime systems test and training range**

The committee believes that the Navy must increasingly leverage unmanned systems across all warfighting domains, but particularly on the sea surface and undersea. The committee understands that the Navy is funding development programs which would support warfighting concepts such as manned-unmanned teaming and multi-domain systems integration. The committee believes that the Navy may need to increase its test and training range infrastructure to provide adequate support for testing, experimenting and exercising with unmanned maritime systems.

Therefore, not later than one year after the enactment of this Act, the Secretary of the Navy shall deliver to the congressional defense committees a report which evaluates potential approaches for dealing with increased demand for supporting unmanned maritime systems, including adding infrastructure at new locations or expanding existing infrastructure.





## **TITLE XI—CIVILIAN PERSONNEL MATTERS**

### **Subtitle A—Department of Defense Matters**

#### **Pilot program on enhanced personnel management system for cybersecurity and legal professionals in the Department of Defense (sec. 1101)**

The committee recommends a provision that would require the Secretary of Defense to carry out a pilot program to assess the feasibility and advisability of an enhanced personnel management system for cybersecurity and legal professionals, applicable to new hires in those fields in pay grades GS-15 and below within the Department of Defense, commencing January 1, 2020.

#### **Inclusion of Strategic Capabilities Office and Defense Innovation Unit Experimental of the Department of Defense in personnel management authority to attract experts in science and engineering (sec. 1102)**

The committee recommends a provision that would extend certain existing personnel management authorities at the Department of Defense to include the Strategic Capabilities Office and the Defense Innovation Unit Experimental. The committee notes that these authorities have previously been established to allow certain scientific organizations within the Department to attract experts in science and engineering. The committee notes that these authorities have been implemented by these organizations to great effect and have helped significantly to improve the scientific and technical workforce of these organizations. Given this positive impact, the committee believes that such authorities should be extended to newly-formed scientific organizations in the Department of Defense.

The committee notes that both the Strategic Capabilities Office and the Defense Innovation Unit Experimental receive administrative support through the Washington Headquarters Services (WHS). The committee expects that the Washington Headquarters Services will provide personnel, management, and other administrative support in most efficient manner possible to reduce bureaucratic delays, eliminate non-value added processes, and best support agility, flexibility, and missions that support technology innovation.

#### **Permanent authority for demonstration projects relating to acquisition personnel management policies and procedures (sec. 1103)**

The committee recommends a provision that would amend section 1762 of title 10, United States Code, to provide a permanent authority for personnel programs for employees in the Department

of Defense civilian acquisition workforce and supporting personnel assigned to work directly with that workforce. The provision would also increase the number of participants from 120,000 to 130,000 to account for the increasing need to train individuals managing acquisition programs in cyber deterrence, detection, and response.

**Establishment of senior scientific technical managers at Major Range and Test Facility Base facilities and Defense Test Resource Management Center (sec. 1104)**

The committee recommends a provision that would amend section 2358a of title 10, United States Code, to explicitly include the test and evaluation centers, defined as each facility of the Major Range and Test Facility Base, and the Defense Test Resource Management Center. Section 1122 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) established and codified the authority of the defense research laboratories to hire senior scientific technical managers classified above GS–15 of the General Schedule. The committee intended that this authority would be available to both defense research and development laboratories, as well as test and evaluation centers. However, the committee has learned that alternative interpretations within the Department of Defense have prevented the directors of test and evaluation centers from exercising this authority.

**Extension of temporary direct hire authority for domestic defense industrial base facilities, the major range and test facilities base (sec. 1105)**

The committee recommends a provision that would extend section 1125(a) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) through fiscal year 2019.

**Direct hire authority for financial management experts in the Department of Defense workforce (sec. 1106)**

The committee recommends a provision that would extend the financial management hiring authority granted in section 1110 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–38) to those Department of Defense components not included in the military departments and defense agencies.

**Authority for waiver of requirement for a baccalaureate degree for positions in the Department of Defense on cybersecurity and computer programming (sec. 1107)**

The committee recommends a provision that would require a briefing by the Secretary of Defense to the Committees on Armed Services for the Senate and the House of Representatives, no later than 60 days after the date of the enactment of this Act, on the feasibility and advisability of the enactment into law of a waiver that would allow the Secretary of Defense to waive any requirement in law for the possession of a baccalaureate degree as a condition of appointment to a position with the primary duties of cyber security and computer programming.

### **Subtitle B—Government-Wide Matters**

#### **Elimination of the foreign exemption provision in regard to overtime for Federal civilian employees temporarily assigned to a foreign area (sec. 1111)**

The committee recommends a provision that would amend sections 5542 and 5544 of title 5, United States Code, to allow overtime pay equal to one and one-half times the hourly rate of basic pay for nonexempt Federal civilian employees assigned to temporary duty travel in exempt areas as defined by the Fair Labor Standards Act of 1938 (Public Law 75–718).

#### **One-year extension of authority to waive annual limitation on premium pay and aggregate limitation on pay for Federal civilian employees working overseas (sec. 1112)**

The committee recommends a provision that would amend section 1101 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Public Law 110–417), as most recently amended by section 1137 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), to extend through 2018 the authority of heads of executive agencies to waive limitation on the aggregate of basic and premium pay of employees who perform work in an overseas location that is in the area of responsibility of the commander of U.S. Central Command (CENTCOM), or a location that was formerly in CENTCOM, but has been moved to an area of responsibility for the commander of U.S. Africa Command, in support of a military operation or an operation in response to a declared emergency.

#### **One-year extension of temporary authority to grant allowances, benefits, and gratuities to civilian personnel on official duty in a combat zone (sec. 1113)**

The committee recommends a provision that would extend by 1 year the discretionary authority of the head of a federal agency to provide allowances, benefits, and gratuities comparable to those provided to members of the Foreign Service to an agency's civilian employees on official duty in a combat zone.

### **Items of Special Interest**

#### **Direct hiring authorities**

The committee is disappointed that despite language authorizing direct hiring authorities provided in the National Defense Authorization Act for Fiscal Year 2017, the implementation of these policies has yet to take effect in many cases. The committee requests a status update no later than September 30, 2017, on the implementation of direct hire authorities provided for in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

#### **Implementation of direct hiring authorities for military spouses**

The committee recognizes the unique challenges facing military spouses in maintaining suitable employment despite frequent

moves between duty stations and other requirements of military work. In recent years, Congress has provided direct hiring authorities to assist military spouses in obtaining employment with the federal government.

The committee understands that despite the authorization of special hiring authorities for military spouses, these authorities have not yet been sufficiently utilized and military family groups have received feedback that spouses still face great difficulty in navigating the federal hiring process in a timely manner and obtaining employment. Therefore, the committee directs the Secretary of Defense to submit no later than December 1, 2017, a report outlining the Department's progress on the implementation of direct hiring authorities for military spouses.

#### **Industry fellowships for civilian contracting officers**

The committee strongly encourages the Department of Defense (DOD) to assign civilian contracting officers to industry fellowships by making use of Section 1104 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), which authorized the DOD, with the agreement of a private-sector organization and the consent of the employee, to arrange for the temporary assignment of a DOD employee to the private-sector organization, or from the private-sector organization to a DOD organization. The committee is concerned with the workforce development plans pertaining to civilian contracting officers, and using such an authority will assist in developing senior contracting officers with an aim at leveraging industry best practices and developing innovative better buying practices.

#### **Waiver of Long-Term Temporary Duty travel per diem rates**

The committee remains concerned that the Department of Defense has yet to implement the authority contained in section 1151 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), authorizing the service secretaries to waive reduced per diem rates for meals and incidental expenses incurred during long-term temporary duty travel, when the secretary concerned, or appropriately delegated authority, determines that the reduced rates are insufficient to cover actual expenses under certain circumstances. The committee strongly urges the Department to implement this policy so that long-term temporary duty travelers in need of actual expense reimbursement may receive it. The committee believes that civilian public shipyard workers and others supporting enduring mission requirements play an important role and, therefore, the committee expects that critical work will not be interrupted in pursuit of savings.

## **TITLE XII—MATTERS RELATING TO FOREIGN NATIONS**

### **Subtitle A—Assistance and Training**

#### **Support of special operations for irregular warfare (sec. 1201)**

The committee recommends a provision that would authorize the Secretary of Defense, with the concurrence of the relevant Chief of Mission, to expend up to \$10.0 million annually through fiscal year 2021 to provide support to foreign forces, irregular forces, groups, or individuals engaged in supporting or facilitating ongoing irregular warfare operations by U.S. Special Operations Forces (SOF).

The committee notes with concern that adversarial nations are becoming more aggressive in challenging U.S. interests and partnerships and destabilizing regional order through the use of asymmetric means that often fall below the threshold of traditional armed conflict, often referred to as the “grey zone.” The committee notes that the ability of U.S. SOF to conduct low-visibility, irregular warfare operations in politically sensitive environments make them uniquely suited to counter the malign activities of our adversaries in this domain. However, the committee is concerned that the Secretary of Defense lacks sufficient authority to provide support for irregular warfare operations by U.S. SOF to counter this growing threat and therefore believes that granting this authority will provide the Secretary with the necessary options and flexibility to achieve U.S. military objectives.

#### **Modification of authority on support of special operations to combat terrorism (sec. 1202)**

The Committee recommends a provision that would make modifications to section 127e of title 10, United States Code related to oversight responsibilities and reporting requirements.

#### **Modifications of certain authority in connection with reform of defense security cooperation programs and activities (sec. 1203)**

The committee recommends a provision that would clarify the programs sufficient to satisfy the requirement for institutional capacity building pursuant to section 333(c)(4) of title 10, United States Code. The provision would also modify the Ministry of Defense Advisor program under section 332 of title 10, United States Code. The committee continues to strongly believe that strengthening the institutional capacity of foreign security partners to more effectively manage and employ security forces is vital to the long-term success of Department of Defense security cooperation programs.

**Global Security Contingency Fund matters (sec. 1204)**

The committee recommends a provision (sec. 1204) that would extend for two years section 1207 of the National Defense Authorization Act for Fiscal Year 2012, as amended, and make other modifications.

**Defense Institute of International Legal Studies (sec. 1205)**

The committee recommends a provision (sec. 1205) that would authorize the Secretary of Defense to operate the Defense Institute of International Legal Studies and would require the Secretary to conduct a comprehensive review of the mission, workforce, funding, and other support of the Institute.

**Subtitle B—Matters Relating to Afghanistan and Pakistan****Extension of Commanders' Emergency Response Program and related authorities (sec. 1211)**

The committee recommends a provision that would extend through December 31, 2019 the Commanders' Emergency Response Program (CERP) in Afghanistan under section 1201 of the National Defense Authorization Act for Fiscal Year 2012 (Public Law 112–81) as amended by the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

**Extension of authority to transfer defense articles and provide defense services to the military and security forces of Afghanistan (sec. 1212)**

The committee recommends a provision that would extend through December 31, 2018 the authority under section 1222 of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–238), as most recently amended by section 1213 of the National Defense Authorization Act for Fiscal Year 2017 (114–328), to transfer defense articles being drawn down in Afghanistan and to provide defense services in connection with such transfers to the military and security forces of Afghanistan. The provision would also extend through fiscal year 2018 the exemption for excess defense articles (EDA) transferred from Department of Defense stocks in Afghanistan from counting toward the annual limitation on the aggregate value of EDA transferred under section 516 of the Foreign Assistance Act of 1961 (Public Law 87–195).

**Extension and modification of authority for reimbursement of certain coalition nations for support provided to United States military operations (sec. 1213)**

The committee recommends a provision that would extend for fiscal year 2018 the authority to make Coalition Support Funds (CSF) payments under section 1233 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181), as amended. Under this section, the Secretary of Defense may use Coalition Support Funds to reimburse certain or designated nations for support provided to or in connection with U.S. military operations in Afghanistan, Iraq, or Syria.

As established in section 1218 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), reimburse-

ments under this section to Pakistan can only be made for certain activities meant to enhance the security situation in the Afghanistan-Pakistan border region and for counterterrorism. As noted in the Senate report accompanying the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), the committee believes that stability in the region cannot be achieved without stability in Pakistan itself and that fostering a strong, stable, and secure Pakistan is consistent with the national security goals of the United States. The committee notes that these national security goals remain unchanged from one year ago and thus, the recommended provision would extend the separate authority for Pakistan created last year.

The recommended provision would limit the total amount of funds that may be provided in fiscal year 2018 to \$900.0 million. Of this total, the amount that could be provided to Pakistan would be limited to \$700.0 million. The provision would also extend for 1 year certain notifications and certification requirements relating to payments to Pakistan. The provision would also make \$350.0 million of this amount contingent upon certification from the Secretary of Defense that Pakistan is taking demonstrable steps against the Haqqani network and Lashkar-e-Tayyiba in Pakistan.

**Extension of authority to acquire products and services produced in countries along a major route of supply to Afghanistan (sec. 1214)**

The committee recommends a provision that would extend through December 31, 2019 the authority in section 801(f) of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111–84), as most recently amended by section 1212 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), to acquire products and services produced in countries along a major route of supply to Afghanistan.

**Extension of semiannual report on enhancing security and stability in Afghanistan (sec. 1215)**

The committee recommends a provision that would extend through December 15, 2020 the semiannual reporting requirement on enhancing security and stability in Afghanistan.

**Sense of Congress regarding the Afghan special immigrant visa program (sec. 1216)**

The committee recommends a provision that would express the sense of Congress that an additional 4,000 visas should be made available for principal aliens who are eligible for special immigrant status under the Afghan Allies Protection Act of 2009 (8 U.S.C. 1101 note) to prevent harm to the operations of the United States Government in Afghanistan.

**Special immigrant visas for Afghan allies (sec. 1217)**

The committee recommends a provision that would amend the Afghan Allies Protection Act of 2009 (8 U.S.C. 1101 note) to authorize an additional 4,000 special immigrant visas for Afghan allies.

**Subtitle C—Matters Relating to Syria, Iraq, and Iran**

**Modification of authority to provide assistance to counter the Islamic State of Iraq and Syria (sec. 1231)**

The committee recommends a provision that would modify the authority under section 1236 of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291; 128 Stat. 3559) to provide for infrastructure repair and renovation and small-scale construction of temporary facilities necessary to meet urgent operational or force protection requirements with a cost less than \$4 million in Iraq.

Construction, renovation or repair projects in excess of \$1 million would not be carried out under this provision unless approved in advance by the Commander of U.S. Central Command, who shall notify in writing the congressional defense committees of that decision, including the justification for the project and its estimated cost at least 14 days in advance of the start of the project. Aggregate costs of construction, repair, and renovation projects carried out under this section in any fiscal year may not exceed \$30 million.

The committee supports the Department’s request for a more flexible small-scale construction authority with the objective of bolstering the force protection of Iraqi Security Forces and coalition advisers via the reconfiguration and development of new temporary fighting and defensive positions, the maintenance of roads and trails necessary for the conduct of military operations, and similar small-scale projects. The committee emphasizes this authority is not intended for the construction or reconstruction of infrastructure or other permanent facilities.

**Modification of authority to provide assistance to the vetted Syrian opposition (sec. 1232)**

The committee recommends a provision that would modify the authority under section 1209 of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291; 128 Stat. 3541) by striking the prior approval reprogramming requirement and replacing it with a notification requirement before carrying out new initiatives.

Additionally, the provision would modify the authority to provide for infrastructure repair and renovation and small-scale construction of temporary facilities necessary to meet urgent operational or force protection requirements with a cost less than \$4 million in Syria. Construction or repair projects in excess of \$1 million would not be carried out under this provision unless approved in advance by the Commander of U.S. Central Command, who shall notify in writing the congressional defense committees of that decision, including justification for the project and its estimated cost at least 14 days in advance of the start of the project. The aggregate amount of construction and repair projects carried out under this section in any fiscal year may not exceed \$10 million.

The committee supports the Department’s request for a more flexible small-scale construction authority with the objective of bolstering the force protection of vetted Syrian partner forces and coalition advisers via the reconfiguration and development of new tem-



porary fighting and defensive positions, the maintenance of roads and trails necessary for the conduct of military operations, and similar small-scale projects. The committee emphasizes this authority is not intended for the construction or reconstruction of infrastructure or other permanent facilities.

**Extension and modification of authority to support operations and activities of the Office of Security Cooperation in Iraq (sec. 1233)**

The committee recommends a provision that would extend through fiscal year 2018 the authority under section 1215 of the National Defense Authorization Act for Fiscal Year 2012 (Public Law 112–81) as amended, for the Secretary of Defense to support the operations and activities of the Office of Security Cooperation in Iraq (OSC–I). The provision would authorize the use of up to \$42 million in fiscal year 2018 to support OSC–I operations and activities.

The section would limit the obligation and expenditure of more than 50 percent of the funds available to OSC–I until 30 days after the Secretary of Defense and Secretary of State submit to the appropriate congressional committees the plan to transition the activities conducted by OSC–I but funded by the Department of Defense to another entity, or transition the funding of such activities to another source, as required in the joint explanatory statement to accompany the conference report on S. 2943 of the 114th Congress, the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). The committee supports the Department of Defense’s efforts to adjust the fiscal year 2018 budget request for the OSC–I to more accurately reflect annual requirements and looks forward to receiving the required plan for transition. Furthermore, the committee directs the Comptroller General of the United States to conduct an independent analysis of the required plan and submit to the appropriate congressional committees, within 180 days of the Department of Defense and State submitting their plan, a report containing the results of the independent analysis. At a minimum, the independent analysis should compare and contrast the OSC–I with other Offices of Security Cooperation while considering any unique requirements for the OSC–I for fulfilling its mandate.

The provision also clarifies OSC–I’s mandate to support strategic defense institution building and the professionalization of the security forces of, or associated with, the Government of Iraq, rather than providing tactical support. Such capacity building activities are critical for Iraq’s long-term stability to prevent the resurgence of the Islamic State of Iraq and Syria, the emergence of successor organizations, and the growth of other destabilizing actors.

**Modification and additional elements in annual report on the military power of Iran (sec. 1234)**

The committee recommends a provision that would add additional elements to the annual report on the military power of Iran required under section 1245 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111–84), to include additional information on Iran’s military use of civilian transportation infra-

structure and assets as well as transfers to and from Iran pertaining to nuclear, ballistic missile, chemical, biological, and advanced conventional weapons, and other identified technologies.

The committee is deeply concerned about transfers to and from Iran of illicit technology, especially with respect to weapons programs that could potentially threaten the United States and its allies. It also remains deeply concerned by reports that Iran's Islamic Revolutionary Guard Corps is using civilian transportation infrastructure and assets to further its destabilizing activities in the Middle East, including the ongoing conflict in Syria.

#### **Subtitle D—Matters Relating to the Russian Federation**

##### **Extension of limitation on military cooperation between the United States and the Russian Federation (sec. 1241)**

The committee recommends a provision that would extend through fiscal year 2018 section 1232 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) which prohibits funds authorized to be appropriated for the Department of Defense from being used for bilateral military-to-military cooperation between the United States and the Russian Federation without certain certifications by the Secretary of Defense, in coordination with the Secretary of State, or unless certain waiver conditions are met.

##### **Extension of limitation on availability of funds relating to sovereignty of the Russian Federation over Crimea (sec. 1242)**

The committee recommends a provision that would extend through fiscal year 2018 the limitation under section 1234 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) on the use of Department of Defense funds for activities to recognize the sovereignty of the Russian Federation over Crimea.

##### **Extension of Ukraine Security Assistance Initiative (sec. 1243)**

The committee recommends a provision that would extend through December 31, 2019 the authority under section 1250 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) as amended by section 1237 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) for the Secretary of Defense, in coordination with the Secretary of State, to provide security assistance, including defensive lethal assistance, and intelligence support to military and other security forces of the Government of Ukraine. The provision would authorize the use of up to \$500.0 million in fiscal year 2018 to provide security assistance to Ukraine.

The provision would prohibit the obligation or expenditure of half of the funds authorized to be appropriated in fiscal year 2018 under this authority until the Secretary of Defense, in coordination with the Secretary of State, certifies that Ukraine has taken substantial action to make defense institutional reforms. The committee continues to believe that defense institutional reforms are

critical to sustaining capabilities developed using security assistance provided under this and other authorities.

The committee remains deeply concerned by the continuing aggression of Russia and Russian-backed separatists that violate ceasefire agreements. The committee continues to emphasize the importance of providing security assistance and intelligence support, including defensive lethal assistance, to the Government of Ukraine to build its capacity to defend its territory and sovereignty.

**Extension of authority on training for Eastern European national security forces in the course of multilateral exercises (sec. 1244)**

The committee recommends a provision that would extend through calendar year 2020 the authority under section 1251 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) for the Secretary of Defense, with the concurrence of the Secretary of State, to provide multilateral or regional training, and pay the incremental expenses of participating in such training, for countries in Eastern Europe that are a signatory to the Partnership for Peace Framework Documents but not a member of the North Atlantic Treaty Organization (NATO) or became a NATO member after January 1, 1999. The provision would also amend section 1251 to allow the participation of non-military security forces in such training, and would make other technical and clarifying amendments. The committee notes the purpose of such training is to promote interoperability, improve the ability of participating countries to respond to external threats, including from hybrid warfare, and increase the ability of NATO to take collective action when required.

**Security assistance for Baltic nations for joint program for resiliency and deterrence against aggression (sec. 1245)**

The committee recommends a provision that would authorize the Secretary of Defense, with the concurrence of the Secretary of State, to provide security assistance of up to \$100.0 million derived from amounts authorized to be appropriated for the European Deterrence Initiative in fiscal year 2018 to conduct or support a joint program of the Baltic nations to improve their resilience against and build their capacity to deter aggression by the Russian Federation.

The committee believes that joint procurement could enable Estonia, Latvia, and Lithuania to strengthen security cooperation, improve key military capabilities, and realize cost savings through efficiencies of scale. However, the committee also recognizes joint procurement may not be feasible under certain circumstances. Therefore, the provision would define a joint program as either: (a) A program jointly agreed by the Baltic nations that builds interoperability among these countries; or (b) An agreement for the joint procurement by the Baltic nations of defense articles or defense services to improve resiliency and enhance deterrence of aggression by the Russian Federation.

**Annual report on military and security developments involving the Russian Federation (sec. 1246)**

The committee recommends a provision that would add an element on hybrid warfare to the annual report on Russian military and security developments required under section 1245 of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291), as most recently amended by the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), including assessments of: (a) Russia’s information warfare strategy and capabilities, including the use of misinformation, disinformation, and propaganda in social and traditional media; (b) Russia’s financing of political parties, think tanks, media organizations, and academic institutions; (c) Russia’s malicious cyber activities; (d) Russia’s use of coercive economic tools, including sanctions, market access, and differential pricing, especially in energy exports; and (e) Russia’s use of criminal networks and corruption to achieve political objectives.

**Annual report on attempts of the Russian Federation to provide disinformation and propaganda to members of the Armed Forces by social media. (sec. 1247)**

The committee recommends a provision that would require to Secretary of Defense to submit to the congressional defense committees no later than March 31 of each year a report on attempts by the Russian Federation, or any foreign person acting as an agent of or on behalf of the Russian Federation, during the preceding year to knowingly disseminate Russian Federation-supported disinformation or propaganda, through social media applications or related Internet-based means, to members of the Armed Forces with probable intent to cause injury to the United States or advantage the Government of the Russian Federation.

**Support of European Deterrence Initiative to deter Russian aggression (sec. 1248)**

The committee recommends a provision that would express the sense of Congress that the United States, together with NATO allies and other European partners, should demonstrate its resolve and ability to meet its commitments under Article V of the North Atlantic Treaty through appropriate military exercises with an emphasis on participation of U.S. forces based in the continental United States and testing strategic and operational logistics and transportation capabilities. Not later than March 1, 2018, the provision would require the Secretary of Defense to submit to the congressional defense committees a report providing analysis of the challenges to the United States’ ability to flow significant forces from the continental United States to the European theater in the event of a major contingency and the Department of Defense’s plans, including the conduct of military exercises, to address these challenges.

**Sense of Congress on the European Deterrence Initiative (sec. 1249)**

The committee recommends a provision that would express the sense of Congress that the European Deterrence Initiative will bol-

ster efforts to deter further Russian aggression and that investments that support the security and stability of Europe and further develop European security capabilities are in the long-term national security interests of the United States.

**Enhancement of Ukraine Security Assistance Initiative (sec. 1250)**

The committee recommends a provision that would amend section 1250 of the National Defense Authorization Act for Fiscal Year 2016 (PL 114–92) to include treatment of wounded Ukrainian soldiers in the United States in medical treatment facilities as part of the Secretarial Designee Program as appropriate security assistance and intelligence support under the Ukraine Security Assistance Initiative.

**Sense of Congress on importance of the North Atlantic Treaty Organization Intelligence Fusion Center (sec. 1251)**

The committee recommends a provision that would express the sense of Congress that the collocation of the North Atlantic Treaty Organization (NATO) Intelligence Fusion Center with U.S. European Command's Joint Intelligence Analysis Complex provides the optimal solution to intelligence and operational requirements while fostering critical diplomatic relationships, and is the most efficient configuration of the intelligence enterprise.

**Subtitle E—Matters Relating to the Asia-Pacific Region**

**Asia-Pacific Stability Initiative (sec. 1261)**

The committee recommends a provision that would authorize the Secretary of Defense to establish the Asia-Pacific Stability Initiative and provide the necessary guidelines and authorities for the Department of Defense to execute and implement it. The recommended provision would outline the stated objective of the initiative, the authorized activities, and funding authorities to be used. The recommended provision would also ensure that the Department of Defense retains a maximum amount of flexibility in carrying out the initiative.

To ensure the security and prosperity of the region, and to enhance U.S. military power in the region, the United States must demonstrate that it intends to remain a significant guarantor of security through targeted funding to realign our force posture, improve operationally relevant infrastructure, fund additional exercises, pre-position equipment, and build capacity with our allies and partners.

During his testimony before the Senate Committee on Armed Services on April 27, 2017, Admiral Harry B. Harris, Jr., Commander of United States Pacific Command, stated that, “this effort will reassure our regional partners and send a strong signal to potential adversaries of our persistent commitment to the region.” As the initiative evolves in the coming years, the committee expects to work closely with the Department to make this initiative a reality and secure the freedom and prosperity of the region for another generation.

**Expansion of military-to-military engagement with the government of Burma (sec. 1262)**

The committee recommends a provision that would amend Section 1253 of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291) to remove certain restrictions on military-to-military engagement with Burma. As currently written, the underlying legislation limits engagements with Burma to matters concerning human rights, the rule of law, humanitarian and disaster relief, English language training, medical and health training, and defense institutional reform.

The recommended provision would expand authorized engagements to include the understanding of security issues, adherence to international training standards, training on maritime domain awareness and peacekeeping operations, and combating illegal trafficking and migration. These changes would help shape and assist ongoing reform efforts in Burma and assist in the pursuit of U.S. national security objectives in the country.

**Agreement supplemental to Compact of Free Association with Palau (sec. 1263)**

The committee recommends a provision that would provide the Congressional approval necessary to bring the September 2010 Compact Review Agreement (CRA) with Palau and its appendices into force, while authorizing and approving necessary modifications to the outdated funding schedule that was included in the 2010 Agreement. The recommended provision would clarify that the funding the Department of the Interior has provided Palau from 2011 to 2017 fulfills a portion of the financial commitments of the United States under the CRA. Finally, the recommended provision would extend the statutory authority allowing the U.S. Government to provide certain grants to Palau specified in prior legislation. This provision would, along with funding to implement the Agreement, have a significant impact on our defense relationship with Palau, and would provide a measurable advantage in our strategic posture in the western Pacific Ocean.

Under the 2010 Agreement, the United States committed to provide a total of \$215.75 million in assistance to Palau from 2011 through 2024. Adding in the \$13.25 million planned to be provided in fiscal year 2010 while negotiations were ongoing, the total commitment of the United States amounts to \$229 million. Although the Agreement has had bipartisan support and the previous administration proposed legislation annually from 2011 through 2017 to fund commitments made under the Agreement and bring it into force, Congress did not enact the necessary legislation. Instead, Congress provided limited annual authority and discretionary funding for Palau as a stop-gap measure, totaling \$105.1 million. These annual appropriations leave the United States with a remaining \$123.9 million commitment to Palau. The Administration’s budget request for fiscal year 2018 for the Department of Defense includes the \$123.9 million for the remaining funding commitment to Palau.

Palau gained its independence and established diplomatic relations with the United States in 1994 with the entry into force of the United States-Palau Compact of Free Association, which af-

firmed each nation's shared commitment to mutual security and Palau's economic development, and provided the United States with responsibility for Palau's defense as well as options to access defense sites in Palau for 50 years.

As a sovereign and freely associated state in the western Pacific, Palau carries significant foreign policy and national security significance for the United States. The Compact provides the United States military special access to Palau's land, water, and air space along with the critical authority to deny the same access to military forces and personnel of other nations as appropriate. This agreement gives the U.S. military critical access and influence in an increasingly contested region.

The 1994 Compact does not have a termination date and the majority of its provisions remain in force. The financial assistance provisions of the 1994 Compact, however, expired on September 30, 2009. Therefore, the recommended provision, along with related appropriations, would allow the U.S. Government to continue its targeted financial assistance to Palau so that Palau will have a path toward budgetary self-reliance.

As required by the Compact, the United States and Palau conducted a review on the 15th anniversary of the Compact beginning in 2009 and subsequently signed the Compact Review Agreement in September 2010. This agreement calls for \$229 million in U.S. assistance to Palau through 2024, thereby enabling Palau to transition to reliance on withdrawals from its trust fund from 2025 through 2044.

**Workforce issues for relocation of Marines to Guam (sec. 1264)**

The committee recommends a provision that would extend the authority for visas to be granted to individuals performing work on facilities related to the relocation of Marines to Guam from 2019 to 2023. The number of new visas that could be granted for this specific purpose is limited to 4000.

The committee notes that the limited workforce availability on Guam is not sufficient to perform the planned work for the Department of Defense and, if these visas are not provided, the projects would be delayed and the costs increased by almost \$900.0 million.

**United States policy with respect to freedom of navigation operations and overflight beyond the territorial seas (sec. 1265)**

The committee recommends a provision that would declare that it is the policy of the United States to fly, sail, and operate throughout the oceans, seas, and airspace of the world wherever international law allows. The recommended provision would also make a number findings regarding freedom of navigation for law-abiding parties, the commitment of the United States to freedom of navigation, and other things. The recommended provision would also direct the Secretary of Defense to implement the stated policy by planning and executing routine and regular naval presence missions and freedom of navigation operations throughout the world and throughout the year.

**Sense of Congress on the importance of the rule of law in the South China Sea (sec. 1266)**

The committee recommends a provision that would express a sense of Congress on the importance of maintaining the rule of law in the South China Sea. The committee notes that certain activities by China have recently called into question its commitment to the rule of law, and furthermore are continuing to destabilize the security of the region. Such actions directly threaten the national security interests of the United States. The committee also notes that a United Nations arbitral tribunal declared in July 2016 that China has no legal basis to claim rights to the resources within its nine-dash line, invalidating the assertions of the Chinese government. The tribunal also went on to outline a number of actions that China had recently taken that were unlawful and created a serious risk of collision. These actions are alarming to the committee. These concerns are only compounded by the fact that the United States has taken only limited actions or operations in the last several months to ensure freedom of navigation and overflight in the South China Sea. As the United States has the unique capabilities to carry out such activities, the committee is concerned that the absence of such sends a signal to the Chinese government that their actions will go uncontested. The committee urges the United States government to play a vital role in securing the South China Sea and ensuring freedom of navigation.

**Sense of Congress on the importance of the relationship between the United States and Japan (sec. 1267)**

The committee recommends a provision that would express the sense of Congress that the United States and Japan are indispensable partners and that our security alliance will continue to ensure a secure and prosperous region and world. The committee notes that the Government of Japan remains committed to our bilateral security relationship and that it is making all necessary contributions and actions to maintain our alliance.

The committee also notes that certain threats in the Asia-Pacific region have been increasing recently and that countering those threats will depend even more on a strong partnership between our two countries. In recognition of these evolving regional dynamics and of Japan's unwavering commitment, the committee urges the Administration to make clear, unequivocal statements regarding our security relationship with Japan and about Japan's territorial integrity.

**Sense of Congress on the importance of the United States alliance with the Republic of Korea (sec. 1268)**

The committee recommends a provision that would express the sense of Congress that the United States should reaffirm its commitment to defending our allies in Northeast Asia and support ongoing efforts to strengthen its alliance with the Republic of Korea. The committee notes that North Korea's nuclear and missile programs violate multiple United Nations Security Council resolutions and have destabilized the Korean peninsula and the entire Asia-Pacific region by committing provocations against South Korea and other countries. The conduct of the government of North Korea



poses an imminent threat to the United States and the rest of the world. The committee recommends that the United States increase pressure on North Korea and strengthen its alliance with the Republic of Korea in order to counter the threat posed by the North Korean regime. The committee also supports efforts to deepen tri-lateral coordination and cooperation between the United States, the Republic of Korea, and Japan.

**Sense of Congress on extended deterrence for the Korean Peninsula and Japan (sec. 1269)**

The committee recommends a provision that would express the sense of Congress that the nuclear and missile program of North Korea is one of the most dangerous national security threats facing the United States today, and thus the Nuclear Posture Review to be completed this year should fully consider the perspectives of key allies and partners in East Asia, including the Republic of Korea and Japan.

**Defense partnership between the United States and Taiwan (sec. 1270)**

The committee recommends a provision that would express the sense of Congress that the United States should strengthen and enhance its partnership and strategic cooperation with Taiwan. The recommended provision notes the commitment to the Taiwan Relations Act (Public Law 96–8) and to the “Six Assurances” originally expressed by President Reagan. The committee notes that both the United States and Taiwan should work toward mutual security objectives through regular transfers of defense articles and services, assistance in building an effective air defense capability, and participation in multilateral training activities. The recommended provision would also request a report by the Secretary of Defense regarding reestablishing port of call exchanges between the United States and Taiwan.

**Naval port of call exchanges between the United States and Taiwan (sec. 1270A)**

The committee recommends a provision that would direct the Secretary of Defense to reestablish regular ports of call by the United States at suitable ports in Taiwan. The recommended provision would also direct the Secretary to allow United States Pacific Command to receive ports of call by Taiwan.

**Program to enhance Taiwan’s undersea warfare capabilities (sec. 1270B)**

The committee recommends a provision that would direct the Secretary of Defense to implement a program of technical assistance to support efforts by Taiwan to develop indigenous undersea warfare capabilities. The committee notes that Taiwan’s current fleet of submarines is several decades old, hampering Taiwan’s ability to conduct missions and training for their sailors. The committee believes that assistance from the United States on undersea capabilities, to include vehicles and sea mines, would bolster Taiwan’s self-defense.

**Invitation of Taiwan military forces to participate in joint military exercises (Sec. 1270C)**

The committee recommends a provision that would direct the Secretary of Defense to invite Taiwan to participate in a “Red Flag” exercise. The committee notes that the Department of Defense conducts several Red Flag exercises annually, including at Eielson Air Force Base in Alaska and at Nellis Air Force Base in Nevada. The recommended provision would require an invitation to Taiwan for one of these exercises within one year.

**Report on military exchanges between senior officers and officials of the United States and Taiwan (Sec. 1270D)**

The committee recommends a provision that would require the Secretary of Defense to submit to the congressional defense committees a report on military exchanges between the United States and Taiwan. The committee notes that Section 1284 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) recommended that the Secretary carry out a program of exchanges to improve military to military relations between the United States and Taiwan. The committee notes that these recommendations have not yet been acted upon. Accordingly, the recommended provision requires the report to include a list of actions taken to implement last year’s recommendations, as well as a description of future plans to do so. The recommended provision would also require an explanation if no action have been taken thus far or no future plans have been made.

**Subtitle F—Reports**

**Submittal of Department of Defense Supplemental and Cost of War Execution Reports on a quarterly basis (sec. 1271)**

The committee recommends a provision that would amend section 1221(c) of the National Defense Authorization Act for Fiscal Year 2006 (Public Law 109–163; 10 U.S.C. 113 note) to require the Department of Defense to submit the Cost of War Execution report 45 days after the end of each fiscal quarter. The committee is concerned about the time and cost necessary for the Department to produce these reports. The average cost to the Department to produce the monthly reports is about \$180,000 and they are usually late. By reducing the number of reports required the committee hopes to alleviate the Department and the taxpayers of these burdens.

The committee notes that the original intent of these reports, and the former requirement that the Government Accountability Office would review them, was to urge the Department to create a process for reporting on the cost of the wars using accounting systems to directly pull information as necessary. The committee is encouraged that this process is now in place and running relatively smoothly. By changing the frequency of these reports the committee expects to receive these reports on time and with same detail that they currently include, since the Department will have more time to create them.

**Consolidation of reports on United States Armed Forces, civilian employees, and contractors deployed in support of Operation Inherent Resolve and Operation Freedom's Sentinel (sec. 1272)**

The committee recommends a provision that would require the Secretary of Defense to submit to the congressional defense committees a report, 30 days after the enactment of the Act and every 90 days thereafter, on the total number of U.S. Department of Defense personnel deployed in support of Operation Inherent Resolve (OIR) and Operation Freedom's Sentinel (OFS), including members of United States Armed Forces, Department of Defense civilians, and Department of Defense contractors. Additionally, this provision would repeal section 1224 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92).

**Subtitle G—Others Matters**

**Modification of availability of funds in Special Defense Acquisition Fund for precision guided munitions (sec. 1281)**

The committee recommends a provision that would amend section 114 of title 10, United States Code to change the current requirement that of the amount available in the Special Defense Acquisition Fund, \$500.0 million may only be used to procure and stock precision guided munitions. The committee recommends a change to the available obligation authority in the Special Defense Acquisition Fund, requiring that 20 percent of such funds must be used on precision guided munitions and associated support equipment and services.

Precision guided munitions, for the purpose of this requirement, is defined as a guided munition intended to precisely hit a specific target, whether fired from air, sea, surface, or are man-portable.

**Use of funds in the United States for certain United States-Israel anti-tunnel cooperation activities (sec. 1282)**

The committee recommends a provision that would modify the authority under section 1279 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), as amended by the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), for the Secretary of Defense, in consultation with the Secretary of State and the Director of National Intelligence, to carry out research, development, test, and evaluation, on a joint basis with Israel, to establish anti-tunnel capabilities to detect, map, and neutralize underground tunnels that threaten the United States or Israel. The provision would provide that of the amount contributed by the United States for activities under section 1279 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), not less than 50 percent of such amount shall be used for research, development, test, and evaluation activities for purposes of such section in the United States.

The committee continues to support the anti-tunnel cooperation program with Israel and notes the potential benefits to support efforts to: restrict the flow of drugs, including heroin and fentanyl, under our southern border; protect forward deployed troops; and

secure Israel's borders. The committee encourages the department to fully utilize the authorities provided in section 1279 and seek opportunities to maximize anti-tunnel research, development, test, and evaluation cooperation with Israel.

**Foreign military sales letters of request for pricing and availability (sec. 1283)**

The committee recommends a provision that would require the Department of Defense implementing agency for a foreign military sale (FMS) to consult with the relevant US commercial entities involved in the sale before delivering a formal pricing and availability response to the foreign customer. If the commercial entity believes the price is not accurate, then the commercial entity and the implementing agency should each provide a justification for the differences to the Defense Security Cooperation Agency within 30 days of being notified of the discrepancy by the commercial entity.

**Sense of Congress reaffirming strategic partnerships and allies (sec. 1284)**

The committee recommends a provision that would express the sense of the Congress that United States allies and partners are critical to defending peace and prosperity throughout the world.

**Budget Items**

**Ukraine Security Assistance Initiative**

The budget request included \$3.0 billion in Operation and Maintenance, Defense-Wide (OMDW), for the Defense Security Cooperation Agency (SAG 4GTD), of which \$150.0 million was for the Ukraine Security Assistance Initiative. The committee recommends an increase of \$350.0 million for the Ukraine Security Assistance Initiative.

**Items of Special Interest**

**Enhanced assistance and cooperation for Afghanistan by the Government of India**

The committee is concerned by the current stalemate in Afghanistan, and believes that the United States should leverage the capabilities of allies and partners to more effectively secure regional stability and security. The committee believes that the United States needs to recommit to the fight in Afghanistan and that India, as a major defense partner of the United States and a contributor to regional security, has a critical role to play in this effort.

The committee notes that on February 9, 2017, General John W. Nicholson, Commander of U.S. Forces—Afghanistan, testified before the committee that “With over \$2.0 billion development aid executed since 2002, and another \$1.0 billion pledged in 2016, India’s significant investments in Afghan infrastructure, engineering, training, and humanitarian issues will help develop Afghan human capital and long-term stability.” Further, the committee notes that General Nicholson highlighted significant short-term materiel and training needs within the Afghan Air Force (AAF), and has person-

ally urged India to provide this targeted support to meet urgent gaps.

The committee encourages the Secretary of Defense, in coordination with the Secretary of State, to enhance trilateral cooperation between the Governments of Afghanistan, India, and United States for the purposes of strengthening the sovereignty and security of Afghanistan. In doing so, the committee expects that any increase in investment and assistance pursuant to this trilateral cooperation would take into account the mutual priorities of the three respective governments. This assistance could include logistical support; joint training; combined military planning; threat analysis; intelligence, materiel, and maintenance support for Afghan National Defense and Security Forces for humanitarian assistance, disaster relief, security assistance, and any other areas deemed appropriate.

The committee believes that India, as a regional partner to Afghanistan and a major defense partner of the United States, is well-suited to assist the Government of Afghanistan to improve the security of Afghanistan and the broader region, and can work on a trilateral basis with the United States and Afghanistan to do so. The committee also believes that timely actions by the Indian government to fill identified needs in Afghanistan would significantly benefit the short- and long-term security and stability of the region.

#### **Importance of soft power tools in the Asia-Pacific region**

The committee notes that continued engagement by the United States in the Asia-Pacific region is critical to maintaining security and stability in the region. In addition to assessing current force posture and investing in hard power assets, the committee notes the importance of soft power tools, including independent academic institutions like Fulbright University Vietnam and others in the region. The Committee believes these institutions are an important element of our Asia-Pacific strategy, and can help build the workforce and bolster the capabilities that our regional allies need—including in cyber defense and cyber-supportive information technology infrastructure and training—to counter ongoing security threats. The committee encourages the Department of Defense to support efforts by the Department of State and other U.S. actors to ensure that all appropriate tools of U.S. soft power are being fully utilized.

#### **Institutionalizing Advise and Assist Lessons Learned**

U.S. military personnel have been actively engaged as part of Operation Inherent Resolve (OIR) in advising and assisting Iraqi Security Forces and vetted Syrian forces to counter the Islamic State of Iraq and the Levant since late 2014. In Afghanistan, the U.S. still has more than 8,000 military forces, many of which are focused on advising and assisting the Afghan National Defense and Security Forces as part of Operation Freedom's Sentinel (OFS). The committee notes that the Department of Defense's (DOD) approach to advising and assisting partner nation forces has evolved over time, transitioning from a larger U.S. military presence to now relying on a more limited number of U.S. forces on the ground. For example, the current approach in Syria uses a small footprint with a significant presence of special operations forces and reliance on

key enablers such as air support, airborne intelligence, surveillance, and reconnaissance (ISR), and logistics. DOD continues to draw personnel from across the military services, including from conventional combat units, to serve as advisors in Iraq and Afghanistan.

The Government Accountability Office (GAO) has previously identified challenges DOD has faced in supporting advising missions, such as selecting and training advisor personnel, balancing advising activities with other missions, and maintaining the readiness of units that provide advisors. The committee is aware of ongoing efforts to develop new capabilities, such as the Army's effort to develop advise and assist brigades. Given these past challenges, and the emphasis that current military strategy continues to place on the importance of advising partner security forces to counter global threats, it remains essential for DOD to take steps to ensure that it: (1) has an effective approach for selecting, training, and utilizing advisor personnel in ongoing operations; and (2) continues the development of a long-term strategy that institutionalizes successful advise and assist approaches to ensure U.S. forces are positioned to effectively execute similar missions in the future. Accordingly, the committee directs the Comptroller General of the United States to evaluate the following issues:

1. What are the key characteristics of DOD's approach to planning for, training, and utilizing U.S. military personnel to advise and assist partner forces in Afghanistan, Iraq, and Syria?
2. What challenges, if any, has DOD faced in providing and utilizing U.S. military personnel to carry out their assigned advise and assist missions?
3. What challenges, if any, has DOD faced in providing air support, ISR, logistics, or other key enabling capabilities for advise and assist missions?
4. To what extent has DOD assessed and institutionalized lessons from OIR, OFS, and other advise and assist missions past and present, to identify and implement necessary changes to doctrine, training, and force structure to support ongoing and future advise and assist missions?
5. Any other issues the Comptroller General determines appropriate.

The committee further directs the Comptroller General to provide a briefing to the Senate Committee on Armed Services not later than November 1, 2017, on the Comptroller General's preliminary findings and submit a final report to the congressional defense committees on a date agreed to at the time of the briefing.

#### **NATO Strategic Communications Center of Excellence**

The committee is concerned by provocative information operations campaigns conducted by the Russian Federation that seek to undermine the United States, our allies, and the NATO alliance. The Subcommittee on Emerging Threats and Capabilities received testimony that describes Russia's "mastery of the tools of information warfare" and public information campaigns and propaganda.

The committee is aware that the NATO Strategic Communications Center of Excellence is a multi-national and NATO-accredited international military organization based in Riga, Latvia. The Cen-

ter of Excellence works to enhance the strategic communications capabilities within the NATO alliance and allied nations by providing comprehensive analyses, timely advice, and practical support to the alliance.

The committee is concerned that while the Center of Excellence's work on strategic communications and the information environment is highly relevant to the United States, U.S. European Command in particular, the United States does not have a full-time employee seconded to the NATO Strategic Communication Center of Excellence.

Therefore, the Committee urges the Secretary of Defense to assign appropriate personnel to the NATO Strategic Communication Center of Excellence.

#### **Report on the military capabilities of Hezbollah**

The committee directs the Secretary of Defense, in coordination with the Director of National Intelligence, submit to the congressional defense committees a report setting forth an assessment of the military capabilities of Hezbollah in Lebanon. The report shall include: (1) a detailed assessment of the capabilities of conventional and non-conventional forces of Hezbollah in Lebanon and (2) a detailed assessment of the operational performance of Hezbollah forces in Syria, including its military cooperation with Syrian and Iranian military and paramilitary entities and with armed forces and intelligence entities of the Russian Federation. The Secretary shall submit the report to the congressional defense committees no later than April 1, 2018. If the report is submitted in a classified form, the report shall be accompanied by an unclassified executive summary.

#### **Security strategy for Great Lakes region of Africa**

The committee notes that Africa's Great Lakes sub-region continues to be plagued by decades of instability and armed conflict resulting from porous borders, competition for resources, weak governance, territorial disputes, and the continued existence and growth of extremist and terrorist groups in the region. The United States, United Nations, European Union, and the African Union have been engaged in operations aimed at addressing these threats and improving stability in the region. With Operation Observant Compass (OOC) ending, it is imperative that the Department of Defense remain engaged in the region through continued cooperation with regional security forces, sharing of intelligence, and multilateral exercises to increase regional capacity to combat shared threats. The committee notes that following the disestablishment of OOC and the retrograde of forces from the African Union Regional Task Force from the affected areas, there are reports that the Lord's Resistance Army is increasing attacks against local populations. The committee understands and supports the Department's decision to transition its efforts from OOC to a broader regional engagement strategy. However, the tenuous regional security situation underscores the need to develop and implement a strategy to maintain regional engagement and arrest further deterioration of the security situation as soon as possible.

As such, the committee directs the Secretary of Defense to provide a briefing to the committee on its strategy to combat security threats in the African Great Lakes sub-region. The briefing shall, at a minimum, include: (1) an identification and assessment of the primary security threats in the region, (2) a plan for engagement with appropriate security forces in the region, with a focus on building capacities and cooperation with the United States and encouraging interoperability between countries in the region, (3) an assessment of the U.S. and partner nation force structure necessary to mitigate regional security threats, sustain engagement, and maintain the ability to respond to contingencies, and (4) an account of any agreements between the U.S. and countries of the region for use of facilities, if required, and (5) any other matters the Secretary of Defense deems appropriate.

#### **Southeast Asia Maritime Security Initiative**

The committee continues to strongly support efforts under the Southeast Asia Maritime Security Initiative aimed at enhancing the capabilities of regional partners to more effectively exercise control over their maritime territory and to deter adversaries. The committee notes that to date, the Department of Defense has utilized the authority under section 1263 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), as amended, to support specified partner capacity-building efforts in the region, to include the provision of training, sustainment support, and participation in multilateral engagements. The committee further notes that section 1241 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) included a significant reform of the security cooperation authorities available to the Department intended to enhance the ability of the Department to respond to evolving security challenges with flexible authorities related to the provision of training, equipment, and other support to foreign security partners with mutual security interests and objectives.

Of particular note, section 1241 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) provides the Secretary of Defense with a permanent, global authority to provide training, equipment, and sustainment support to build the capacity of foreign security partners to perform counterterrorism operations, counter-weapons of mass destruction operations, counter-illicit trafficking operations, counter-transnational organized crime operations, maritime and border security operations, military intelligence operations, and operations or activities that contribute to an international coalition operation determined by the Secretary to be in the national interest of the United States.

Additionally, sections 1241 through 1247 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) included numerous other authorities intended to enhance security cooperation activities, including authorizing military-to-military exchanges and operational support to friendly foreign countries to enable ongoing operations. The committee believes these security cooperation authorities provide the Department with enhanced flexibility to operate effectively in a continuously evolving and complex global security environment. The committee further believes that



these authorities are particularly relevant to the security environment in South Asia and Southeast Asia and directs the Department to make use of the full complement of security cooperation authorities available to the Department, particularly those under section 1241 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), to enhance the capabilities of foreign security partners in the region to protect mutual security interests.

To this end, the committee directs the Department to continue with the Maritime Security Initiative through the title 10 authorities for security cooperation established in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). In addition, the committee believes that, consistent with new authorities, the Secretary should expand the Department's efforts under the Maritime Security Initiative to encompass additional countries, including Bangladesh, Sri Lanka, and Burma. In addition, the Secretary should also include India among the countries eligible for payment of incremental expenses in connection with training under the Initiative.

#### **Southeast Asia terrorism**

The committee is concerned with the rise of violent extremist groups in Southeast Asia and the affiliation of those terrorist groups to the Islamic State. The committee is concerned that, as U.S. counterterrorism operations in the U.S. Central Command area of responsibility exert increased pressure on the Islamic State and affiliated networks, foreign fighters from Southeast Asia will return to their countries of origin and continue terrorist activities. The committee urges the Commanders of U.S. Pacific Command and U.S. Special Operations Command—Pacific to strengthen collaboration with regional partners to combat this growing threat through a comprehensive counterterrorism strategy.

#### **Transformation of the Kosovo Security Forces to the Kosovo Armed Forces**

The committee supports continued U.S. assistance to the Kosovo Security Force as it makes the gradual transition to a multi-ethnic army for the Republic of Kosovo. Kosovo's long-term security is deeply rooted in its political and security relationships with the United States, NATO, and other international partners. These relationships are underwritten by shared democratic values and adherence to the rule of law. Therefore, the committee believes it is critical that the transformation of the Kosovo Security Forces to the Kosovo Armed Forces take place through an inclusive and transparent process that complies with Kosovo's constitution, respects of the rights and concerns of all of Kosovo's citizens, promotes regional security and stability, and supports Kosovo's aspirations and eventual full membership in NATO.

#### **U.S.-India defense cooperation**

The committee is pleased to see progress in the U.S.-India defense partnership. The positive adjustment of U.S. export controls for defense articles sold to India is in accordance with section 1292(c) of the National Defense Authorization Act for Fiscal Year

2017 (Public Law 114–328) that required an assessment regarding such an adjustment. Furthermore, the United States and India have continued to refine their annual Exercise Malabar, which has benefited from the recent inclusion of Japan. The committee supports the exercise’s consistent focus on maritime patrol, reconnaissance scenarios, and anti-submarine warfare operations.

Even so, the committee is concerned by a growing gap between the overarching goals of the bilateral defense relationship and the Department’s implementation of these objectives. The Joint Strategic Vision (JSV) agreed to by the United States and India in 2015 codified a common commitment to maritime awareness and freedom of navigation as overarching defense missions. The key body in the Department of Defense implementing and coordinating defense cooperation with India is the 2012 Defense Technology and Trade Initiative (DTTI). Its six “pathfinder” initiatives are (1) development of a chemical-biological protective ensemble for troops; (2) development of mobile electric hybrid power stations; (3) a next-generation small unmanned aircraft; (4) a roll-on/roll-off intelligence and surveillance module for transport aircraft; (5) digital helmet-mounted displays; and (6) the joint biological tactical detection system. While the Committee supports all of these initiatives, it is concerned that several of these projects lack focus and are underdeveloped, and therefore urges the Department to prioritize elements of the DTTI that most closely align with the JSV.

Compounding this concern is the Department’s delay in complying with a requirement in section 1292(a)(1)(B) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to designate an individual within the Department to coordinate and expedite bilateral defense cooperation. The committee believes that appointing such an individual would bring a refined approach to prioritizing defense cooperation and aligning it with missions like maritime awareness and anti-submarine warfare, and eventually joint naval patrol of the Indian Ocean.

Moreover, the committee is aware that key defense cooperation agreements have not been completed, namely the Communications Capability and Security Agreement and the Basic Exchange and Cooperation Agreement for Geospatial Intelligence. The Department has approached negotiation of these agreements with consistency and good faith, as evidenced in the successful signing of the Logistics Exchange Memorandum of Agreement with India earlier this year. The committee commends both the Department and the Ministry of Defense for this progress, and hopes to see similar agreement with the two outstanding documents as well.

Finally, looking ahead to the future of the U.S. Major Defense Partnership with India, the committee encourages the Department to work closely with India in the cyber and space operating domains at appropriate strategic, operational, and tactical levels. As a rising economic power and key security partner, it is the committee’s judgment that India deserves a seat at the table as the U.S. works with our other key allies and partners to increase resiliency, strengthen deterrence, and secure superiority in both operating domains.

Therefore, the committee requests that the Secretary of Defense brief the committee not later than 180 days after the enactment of this Act on the following elements:

(1) Confirmation that the Secretary has appointed an individual in fulfillment of statutory requirement under Sec. 1292(a)(1)(B) of the National Defense Authorization Act FY2017 (Public Law 114–328);

(2) Recommendation on which DTTI initiatives the Secretary intends to prioritize in alignment with the Joint Strategic Vision, and whether new initiatives are needed to match the common importance that both countries give to increasing maritime domain awareness;

(3) Update on the state of outstanding defense cooperation agreements with India; and

(4) State of trilateral discussions for future Malabar Exercises, specifically whether the Department and the Ministry of Defense have discussed with Japan the integration of seaborne terrorism and joint naval patrol exercises into Malabar.

#### **Ukrainian wounded warriors**

The committee understands that in June 2015, the Secretary of Defense approved the use of the Secretarial Designee program and Emergency and Extraordinary Expense funding to pay costs arising from the medical and rehabilitative treatment at military medical treatment facilities of wounded Ukrainian soldiers who could not receive the necessary specialized medical treatment in Ukraine. Costs covered included inpatient care, transportation, lodging, meals, and incidental expenses relating to the movement and medical treatment of the wounded Ukrainian soldiers. The committee understands that eight wounded Ukrainian soldiers were successfully assisted through this program. The committee recognizes that providing this specialized care enhances military operational medical force readiness through the performance of combat-related medical procedures that help ensure physicians and other providers maintain critical readiness skillsets.

The committee is concerned that the expenses of medical coverage for additional wounded Ukrainian soldiers approved under the Secretarial Designee program only extends to inpatient care, and the Ukrainian government is required to fund all remaining costs. In light of the ongoing conflict in Ukraine, the Ukrainian government is unable to reimburse these costs, creating difficulty in bringing any additional wounded soldiers to the United States for the care they desperately need.

Russia's persistent military aggression in Ukraine continues to inflict grievous injuries on Ukrainian soldiers, who require medical treatment that cannot be performed in country. The committee supports the Department of Defense's efforts through the Secretarial Designee program to provide medical and rehabilitative assistance in military medical treatment facilities in the United States to Ukrainian soldiers wounded in defense of their country and strongly encourages the Department to fund to the extent practicable both the medical and non-medical costs it previously covered for future cases.

### **United States commitment to the NATO alliance**

The committee believes the NATO alliance remains vital for protecting U.S. national security interests, facilitating transatlantic security cooperation, and promoting peace and stability in Europe and around the world. As threats to the common security of the United States and our NATO allies grow more severe and more complex, the committee believes it is essential that the United States maintain an ironclad commitment to upholding its obligations under Article 5 of the North Atlantic Treaty, which declares that “an armed attack against one or more [NATO allies] shall be considered an attack against them all.”

The committee honors the contributions of our NATO allies to U.S. national security. In response to the September 11th terrorist attacks, which killed 2,600 Americans and 135 citizens of NATO countries, our NATO allies invoked Article 5 of the North Atlantic Treaty for the first time in history. NATO troops fought side by side with U.S. troops in Afghanistan, and over 1,000 of them made the ultimate sacrifice. The committee honors the sacrifices of our NATO allies sharing the burden of collective security.

At the same time, the committee continues to urge NATO allies to uphold their obligations under Article 3 of the North Atlantic Treaty to “maintain and develop their individual and collective capacity to resist armed attack” by honoring the pledge made at the Wales Summit in September 2014 to reach the goal of spending 2 percent of GDP on defense by 2024. It is also critical that NATO allies continue to coordinate defense investments to both improve deterrence against Russian aggression and terrorist organizations and more appropriately balance defense spending across the alliance. The committee is encouraged that, according to NATO Secretary General Jens Stoltenberg, defense budgets across Europe and Canada increased by 3.8 percent in 2016, or by approximately \$10.0 billion. Given the threat on NATO’s eastern flank, the committee is gratified that Estonia, Latvia, and Lithuania each plan to spend at least 2 percent of GDP on defense in 2018.

The NATO alliance defends not only the common security of the United States and our NATO allies, but our common values as well. That is why the committee is increasingly concerned about indications of the erosion of democratic institutions in certain NATO member states, including Hungary, Turkey, and Poland. The committee believes it is important for all NATO allies to uphold their obligations under the North Atlantic Treaty, which commits NATO allies to “safeguard the freedom, common heritage and civilization of their peoples, founded on the principles of democracy, individual liberty and the rule of law.”

### **Venezuelan military cooperation**

The committee directs the Secretary of Defense to submit to Congress a report on military cooperation between the Government of Venezuela with Cuba, Iran, and Russia, entities designated as foreign terrorist organizations by the United States, and persons considered to be regional militant groups hostile to the United States but not otherwise designated as foreign terrorist organizations by the United States. The report shall include descriptions of the following: (1) Cooperation on military intelligence and counterintel-

ligence operations; (2) Cooperation in illicit drug trafficking operations; (3) Cooperation in cyber and information operations; (4) Cooperation with transnational criminal organizations; (5) Weapons and technology transfers to and from either party and the impact that such transferred weapons have upon either party's military capabilities; and (6) Estimates of the types and amounts of support, including funding, lethal and non-lethal supplies, and training provided.

The Secretary shall submit the report to the congressional defense committees no later than April 1, 2018. If the report is submitted in a classified form, the report shall be accompanied by an unclassified executive summary.



## **TITLE XIII—COOPERATIVE THREAT REDUCTION**

### **Specification of Cooperative Threat Reduction funds (sec. 1301)**

The committee recommends a provision that would define the Cooperative Threat Reduction (CTR) program, define the funds as authorized to be appropriated in section 301 of this Act, and authorize CTR funds to be available for obligation for 3 fiscal years.

### **Funding allocations (sec. 1302)**

The committee recommends a provision that would authorize \$324.6 million, the amount of the budget request, for the Cooperative Threat Reduction program.





## **TITLE XIV—OTHER AUTHORIZATIONS**

### **Subtitle A—Military Programs**

#### **Working capital funds (sec. 1401)**

The committee recommends a provision that would authorize the appropriations for the defense working capital funds at the levels identified in section 4501 of division D of this Act.

#### **Chemical Agents and Munitions Destruction, Defense (sec. 1402)**

The committee recommends a provision that would authorize the appropriations for Chemical Agents and Munitions Destruction, at the levels identified in section 4501 of division D of this Act.

#### **Drug Interdiction and Counter-Drug Activities, Defense-wide (sec. 1403)**

The committee recommends a provision that would authorize the appropriations for Drug Interdiction and Counterdrug Activities, Defense-wide, at the levels identified in section 4501 of division D of this Act.

#### **Defense Inspector General (sec. 1404)**

The committee recommends a provision that would authorize the appropriations for the Office of the Inspector General of the Department of Defense at the levels identified in section 4501 of division D of this Act.

#### **Defense Health Program (sec. 1405)**

The committee recommends a provision that would authorize appropriations for the Defense Health Program activities at the levels identified in section 4501 of division D of this Act.

### **Subtitle B—National Defense Stockpile**

#### **Authority to dispose of certain materials from and to acquire additional materials for the National Defense Stockpile (sec. 1411)**

The committee recommends a provision that would authorize the National Defense Stockpile (NDS) Manager to dispose of up to \$9.0 million of excess materials in order to acquire two new materials and rare earth elements (REE) that have been identified by the Department of Defense (DOD) as essential to meet military requirements. The committee notes these REE acquisitions would alleviate DOD supply chain vulnerability and mitigate the risk of foreign reliance for REE and critical materials. Specifically, the two materials and REE are electrolytic manganese metal and antimony.

Additionally, the committee recognizes the strategic value of the NDS and its critical material locations across the United States: Alabama, Arizona, California, Indiana, Nevada, New Jersey, New York, Oklahoma, Ohio, Pennsylvania, Utah, Virginia, and West Virginia.

### **Subtitle C—Chemical Demilitarization Matters**

#### **Acquisition reporting on major chemical demilitarization programs of the Department of Defense (sec. 1421)**

The committee recommends a provision that would require the Department of Defense's major chemical demilitarization programs to report separately under the Acquisition Category 1 (ACAT 1) system in order to enhance transparency.

### **Subtitle D—Armed Forces Retirement Home**

#### **Authorization of appropriations for Armed Forces Retirement Home (sec. 1431)**

The committee recommends a provision that would authorize an appropriation of \$64.3 million from the Armed Forces Retirement Home Trust Fund for fiscal year 2018 for the operation of the Armed Forces Retirement Home.

#### **Armed Forces Retirement Home matters (sec. 1432)**

The committee recommends a provision that would amend sections 1513A, 1517(e)(2), and 1518 of the Armed Forces Retirement Home (AFRH) Act of 1991 (24 U.S.C. 413a, 417(e)(2), and 418 respectively) to transfer oversight responsibilities of the AFRH from the Undersecretary of Defense for Personnel and Readiness to the Secretary of Defense. Additionally, the provision would amend section 1516 of such Act (24 U.S.C. 416) to provide the Department more flexibility in selecting members of the Advisory Council of the AFRH. Finally, the provision would amend section 1517(b) of such Act (24 U.S.C. 417(b)) to clarify that the administrator of the AFRH serves at the pleasure of the Secretary of Defense.

### **Subtitle E—Other Matters**

#### **Authority for transfer of funds to Joint Department of Defense-Department of Veterans Affairs Medical Facility Demonstration Fund for Captain James A. Lovell Health Care Center, Illinois (sec. 1441)**

The committee recommends a provision that would authorize the Secretary of Defense to transfer \$115.5 million from the Defense Health Program to the Joint Department of Defense-Department of Veterans Affairs Medical Facility Demonstration Fund, created by section 1704 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111-84) for the operations of the Captain James A. Lovell Federal Health Care Center.

#### **Enhancement of database of emergency response capabilities of the Department of Defense (sec. 1442)**

The committee recommends a provision that would amend section 1406 of the John Warner National Defense Authorization Act

for Fiscal Year 2007 (Public Law 109–364; 120 Stat. 2436; 10 U.S.C. 113 note) to enhance the database of emergency response capabilities of the Department of Defense by adding the requirement to track the cyber capabilities of the National Guard and Reserve in the requirement to capture emergency response capabilities that the Department of Defense may be able to provide in support of the National Response Plan’s Emergency Support Function. The Department of Defense would also be required to establish, maintain, and keep current the database at least once every 2 years.

### **Items of Special Interest**

#### **Agro-terrorism**

A Foot and Mouth Disease outbreak in the United States has the potential to cause upwards of \$200 billion in damages to our food production economy. When American and allied forces took control of al Qaeda harbor sites in the caves of Afghanistan in 2002, among the thousands of documents they discovered were U.S. agricultural documents and al Qaeda training manuals targeting agriculture. The Committee is concerned about the potential for our adversaries to use Foot and Mouth Disease or another foreign animal disease in an attempt to cause serious harm to the food security and economy of the United States.

The committee directs the Department of Defense, in consultation with the Department of Agriculture, to brief the committee on the threats associated with the introduction of Foot and Mouth Disease or another foreign animal disease in an attempt to cause serious harm to the food security and economy of the United States, and our ability to respond to such threats.

#### **Assessment of designating a Joint Chemical-Biological Defense Logistics Distribution Center**

The committee recognizes that in fiscal year 2006, Congress urged the Secretary of the Army to designate the U.S. Army Pine Bluff Arsenal, Arkansas, as the Center of Industrial and Technical Excellence for Chemical and Biological Defense.

The committee hereby directs the Secretary of Defense to evaluate the feasibility of designating a Joint Chemical-Biological Defense Logistics Distribution Center to consolidate the Joint Chemical, Biological, Radiological, and Nuclear sustainment functions and provide enhanced military readiness to the warfighter. Accordingly, the committee directs the Secretary of Defense to submit an assessment to the congressional defense committees not later than December 1, 2017.

#### **Domestic production of Scandium**

Given the planned initiation and production in the United States within the next 5 years of as much as 100 metric tons of Scandium, the committee directs the Secretary of Defense to provide a briefing on the potential defense and industrial uses of Scandium to the congressional defense committees by December 1, 2017.

**Fiscal stability of the National Defense Stockpile**

The committee notes that the funds within the National Defense Stockpile (NDS) Transaction Fund have been significantly depleted due to the lack of excess materials available for disposal. The Fund was designed to allow for the sale of excess materials, from which the funds in turn could be used to acquire emergent strategic and critical materials for national defense requirements. While this process has been ongoing since just after World War II, the value of the available inventory designated as excess is no longer sufficient to acquire the strategic and critical material requirements identified by the President as necessary.

The committee believes the current manager of the NDS, the Defense Logistics Agency office for Strategic Materials (DLA-SM), is hampered in its acquisition strategy due to the lack of funds available for procurement of materials. The committee has observed that the DLA-SM must determine which materials are most critical for acquisition, leaving other material requirements unfunded. The committee notes that even after managing resources in this cost-prohibitive environment, the fund will likely become insolvent within the next 3–7 years.

Additionally, the committee strongly encourages the Department to make use of existing authorities under Section 303 of the Defense Production Act (50 U.S.C. 2093) to enter into commitments to purchase strategic and critical materials required to meet the defense, industrial, and essential civilian needs of the United States from domestic producers and domestic producers that the Department believes are likely to initiate commercial production of such materials within the next five years.

Accordingly, the committee directs the Secretary of Defense, in coordination with the NDS manager, to provide a briefing to the congressional defense committees no later than January 31, 2018, on the plan to develop and implement a funding strategy for sustaining a robust NDS inventory when current funds in the transaction fund are depleted. This strategy should include the incorporation of acquisition requirements for strategic and critical materials through the discretionary appropriations process.

## **TITLE XV—AUTHORIZATION OF ADDITIONAL APPROPRIATIONS FOR OVERSEAS CONTIN- GENCY OPERATIONS**

### **Subtitle A—Authorization of Additional Appropriations**

#### **Purpose (sec. 1501)**

The committee recommends a provision that would establish this title and make authorization of appropriations available upon enactment of this Act for the Department of Defense, in addition to amounts otherwise authorized in this Act.

#### **Overseas contingency operations (sec. 1502)**

The committee recommends a provision that would designate authorization of appropriations in this section as overseas contingency operations as directed in section 251(b)(2)(A)(ii) of the Balanced Budget and Emergency Deficit Control Act of 1985.

#### **Procurement (sec. 1503)**

The committee recommends a provision that would authorize the additional appropriation for procurement activities at the levels identified in section 4102 of division D of this Act.

#### **Research, development, test, and evaluation (sec. 1504)**

The committee recommends a provision that would authorize the additional appropriation for research, development, test, and evaluation activities at the levels identified in section 4202 of division D of this Act.

#### **Operation and maintenance (sec. 1505)**

The committee recommends a provision that would authorize the additional appropriations for operation and maintenance activities at the levels identified in section 4302 of division D of this Act.

#### **Military personnel (sec. 1506)**

The committee recommends a provision that would authorize the additional appropriations for military personnel activities at the levels identified in section 4402 of division D of this Act.

#### **Working capital funds (sec. 1507)**

The committee recommends a provision that would authorize the additional appropriations for the defense working capital funds at the levels identified in section 4502 of division D of this Act.

**Drug Interdiction and Counter-Drug Activities, Defense-wide (sec. 1508)**

The committee recommends a provision that would authorize the additional appropriations for the Drug Interdiction and Counter-Drug Activities, Defense-wide at the levels identified in section 4502 of division D of this Act.

**Defense Inspector General (sec. 1509)**

The committee recommends a provision that would authorize the additional appropriations for the Office of the Inspector General of the Department of Defense identified in section 4502 of division D of this Act.

**Defense Health Program (sec. 1510)**

The committee recommends a provision that would authorize the additional appropriations for the Defense Health Program activities identified in section 4502 of division D of this Act.

**Subtitle B—Financial Matters**

**Treatment as additional authorizations (sec. 1521)**

The committee recommends a provision that would state that the amounts authorized to be appropriated in this title are in addition to amounts otherwise authorized to be appropriated by this Act.

**Special transfer authority (sec. 1522)**

The committee recommends a provision that would authorize the Secretary of Defense to transfer up to \$3.5 billion of overseas contingency operation funding authorized for fiscal year 2018 in this title to unforeseen higher priority needs in accordance with normal reprogramming procedures. This transfer authority would be in addition to the authority provided to the Secretary elsewhere in this Act.

**Subtitle C—Other Matters**

**Afghanistan Security Forces Fund (sec. 1531)**

The committee recommends a provision that would require that amounts authorized for the Afghanistan Security Forces Fund (ASFF) for fiscal year 2018 continue to be subject to the conditions specified in subsections (b) through (g) of section 1513 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181), as amended. The provision would extend the authority under subsection 1532(b) of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291) to accept certain equipment procured using the ASFF and to treat such equipment as Department of Defense stocks. The provision would also extend the goal of using \$25.0 million to support, to the extent practicable, the efforts of the Government of Afghanistan to promote the recruitment, training, and integration of Afghan women into the Afghan National Defense and Security Forces. The provision would also require that products published or issued by an inspector general relating to the over-

sight of the ASFF be prepared in accordance with certain quality standards.

### **Budget Items**

#### **Defense Security Cooperation Agency**

The budget request included \$2.3 billion for Operations and Maintenance, Defense-Wide (OMDW), Overseas Contingency Operations, for the Defense Security Cooperation Agency, of which \$1.0 billion is for Coalition Support Funds (CSF).

The committee notes that elsewhere in this Act is a provision that would limit the total amount of CSF that may be provided in fiscal year 2018 to \$900.0 million. Accordingly, the committee recommends a reduction of \$100.0 million to CSF.

#### **Transfer of European Reassurance Initiative**

The budget request included \$4.8 billion in the Overseas Contingency Operations account for the European Reassurance Initiative (ERI), of which \$214.3 million was for Military Personnel, \$2.27 billion was for Operation and Maintenance, \$1.87 billion was for Procurement, \$64.1 million was for Research, Development, Test, and Evaluation, \$306.9 million was for Military Construction, and \$50.1 million was for Revolving and Management Funds.

In the aftermath of Russia's invasion of Ukraine and annexation of Crimea and escalating threats against NATO allies in Eastern Europe, the ERI was designed to reverse major reductions in U.S. military presence. Due to arbitrary budget caps in the Budget Control Act of 2011 (P.L. 112–25), this timely U.S. response through the ERI was only possible by including those funds in the Overseas Contingency Operations (OCO) account. However, the committee has long been concerned the ERI does not properly belong in the OCO account and should be transferred to the base defense budget as soon as possible without negatively impacting ongoing U.S. efforts to reassure allies and re-establish deterrence.

Military and civilian leaders of the Department of Defense have consistently identified Russia as a top threat to U.S. national security interests. Substantial and sustained investment in U.S. military presence in Europe will be required to improve the capability, capacity, and agility of U.S. forces to address Russian conventional, nuclear, and hybrid threats from the Arctic region to Eastern Europe to the Mediterranean. In short, providing credible deterrence against Russian aggression is not a contingent requirement, but an enduring requirement.

Therefore, the committee recommends a transfer of these activities from the ERI in the OCO account to the European Deterrence Initiative as part of the base defense budget to fully support U.S. military presence in Europe, facilitate efficient planning and execution, and ensure budgetary transparency. The committee recommends a transfer of \$214.3 million from Military Personnel, \$2.12 billion from Operation and Maintenance, \$1.87 billion from Procurement, \$64.1 million from Research, Development, Test, and Evaluation, \$306.9 million from Military Construction, and \$50.1 million from Revolving and Management Funds for a total of \$4.63 billion from the OCO account to the respective base accounts.





## **TITLE XVI—STRATEGIC PROGRAMS, CYBER, AND INTELLIGENCE MATTERS**

### **Subtitle A—Space Activities**

#### **Air Force Space Command (sec. 1601)**

The committee recommends a provision that would require the Commander of Air Force Space Command serve a term of at least 6 years.

The committee is concerned that numerous organizational impediments impede the ability of the Department of Defense to meet the national security space challenges of the 21st century.

Numerous studies over the past 2 decades have concluded that DoD space leadership responsibilities are fragmented and defused. The committee believes that extending the tenure of the Commander of Air Force Space Command will partially address some of the challenges undermining the development, deployment, and employment of our National Security Space capabilities. Similar to the continuity of leadership employed by the Navy's Nuclear Propulsion Program and the Navy Strategic Systems Program, the committee believes that Air Force space programs, which similarly require enhanced technical and operational focus, will benefit from the sustained leadership.

Elsewhere in this Act, the committee also proposes the creation of the Chief Information Warfare Officer (CIWO). Among its numerous information and cyber-related roles and responsibilities, the CIWO would have the authority to establish policy for, and direct, the secretaries of the military departments and the heads of all other elements of the Department of Defense relating to space and space launch systems. The CIWO would also assume the role of the Principal Department of Defense Space Advisor.

#### **Air Force space contractor responsibility watch list (sec. 1602)**

The committee recommends a provision that would establish and maintain a contractor responsibility watch list (CRWL) for Air Force space programs. The CRWL would include contractors with histories of poor performance on space procurement or research, development, test, and evaluation program contracts. The provision would authorize the Commander of Air Force Space and Missile Systems Center to place a contractor on the CRWL upon determining that the ability of the contractor to perform Air Force space contracts has been called into question by: (1) Poor performance or award fee scores below 50 percent; (2) Financial concerns; (3) Felony or civil judgments; or (4) Security or foreign ownership and control issues.

The provision would also make the Commander of Air Force Space and Missile Systems Center responsible for determining which contractors to place on the watch list, whether an entire company or a specific division should be included, and when to remove a contractor from the list.

The provision would prohibit the Air Force Space and Missile Systems Center from soliciting an offer from, awarding a contract to, executing an engineering change proposal with, or exercising an option on any Air Force space program with a contractor included on the CRWL without the prior approval of the Commander of Air Force Space and Missile Systems Center. It would also prohibit a prime contractor on an Air Force Space and Missile Systems Center contract from entering into a subcontract valued in excess of \$3.0 million or 5 percent of the prime contract value with a contractor included on the CRWL without the prior approval of the Commander of Air Force Space and Missile Systems Center.

The provision would also establish a process for a contractor to submit to the Commander of Air Force Space and Missile Systems Center a written request for removal from the watch list, including evidence that the contractor has resolved the issue that was the basis for inclusion on the list.

The Commander of Air Force Space Command should notify the congressional defense committees of each instance an entity is either added or removed from the CRWL.

The committee believes that the Air Force space acquisition community lacks the tools necessary to effectively hold contractors accountable for poor performance. The space acquisition community has a finite number of contractors, involves numerous multi-billion dollar programs, and has a history of cost overruns and schedule delays. Program offices typically manage contractor performance via modifications to award fees or in the most extreme cases through debarment of a contractor. Because of this small contractor base, it is not uncommon for contractors who perform poorly on one program to win contracts for similar work in other programs. The committee believes that, if used effectively, the CRWL would provide the Air Force space acquisition community with an additional tool for enhanced accountability and better contractor performance.

The committee notes that there is precedence for this action. The National Reconnaissance Office has maintained and effectively utilized its own CRWL to hold its contractors accountable and to notify Congress of serious programmatic issues. If instituted similarly at the Air Force Space and Missile Systems Center, the CRWL will provide to the space acquisition community additional critical tools for ensuring taxpayer dollars are spent effectively by appropriately disincentivizing contractors' poor performance.

The committee believes the unique nature of satellite acquisition programs and the relatively small size of the satellite industrial base make the utilization of a CRWL particularly important.

#### **Presidential National Voice Conferencing system (sec. 1603)**

The committee recommends a provision that would consolidate disparate program elements of the Presidential and National Voice Conferencing (PNVC) system under the Air Force Program Executive Officer, who has been given overall responsibility for the sys-

tem. The PNVC system, which is a ground segment component of the Advanced Extremely High Frequency satellite system, is designed to give the President the ability to execute time-sensitive conference discussions with his advisors under the most stressing environments, including those associated with the employment of nuclear forces either before or after an attack. Currently, the components of the PNVC system are executed by different agencies, and hence its overall budget is fragmented. This provision would consolidate this fragmented structure under the Air Force. The committee believes that it is important that the authority for this effort be aligned with accountability under the Air Force. Given the importance of this nuclear command, control, and communications acquisition and the delays encountered to date due to its fragmented structure, reporting shall follow guidelines for an Acquisition Category 1 system.

**Limitation on use of funds for Delta IV launch vehicle (sec. 1604)**

The committee recommends a provision that would prohibit the Air Force from obligating funds to maintain infrastructure, system engineering, critical skills, base and range support, depreciation, or sustainment commodities for the Delta IV launch vehicle unless the Secretary of the Air Force certifies to the congressional defense committees that the Air Force plans to launch a satellite procured by the Air Force on a Delta IV launch vehicle within 3 years of that certification.

The committee understands that while the Air Force no longer has plans to utilize the Delta IV launch vehicle, the National Reconnaissance Office (NRO) will rely on the Delta IV to meet its heavy lift requirements for the foreseeable future. While the committee advocated for the Delta IV launch vehicle to eliminate its reliance on the Atlas V, the Air Force has insisted that it no longer intends to utilize the Delta IV. Given that the Air Force no longer requires the Delta IV, the committee believes that the Air Force should not be responsible for the significant costs associated with maintaining the capability for the NRO.

The committee is concerned that with the decision to phase out the Delta IV, the Air Force and the NRO have both underestimated the cost and technical risk in replacing the unique heavy lift capability required to meet NRO requirements.

**Policy of the United States with respect to classification of space as a combat domain (sec. 1605)**

The committee recommends a provision that would state that it is the policy of the United States to develop, procure, field, and maintain an integrated system of assets in response to the increasingly contested nature of the space operating domain to: (1) ensure the resilience of capabilities at every level of orbit in space; (2) deter or deny an attack on capabilities at every level of orbit in space; and (3) defend the territory of the United States, its allies, and its deployed forces across all operating domains.

**Launch support and infrastructure modernization (sec. 1606)**

The committee understands that in calendar year 2017, Eastern Launch and Test Range plans to support 35 space launches, with an expected increase to 48 launches annually in the next few years. This represents tremendous growth from the 7 to 18 launches seen annually in previous years.

The committee also understand that not only is the tempo of space launches increasing, but the number, type, and providers of space launch vehicles and activities are also growing to fulfill the national objective of a competitive domestic space launch industry.

Then-Commander of U.S. Air Force Space Command, General John Hyten, issued in March 2016 his “Commander’s Intent on Range Support to Commercial Space Launch” to increase the Department of Defense’s ability to provide efficient space launch and range support to civil and commercial space launch providers.

The committee is concerned that, despite increased efficiencies in space launch due to better liaison between defense, civil, and commercial space launch providers, full-scale space launch operations are limited by decaying range infrastructure on both the Eastern and Western Test and Launch Ranges.

Therefore, the committee directs the Secretary of Defense to carry out a program to modernize space launch infrastructure and improve space launch activities, to include processing and launch of national security space vehicles, in the Eastern and Western Test and Launch Ranges.

**Subtitle B—Defense Intelligence and Intelligence-Related Activities**

**Extension of authority to engage in commercial activities as security for intelligence collection activities (sec. 1611)**

The Committee recommends a provision that would extend by 3 years the authority under section 431 of title 10, United States Code.

**Subtitle C—Cyber Warfare, Cybersecurity, and Related Matters**

**Policy of the United States on cyberspace, cybersecurity, and cyber warfare (sec. 1621)**

The committee recommends a provision that would establish the policy of the United States with respect to matters pertaining to cyberspace, cybersecurity, and cyber warfare.

The committee has long expressed its concern with the lack of an effective strategy and policy for addressing cyber threats and cyber deterrence. The National Defense Authorization Act has included numerous provisions over the past few years that directed the executive branch to define and develop the policies and strategies necessary to improve the structure, capability, roles, and responsibilities of our national cyber efforts. The committee has also placed a strong emphasis on the need for developing a comprehensive cyber deterrence strategy. Unfortunately, the committee believes

the responses to those requests have been insufficient and not commensurate with the threat we face in the cyber domain.

**Cyber posture review (sec. 1622)**

The committee recommends a provision that would require the Secretary of Defense, in consultation with the Director of National Intelligence, the Attorney General, the Secretary of the Department of Homeland Security, and the Secretary of State, to conduct a cyber posture review. The purpose of the review would be to clarify U.S. cyber deterrence policy and strategy for the near term by conducting a comprehensive review of the cyber posture of the United States for the next 5 to 10 years. A report on the results of the review would be due no later than March 1, 2018, in unclassified and classified forms as necessary.

The provision would also state that it is the sense of Congress that the United States should respond to all cyber attacks and to all significant cyber intrusions by imposing costs on those responsible that exceed any benefit that the attacker or intruder may have hoped to gain.

The Department of Defense Science Board Task Force on Cyber Deterrence asserted in a report released in February 2017, that, for “at least the coming five to ten years, the offensive cyber capabilities of our most capable potential adversaries are likely to far exceed the United States’ ability to defend and adequately strengthen the resilience of its critical infrastructures.” As a result the Board concluded that “bolstering the U.S. cyber deterrence posture must be an urgent priority.”

The committee has long advocated for a robust cyber deterrence policy and has been disappointed in the level of seriousness and priority afforded to developing a deterrence framework by prior administrations. The committee encourages the new administration to immediately prioritize the development of a cyber deterrence strategy that emphasizes both deterrence by denial and deterrence by consequence imposition.

**Modification and clarification of requirements and authorities relating to establishment of unified combatant command for cyber operations (sec. 1623)**

The committee recommends a provision that would modify the requirements and authorities germane to the establishment of a unified combatant command for cyber operations, mandated by section 167b(a) of title 10, United States Code. The recommended provision would: (1) Direct that the elevation of United States Cyber Command to a unified combatant command occur before the Cyber Mission Force reaches full operational capability; (2) Clarify the functions of cyber command to make them align with Department of Defense policy; and (3) Refine the command and control responsibilities of the Cyber Command Commander.

The committee notes that on May 9, 2017, the Commander of United States Cyber Command testified that the Cyber Mission Force is scheduled to be fully operational by the end of fiscal year 2018.

**Annual assessment of cyber resiliency of nuclear command and control system (sec. 1624)**

The committee recommends a provision that would require the Commander of the United States Strategic Command and the Commander of the United States Cyber Command to jointly conduct an annual assessment of the cyber resiliency of the nuclear command and control system. The assessment would evaluate the sufficiency and resiliency of the nuclear command and control system for operation through a cyber attack and would develop recommendations for mitigating the concerns of the Commanders born from this assessment.

The provision would require the Commanders to jointly submit to the Chairman of the Joint Chiefs of Staff, for submission to the Council on Oversight of the National Leadership Command, Control, Communications System (“the Council”), a report on the assessment. The Council would also submit the report and any comments it feels appropriate to the Secretary of Defense, and the Secretary of Defense would submit to the congressional defense committees the report along with the Council’s and the Secretary of Defense’s comments. The provision would sunset 10 years after the date of enactment.

In a report released in February 2017, the Department of Defense Science Board Task Force on Cyber Deterrence recognized that “nuclear forces and supporting infrastructure require sustained and comprehensive assessments of their ability to operate in the face of a major state’s cyber attack.” Consistent with the annual requirements for the nuclear stockpile assessment to the President and Congress, the Board concluded that the “cyber security and resilience of U.S. nuclear forces (especially nuclear command, control, and communications (NC3)) is of equal and parallel importance.”

**Strategic Cybersecurity Program (sec. 1625)**

The committee recommends a provision that would require the Secretary of Defense, acting through the Director of the National Security Agency, to establish the Strategic Cybersecurity Program (SCP). The program would execute continual red-teaming reviews of: (1) Offensive cyber systems; (2) Long-range strike systems; (3) Nuclear deterrent systems; (4) National security systems; and (5) Critical infrastructure of the Department of Defense. The SCP would also be responsible for assessing the cybersecurity adequacy of acquisition plans for proposed systems and infrastructure in order to ensure the effectiveness of these covered systems. The provision would provide for this effort up to \$100.0 million of the funding authorized to be appropriated in fiscal year 2018 for the Information Systems Security Program.

In a report released in February 2017, the Department of Defense Science Board Task Force on Cyber Deterrence concluded that “[b]usiness as usual will not be adequate to provide a high degree of confidence that systems essential to offensive cyber, long-range strike, and nuclear deterrence are resilient (end-to-end) against top tier cyber attack. A sustained independent red team capability, backed by top-notch analytics and supported by intelligence assessments, is needed. It is vital that such a red team be

independent from the mission owner of the systems it is evaluating.”

Consistent with the Board’s findings, the committee believes that the SCP should be a “sustaining effort over decades with top-notch leaders and technologically diverse staff” and modeled on the nuclear ballistic missile submarine security program. The program should: include the emulation of top tier adversaries and an expanded consideration of threats; inform and be informed by intelligence collection requirements; and include a full range of counter-measure development.

The committee is aware that each of the Services is developing Cyber Protection Teams (CPTs) to defend department systems and networks. The committee believes that CPT capacity is limited and will be required to assess, defend, and triage a variety of threats of different degrees of severity. The CPT construct is also both flexible and deployable. However, the committee believes that certain systems of critical importance require specialized capability and evaluation independence from the mission owner. Therefore, the committee recommends the development of an elite independent red-teaming capability to continuously assess the information assurance of the Department of Defense’s most significant networks and critical infrastructure.

The committee is also aware that the Cyber Resiliency of Weapons Systems program is working to identify vulnerabilities in current and existing weapons systems. The committee anticipates that the Strategic Cybersecurity Program and the Cyber Resiliency of Weapons Systems program will work closely together to prioritize their respective work based on the most critical cybersecurity needs of the Department of Defense.

#### **Evaluation of agile acquisition of cyber tools and applications (sec. 1626)**

The committee recommends a provision that would require the Commander of U.S. Cyber Command to conduct an evaluation of alternative methods for developing, acquiring, and maintaining software-based cyber tools and applications for Cyber Command and for the cyber component commands of the Armed Forces. The goal of the evaluation is to identify a set of practices that will increase the speed and effectiveness of developing capabilities to match the speed at which the operational cyber environment changes, in peacetime and during a conflict.

The provision would specifically require consideration of the Agile Acquisition and related models that are widely used in leading software and information technology companies and recommended by the Defense Digital Service.

The committee has been concerned for many years about the inability of the Department of Defense (DOD), despite congressional encouragement, to propose and adopt an acquisition model tailored to the unique and demanding cyber mission in DOD. DOD cyber forces must react almost instantly to constant changes in the operational environment in defended cyberspace, the global Internet, and adversary networks, as well as in adversaries’ tools and tactics. Tool and application development must be rapid and tightly coupled to users and operators, but must also be disciplined and re-

peatable. Industry best practices provide mature models for DOD to adopt.

**Report on cost implications of terminating dual-hat arrangement for Commander of United States Cyber Command (sec. 1627)**

The committee recommends a provision that would require the Commander of United States Cyber Command to provide to the congressional defense committees a report that identifies the costs associated with developing the capabilities required to meet the requirements outlined in section 1642(b)(2)(C) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328).

The National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) included a provision that prohibited the Secretary of Defense from taking action to end the “dual-hat arrangement” until the Secretary and the Chairman of the Joint Chiefs of Staff jointly determine and certify to the appropriate committees of Congress that ending that arrangement would not pose unacceptable risks to the military effectiveness of Cyber Command. The provision also required the establishment of conditions-based criteria, including the achievement of full operational capability of the cyber mission force and the development of: (1) Robust operational infrastructure; (2) Robust command and control systems and processes; (3) The tools and weapons used in cyber operations; (4) Capabilities to enable intelligence collection and operational preparation of the environment for cyber operations; and (5) Capabilities to train cyber operations personnel, test cyber capabilities, and rehearse cyber missions.

The committee believes any decision to separate Cyber Command and the National Security Agency should be conditions-based. The committee also believes that the funding associated with separating the “dual-hat arrangement” will be a multiyear sustained effort. The committee notes that the fiscal year 2018 budget request failed to include the funding necessary to resource the separation of the “dual-hat arrangement.” The committee looks to Cyber Command to estimate the funding required to meet the conditions identified in section 1642(b) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) and intends to closely monitor future budget submissions and the cost, schedule, and performance of key cyber programs to ensure that Cyber Command is appropriately resourced prior to any decision to end the “dual-hat arrangement.”

**Modification of Information Assurance Scholarship Program (sec. 1628)**

The committee recommends a provision that would amend section 2200a of title 10, United States Code, to formally designate the Department of Defense Cybersecurity Scholarship Program, and to require that not less than 5 percent of the funding allocated to the program each year be reserved for the pursuit of an associate degree. The provision would also require the Secretary of Defense, by no later than September 30, 2018, to provide a plan to the congressional defense committees for reinvigoration of the program.



**Measuring compliance of components of Department of Defense with cybersecurity requirements for securing industrial control systems (sec. 1629)**

The committee recommends a provision that would direct the Secretary of Defense to update its cyber scorecards to ensure that the Secretary measures each component of the Department of Defense in its progress towards securing the industrial control systems of the Department against cyber threats.

**Exercise on assessing cybersecurity support to election systems of States (sec. 1630)**

The committee recommends a provision that would require the Secretary of Defense to incorporate the cybersecurity of elections systems of the States as a component of the Cyber Guard Exercise.

**Report on various approaches to cyber deterrence (sec. 1630A)**

The committee recommends a provision that would require the Secretary of Defense to prepare a report on various approaches to cyber deterrence.

The committee believes that our national security is at great risk. The cyber threats we face from Russia, China, North Korea, and Iran are growing in sophistication and scale. According to the Department of Defense Science Board's Task Force on Cyber Deterrence, "The cyber threat to U.S. critical infrastructure is outpacing efforts to reduce pervasive vulnerabilities, so that for the next decade at least the United States must lean significantly on deterrence to address the cyber threat posed by the most capable U.S. adversaries. It is clear that a more proactive and systematic approach to U.S. cyber deterrence is urgently needed."

The committee remains concerned by the executive branch's lack of urgency and failure to address the foundational legal and policy questions required to formulate an effective deterrence strategy. The committee believes the Nation cannot afford to fall another decade behind the cyber threats that are proliferating exponentially. As the Defense Science Board report states, a "proactive and systematic approach" is necessary.

In light of the inherent complexities of cyber deterrence and this issue's relatively nascent theoretical foundations, the committee believes that the Department of Defense should complete a robust competitive analysis with three strategic objectives: (1) To identify, define, and explain the various theoretical approaches to cyber deterrence; (2) To present the strengths and weaknesses of each approach relative to the threat and to one another; and (3) To present a recommended cyber deterrence doctrine for the United States as well as a dissenting alternative if necessary.

Further, as the Secretary completes this report, the committee encourages the Secretary to consider past efforts that have leveraged creative approaches to difficult problems. For example, when President Eisenhower needed to formulate a comprehensive government strategy for dealing with an emerging Soviet challenger, he commissioned his "Solarium Project," which tasked three separate expert "task forces"—each with the same information but operating with different philosophies and under different constraints—

to investigate and to recommend a strategy for U.S. engagement with the Soviet Union. We believe approaches like the “Solarium Project” may prove to be useful models for this report.

**Prohibition on use of software platforms developed by Kaspersky Lab (sec. 1630B)**

The committee recommends a provision that would prohibit any component of the Department of Defense from using, whether directly or through work with or on behalf of another element of the United States Government, from using any software platform developed, in whole or in part, by Kaspersky Lab or any entity of which Kaspersky Lab has a majority ownership.

**Subtitle D—Nuclear Forces**

**Collection, storage, and sharing of data relating to nuclear security enterprise (sec. 1631)**

The committee recommends a provision that would require data sharing between the Department of Energy’s (DOE) National Nuclear Security Administration (NNSA) and the Department of Defense (DOD) with respect to cost, programmatic, and technical data relating to programs and projects of the nuclear security enterprise.

The committee notes that this provision not only concerns the sharing of such data between the DOE/NNSA and DOD but also within each agency so that the U.S. Government-funded pool of data is common to the nuclear enterprise. Data developed by taxpayer dollars belong to the U.S. Government, and data collected by any one government organization should be shared—especially with respect to developing accurate cost estimates of future programs to assist in developing engineering designs and requirements. It is incumbent upon senior government officials as stewards of taxpayer dollars to promote data sharing and to ensure that all procedural hurdles and classifications are overcome.

The committee notes that the Atomic Energy Act does not restrict data sharing between organizations. Section 2163 of title 42, United States Code, explicitly allows the sharing of data between organizations as long as the Department of Defense designee has determined security requirements are met.

**Establishment of procedures for implementation of Nuclear Enterprise Review (sec. 1632)**

The committee recommends a provision that would require the Secretary of Defense to issue a final Department of Defense Instruction no later than 1 year after the date of enactment of this Act for the 2014 Nuclear Enterprise Review. The committee believes that a formal DOD Instruction will institutionalize a process that has served the Department well so far in addressing concerns initially documented by the 2014 Nuclear Enterprise Review.

**Procurement authority for certain parts of intercontinental ballistic missiles (sec. 1633)**

The committee recommends a provision that would authorize the Department of Defense to buy intercontinental ballistic missile

parts pursuant to contracts entered into under section 1645(a) of the Carl Levin and Howard P. “Buck” McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291).

**Execution and programmatic oversight of nuclear command, control, and communications programs (sec. 1634)**

The committee recommends a provision that would require the Chief Information Officer (CIO) of the Department of Defense (DOD), or any successor with primary responsibility for nuclear command, control, and communications (NC3), in coordination with the Under Secretary of Defense of Acquisition and Sustainment, to develop a database of acquisition program metrics on DOD NC3 acquisition systems not later than 1 year after the date of enactment of this Act.

NC3 systems connect the President to his advisors and ultimately enable force direction of the nuclear forces, making its modernization a key national priority. The committee is concerned about the management of more than 100 separate NC3 systems fragmented between the Department of the Air Force, the Department of the Navy, and the Office of the Secretary of Defense. This fragmentation has led to delays in critical capabilities. Section 171(a) of title 10, United States Code, created the Council on Oversight of the National Leadership Command, Control, and Communications Systems (the Council), with the CIO acting as Executive Secretary, to provide oversight of these systems, but much work remains to be done.

Furthermore, the committee is concerned that the Council has neglected long-term planning in favor of addressing crises as they arise. The Council is currently required to provide an annual report to the congressional defense committees on its recent activities and the activities proposed under the current future years defense program, along with details on current programs and threats.

Therefore, the committee directs the Council to add to its annual report to Congress, beginning in 2019, a section on its 10-year plan for acquisition, modernization, and sustainment. The plan should cover schedule, cost, risk, system-level integration, and surety.

Finally, the committee values the work of the Government Accountability Office (GAO) in reviewing the progress and challenges facing NC3 acquisition and programs. The committee therefore directs the Comptroller General of the United States to continue assessment of these programs, as well as the progress developing and implementing an overall NC3 architecture, and to brief the congressional defense committees on the results on an annual basis from fiscal years 2018 to 2022 with periodic updates as agreed to with the GAO. In particular, the Comptroller General should provide, as the GAO has for space systems, a brief periodic summary of the acquisition status of selected NC3 programs that are below Acquisition Category I, which are not normally tracked in the Selected Acquisition Reporting database. The Comptroller General should pay particular attention to the recent efforts that the Air Force has taken to consolidate NC3 acquisition at the Air Force Nuclear Weapons Center, the allocation of staff and secure facilities to stand up this acquisition effort, and the general implemen-

tation of NC3 activities and organizations outlined in Air Force Program Action Directive D16-01, dated August 2, 2016.

Further, the Comptroller General should consult with the congressional defense committees each year as he or she determines the scope and timing of each annual review. Each review may include, as the Comptroller General deems appropriate, the insights of both DOD and non-DOD entities that have relevant NC3 knowledge. The Comptroller General should, as part of periodic reporting, notify the congressional defense committees of any issues with the assistance of these entities that may delay or hinder data gathering and reporting.

**Measures in response to noncompliance of the Russian Federation with its obligations under the INF Treaty (sec. 1635)**

The committee recommends a provision that would authorize a research and development program on a dual-capable ground-launched missile with a maximum range of 5,500 kilometers, in order to close the capability gap opened by the Russian violation of the Intermediate-Range Nuclear Forces (INF) Treaty.

U.S. officials have been aware of possible violations by the Russian Federation of the INF Treaty since 2008. The U.S. Government did not raise the issue with Russian officials until 2013, and it did not brief NATO on the subject until 2014. Since 2013, senior U.S. officials, including the President, the Secretary of State, and the Chairman of the Joint Chiefs of Staff, have raised the violations with their Russian counterparts, but there is no evidence that Russia is moving toward compliance with the treaty. The 2017 Department of State report titled, “Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments,” concluded that Russia remains in violation of its obligations under the INF Treaty.

It is not in the national security interests of the United States to refrain from doing any research and development into such military capabilities while Russian capabilities are developed, advanced, produced, and deployed, and no other country in the world is bound by the treaty. The committee does not intend for the United States to enter into violation of the INF Treaty. The committee notes that research and development, without testing, would not constitute a violation of the treaty.

While a missile with advanced capabilities may be preferable once the technology has matured, the most practicable solution in the near-term may be modification of an existing missile system for ground-launch. Accordingly, the provision would require the Secretary of Defense to submit a report to the congressional defense committees evaluating existing U.S. missile systems for modification to intermediate range and ground-launch, including Tomahawk, Standard Missile-3, Standard Missile-6, Long-Range Stand-Off Cruise Missile, and Army Tactical Missile System. The system may be operated by whichever military service deemed most appropriate by the Secretary of Defense but should be suitable for deployment by the Commanders of U.S. European Command and U.S. Pacific Command.

The report should be submitted to the congressional defense committees no later than 120 days after enactment of this Act.

**Certification that the Nuclear Posture Review addresses deterrent effect and operation of United States nuclear forces in current and future security environment (sec. 1636)**

The committee recommends a provision that would require that the Secretary of Defense certify that the new Nuclear Posture Review (NPR) being conducted by the Department of Defense addresses: (1) The ability of the current U.S. nuclear posture to deter current and future nuclear-armed adversaries; (2) The ability of the United States to operate in a major regional conflict that involves nuclear weapons; (3) The ability and preparedness of forward-deployed members of the Armed Forces to operate in a nuclear environment; and (4) Weapons, equipment, and training not currently part of U.S. nuclear posture that would fill any gaps in those capabilities.

The provision would also require the Secretary to certify that the NPR addresses all the above interests for the projected security environment and U.S. nuclear posture over the next 10 years and identify any actions that could be taken by the Secretary of Defense or the Administrator of the National Nuclear Security Administration to decrease the risk posed by additional changes in the security environment in the future.

The provision would also state the sense of the Congress on the importance of the timely modernization of U.S. nuclear forces in order to maintain a flexible and resilient force.

**Plan to manage Integrated Tactical Warning and Attack Assessment System and multi-domain sensors (sec. 1637)**

The committee recommends a provision that, not later than 1 year after the date of the enactment of this Act, would require the Secretary of the Air Force to manage the missile element of the Integrated Tactical Warning and Attack Assessment (ITWAA) system as a weapon system consistent with Air Force Policy Directive 10-9, "Lead Command Designation and Responsibilities for Weapon Systems," dated March 8, 2007.

In addition, the Secretary of the Air Force should include a long-term plan to integrate and manage all available sensors for multi-domain exploitation against modern and emergent threats.

**Certification requirement with respect to strategic radiation hardened trusted foundry (sec. 1638)**

The committee recommends a provision that would require the Secretary of Defense to certify to the congressional defense committees that a strategic radiation hardened trusted foundry will be operational not later than December 31, 2020. The microelectronic components supplied by such a foundry will be necessary for the successful and timely completion of the Ground-Based Strategic Deterrent and the Long-Range Stand-off Missile programs. It is the committee's understanding that there is one remaining trusted foundry capable of meeting future requirements of these systems. The committee is concerned about the health of the industrial base

for such specialized components and will continue to track this issue closely.

In addition to the certification, the committee directs the Secretary of Defense to submit a report to the congressional defense committees on the Department of Defense's plan to ensure an operational foundry by 2020. This plan should be developed in coordination with the Department's long-term strategy for trusted and assured microelectronics and should take into consideration future opportunities for coordinating acquisition of strategic radiation hardened microelectronics across the Services and programs.

The report should be submitted no later than February 28, 2018.

#### **Requirements for Nuclear Posture Review (sec. 1639)**

The committee recommends a provision that would require the Secretary of Defense to fully incorporate into the Nuclear Posture Review (NPR) input and views from other government agencies, including the Department of Energy, the Department of State, and the National Nuclear Security Administration. The provision would also require the Secretary of Defense to submit the NPR in its entirety to the congressional defense committees and provide an unclassified version to the public.

#### **Sense of Congress on Nuclear Posture Review (sec. 1640)**

The committee recommends a provision that would express the sense of the Congress that the Nuclear Posture Review should take into account treaty obligations of the United States, and should examine the tools required to sustain the stockpile stewardship program under section 4201 of the Atomic Energy Defense Act (50 U.S.C. 2521).

### **Subtitle E—Missile Defense Programs**

#### **Iron Dome short-range rocket defense system and Israeli Cooperative Missile Defense Program co-development and co-production (sec. 1651)**

The committee recommends a provision that would authorize not more than \$92.0 million for the Missile Defense Agency to provide to the Government of Israel to procure Tamir interceptors for the Iron Dome short-range rocket defense system through co-production of such interceptors in the United States. Before disbursing the funding for Iron Dome to the Government of Israel, the Director of the Missile Defense Agency and the Under Secretary of Defense for Acquisition and Sustainment must certify that the March 5, 2014, bilateral international agreement concerning Iron Dome, as amended, is being implemented.

The provision would also authorize \$120.0 million for the Missile Defense Agency to provide to the Government of Israel for the procurement of the David's Sling Weapon System and \$120.0 million for the Arrow 3 Upper Tier Interceptor program, including for co-production of parts and components in the United States by U.S. industry. The funds for the David's Sling Weapon System may be disbursed after the Under Secretary of Defense for Acquisition and Sustainment certifies that the Government of Israel has demonstrated successful completion of certain milestones required by

the research, development, and technology agreement and the bilateral co-production agreement; that the funds will be matched on a one-for-one basis or in an amount that otherwise meets best efforts; and that the level of co-production of parts and components in the United States is not less than 50 percent. Additionally, the committee directs United States and Government of Israel representatives from the David's Sling Weapon System Affordability Working Group to jointly brief the committee no later than October 1, 2017, on the drivers of production costs, cost reduction initiatives, and efforts to achieve co-production efficiencies for the David's Sling program.

The funds for the Arrow 3 Upper Tier program may be disbursed after certain conditions, which include the completion of two successful flight tests at a test range in the United States and certification from the Under Secretary of Defense for Acquisition and Sustainment that the United States has entered into a bilateral agreement with the Government of Israel. That agreement must establish: (1) The terms of co-production of parts and components; (2) Transparency on the Israeli requirement for the number of interceptors and batteries; (3) Technical milestones for co-production and procurement; (4) A joint affordability working group to consider cost reduction initiatives; and (5) Joint approval processes for third-party sales.

The committee acknowledges that the September 14, 2016, Memorandum of Understanding (MOU) between the United States and Israel commits \$500.0 million in U.S. funding for cooperative missile defense programs annually beginning in fiscal year 2019 and ending in fiscal year 2028. According to the MOU, the United States and Israel jointly understand that any U.S. funds provided for such programs should be made available according to separate bilateral agreements for the Iron Dome, David's Sling, and Arrow 3 weapon systems, and should maximize co-production of parts and components in the United States at a level equal to or greater than 50 percent of U.S.-appropriated funds for production. Additionally, Israel commits not to seek additional missile defense funding from the United States for the duration of the MOU, except in exceptional circumstances as may be jointly agreed by the United States and Israel. The committee expects to receive annual updates on all cooperative defense programs, as delineated in the MOU, to include progress reports and spending plans, as well as the top-line figures of the Israel Missile Defense Organization budget.

#### **Development of persistent space-based sensor architecture (sec. 1652)**

The committee recommends a provision that would, unless otherwise directed or recommended by the Ballistic Missile Defense Review (BMDR), require the Director of the Missile Defense Agency (MDA) to develop using sound acquisition practices a highly reliable and cost-effective persistent space-based sensor architecture capable of supporting the ballistic missile defense system. The Director of the Missile Defense Agency should ensure that rigorous testing of the space-based sensor architecture is conducted before final production decisions or operational deployment. The space-based sensor architecture should provide functions such as: (1) con-

trol of increased raid sizes; (2) precision tracking of threat missiles; (3) fire-control-quality tracks of evolving threat missiles; (4) enabling launch-on-remote and engage-on-remote capabilities; (5) discrimination of warheads; (6) effective kill assessment; (7) an enhanced shot doctrine; (8) integration with the command, control, battle management, and communication program of the ballistic missile defense system, (9) integration with all other elements of the current ballistic missile defense system, including the Terminal High Altitude Area Defense, Aegis Ballistic Missile Defense System, and Patriot Air and Missile Defense Systems; (10) and any additional functions the BMDR finds to be appropriate.

The committee recognizes that the current space-based missile defense sensor architecture is in need of further development and advancement and notes that, in order to counter the growing threat from North Korea and Iran, the United States should invest in a space-based sensor architecture to strengthen homeland defense. To that end, the committee recommends the authorization of MDA's request of \$27.5 million on its Unfunded Requirements List to support the development of a space-based sensor architecture. The committee notes that while developing the space-based sensor architecture, the Director of MDA should design the program so as to avoid, to the extent possible, the acquisition and program management missteps that occurred in the past on similar programs. Because of the high cost to develop and deploy any system in space, the committee recommends that, as MDA generates cost estimates for the space-based sensor architecture, it should utilize either: (1) the GAO cost-estimating and assessment guide (GAO-09-3SP) or (2) the Cost Assessment and Program Evaluation (CAPE) operating and support cost-estimating guide.

#### **Ground-based interceptor capacity and Fort Greely missile field infrastructure requirements (sec. 1653)**

The committee supports the efforts of the Missile Defense Agency (MDA) and the Department of Defense to complete the emplacement of 44 Ground Based Interceptors (GBIs) by the end of 2017 and to improve the overall reliability and performance of the GBI fleet and the Ground-based Midcourse Defense system. The committee notes that MDA has made critical improvements to the existing kill vehicles of some of the GBI fleet in order to address deficiencies demonstrated in flight tests. The committee encourages MDA's development of the Redesigned Kill Vehicle (RKV) to further address reliability concerns in the existing fleet and to enhance the warfighter's shot doctrine. Additionally, the committee encourages the Department to continue its efforts to complete a Ballistic Missile Defense Review (BMDR), as directed by the January 27, 2017 Presidential Memorandum on Rebuilding the U.S. Armed Forces and section 1684 of the National Defense Authorization Act for Fiscal Year 2017 (P.L. 114-328). As the threat from adversaries' missiles becomes more sophisticated and complex, the committee acknowledges that expanding the GBI fleet beyond 44 is just one option for addressing such a threat, but would need to consider where additional GBIs could be deployed and the infrastructure costs to do so. The committee will evaluate any recommenda-



tions for expanding or modifying the current program of record for homeland missile defense put forward by the BMDR.

Therefore, the committee recommends a provision that, unless otherwise directed by the BMDR, directs the Secretary of Defense to increase the number of GBIs by up to 28, and execute any requisite construction to ensure that Missile Fields 1 and 2 at Fort Greely, or any other alternative missile fields, are capable of supporting and sustaining additional GBIs. The Secretary shall additionally identify a ground-based interceptor stockpile storage site for up to 14 GBIs.

The committee recognizes that an increase to GBIs at Fort Greely, or elsewhere, requires significant planning. Therefore, the committee directs the Director of the Missile Defense Agency to submit to the congressional defense committees, not later than 90 days after the enactment of this act, a report on options to increase the capacity by up to 100 GBIs of the ground-based midcourse defense element of the ballistic missile defense system, including an identification of potential sites, a cost-benefit analysis of such sites, a description of the additional infrastructure and components needed, along with a cost and schedule estimate, to increase the number of ground-based interceptors configured with the RKV, or other designs, at Fort Greely, Alaska, or other locations. This report should also include the benefit of supplementing ground-based midcourse defense elements, with other more distributed elements, for homeland defense.

**Sense of the Senate on the state of United States missile defense (sec. 1654)**

The committee recommends a provision that expresses the sense of the Senate that the Secretary of Defense should use the Ballistic Missile Defense Review (BMDR) to consider accelerating the development of technologies that will increase the capacity, capability, and reliability of the ground-based midcourse defense element of the ballistic missile defense system and that, upon completion of the BMDR, to the extent practicable and with sound acquisition practices, the Director of the Missile Defense Agency should accelerate the development, testing, and fielding of such capabilities as they are prioritized in the BMDR, to include the redesigned kill vehicle, the multi-object kill vehicle, the C3 booster, a space-based sensor layer, boost phase sensor and kill technologies, and additional ground-based interceptors. The provision also states that it is essential for the Department of Defense and the Missile Defense Agency to follow a “fly before you buy” approach before final production decisions or operational deployment.

**Sense of the Senate and report on ground-based mid-course defense testing (sec. 1655)**

The committee recommends a provision that expresses the sense of the Senate that the Missile Defense Agency (MDA) should increase funding to homeland missile defense testing and continue to flight test the ground-based midcourse defense system at least once each fiscal year. The committee directs the Director of the Missile Defense Agency to submit a report to the congressional defense committees that includes a revised missile defense testing cam-

paign that accelerates the development and deployment of new missile defense technologies. This revised testing campaign should specifically review the acceleration of the redesigned kill vehicle, the multi-object kill vehicle, the configuration-3 booster, unmanned aerial vehicles that utilize directed energy, and a space-based missile defense sensor architecture.

### **Items of Special Interest**

#### **Airborne boost phase laser missile defense demonstration**

The committee directs the Director of the Missile Defense Agency, unless otherwise recommended by the Ballistic Missile Defense Review, to rapidly develop and demonstrate an airborne boost phase intercept capability for missile defense. Existing technologies should be adapted to demonstrate this capability. The concept of operation for this demonstration should be developed in cooperation with the U.S. Pacific Command to address emerging threats and heightened tensions in the Asia-Pacific region.

#### **AN/TPY-2 detection and cueing capability**

The committee notes the increased level of ballistic missile development, testing, and, in some cases, use by specific countries in the Pacific and Middle Eastern regions. More sophisticated missile technologies, combined with growing missile quantities and mobility, are increasing the threat to not only our forward deployed personnel but also the homeland. Hostile missile launches and testing programs that threaten U.S. personnel and partners and allies like Saudi Arabia, Japan, and Turkey require a more robust forward presence of early detection, cueing, and discrimination capabilities to detect and eliminate these constantly evolving threats.

The committee notes that the AN/TPY-2 radars currently forward deployed in the U.S. Central and Pacific Command areas of responsibility have successfully provided early detection and cueing capability for 11 years and could serve as a template for future expansion of ballistic missile defense (BMD) capabilities, both as a stand-alone sensor or as part of a larger BMD system such as a Terminal High Altitude Area Defense (THAAD) battery.

The Secretary of Defense has been tasked to “initiate a new Ballistic Missile Defense Review to identify ways of strengthening missile-defense capabilities, rebalancing homeland and theater defense priorities and highlighting priority funding areas.” The committee encourages the Army to strongly consider fiscal year 2019 and fiscal year 2020 funding for additional AN/TPY-2 radar acquisitions, in either Forward Base or Terminal Mode, to meet the growing global and regional need.

Therefore, the committee directs the Secretary of Defense to brief the congressional defense committees by September 1, 2017 on plans to provide additional forward deployed radar detection and cueing capabilities. This briefing shall include: (1) an analysis of regional missile threats; (2) any specific capabilities needed for operations in a nuclear environment; (3) near-term alternatives for addressing threats; and (4) timelines to deploy additional assets and the budget needed to fund these additional capabilities.

### **Assistance of U.S. Special Operations Command to U.S. Forces-Korea for Countering Weapons of Mass Destruction**

Under the Unified Command Plan, the U.S. Special Operations Command is tasked with synchronizing the plans of the geographic commands to Counter Weapons of Mass Destruction (CWMD). U.S. Special Operations Forces (SOF) also have exquisite, but limited, capabilities to secure and render safe WMDs. The U.S. Forces-Korea are responsible for deterring and countering threats from North Korea, including its stockpiles of chemical, biological, and nuclear weapons. The committee understands that North Korea's chemical and biological weapons stockpiles are large and stored in numerous heavily fortified sites.

In the event of a contingency, the committee understands that special operations and conventional ground forces, including the Second Infantry Division, will be tasked with securing such stockpiles and sites. However, it is not clear to the committee how U.S. SOF would synchronize its highly specialized CWMD skills within a larger military campaign designed to secure the significant number of WMD sites in North Korea involving conventional forces.

Therefore, the committee directs the Commanders of the U.S. Forces-Korea and U.S. Special Operations Command to submit a plan for synchronizing skills and expertise of conventional and special operations forces with respect to securing North Korean WMD sites. As part of this plan, the committee directs the Commander of U.S. Forces-Korea to describe current deficiencies and shortfalls that should inform changes to operational planning (within Korea and the U.S. Government) and training and equipping of its forces to secure North Korean WMD sites, if directed. The committee directs that the plan be delivered to the congressional defense committees not later than February 28, 2018.

### **Cobra Dane radar system improvements**

The committee is aware of the critical sensor coverage that the Cobra Dane radar provides to the Ballistic Missile Defense System in the tracking of threatening ballistic missiles, as well as its role in space surveillance and identification of space objects. The committee understands that the Cobra Dane radar was initially fielded in 1976 and today confronts growing sustainment and obsolescence challenges. Additionally, the committee supports the deployment of the Long Range Discrimination Radar (LRDR) for improved persistent long-range midcourse discrimination, precision tracking, and hit assessment of threat ballistic missiles, but it acknowledges that the LRDR is not a one-for-one replacement for the Cobra Dane radar. In addition, the committee understands that as the Air Force's new space fence radar becomes operational in 2020, it will not need the capabilities of the Cobra Dane radar for space surveillance. Nevertheless, the committee is concerned about the lack of a comprehensive and credible plan for cost-effective investments in technology refresh to maximize Cobra Dane's reliability and minimize life cycle costs.

Therefore, the committee directs the Secretary of the Air Force, in coordination with the Director of the Missile Defense Agency and the Commander of U.S. Northern Command, to submit to the

congressional defense committees concurrently with the fiscal year 2019 budget request, a report on the long-term operation and sustainment of Cobra Dane. The report should characterize Cobra Dane's current operational availability and sustainment challenges and include a detailed comparison of the capabilities of the LRDR and the Cobra Dane radar, to include the unique capabilities of each radar, the common capabilities of each radar, and the advantages and disadvantages of each radar's location. It should also include a plan, with an associated cost estimate and funding profile across the future years defense program, for meeting the military's requirements through alternative radar solutions or the continued operation and maintenance of the Cobra Dane radar. Plans for sustainment of the Cobra Dane radar should address obsolescence challenges and expediting and smoothing investments in priority refresh projects, such as transmitter group replacement, automated data processing equipment rehost, and traveling wave tube redesign in fiscal year 2019 and over the future years defense program. Finally, the report should outline the costs, and how they will be shared, to maintain operational access and sustainment of Shemya Island, on which the radar resides.

#### **Commercial Geospatial-Intelligence Imagery**

The committee applauds the National Geospatial-Intelligence Agency's (NGA) leadership in acquiring new sources of commercial geospatial-intelligence data and services as part of its combat support mission. As part of this leadership function, the committee directs the NGA to submit a report to the congressional defense committees and the House and Senate Select Intelligence Committees on acquiring new and non-traditional sources of geospatial-intelligence, including but not limited to new commercial satellite imagery and data of various kinds, commercial airborne imagery and data, and other geospatial-intelligence-related products and services the Director determines are relevant to its mission.

#### **Comptroller General review of very low frequency/low frequency terminals**

The committee supports the efforts of the Department of Defense to modernize and replace legacy very low frequency/low frequency (VLF/LF) communications terminals and related infrastructure, which provide to the President and military commanders a secure and survivable beyond line of sight communication pathway for strategic forces. The committee is concerned, however, about the progress and health of this modernization effort. Maintaining this capability has become even more important because of the recent emergence of diverse and complex threats to satellite-based communications systems.

Therefore, the committee directs the Comptroller General of the United States to conduct an assessment of the Department of Defense's efforts to improve nuclear command, control, and communications by modernizing VLF/LF terminals and related infrastructure. This assessment should include: (1) Information about the current health of the VLF/LF network, including operational and sustainment challenges; (2) An update on the progress of acquisition programs; (3) The potential costs and benefits of requiring the

military services to adopt a common VLF/LF terminal or waveform; (4) The extent to which the Department of Defense is considering greater use of non-satellite radio frequencies, including but not limited to VLF/LF, to support nuclear command, control, and communications; and (5) Any other issues that the Comptroller General considers appropriate. In addition to obtaining information from relevant Department of Defense organizations, this assessment may include, as the Comptroller General deems appropriate, the insights of non-Department of Defense organizations, including federally funded research and development centers, university affiliated research centers, contractors, and industry groups.

The Comptroller General shall brief the congressional defense committees on the results of this assessment no later than May 31, 2018.

### **Conventional Prompt Strike**

The committee is encouraged by the continued commitment of the Department of Defense to the Conventional Prompt Strike (CPS) activity shown in the budget request. In written testimony to the Senate Armed Services Committee on April 4, 2017, General John Hyten, Commander, U.S. Strategic Command (STRATCOM), emphasized his support for development and deployment of CPS as the Department of Defense's "leading technology maturation effort in the realm of hypersonics." General Hyten further stated that STRATCOM "foresee[s] an operational need for a CPS capability by the mid-2020s."

The committee therefore urges the Department to proceed to a Milestone A decision consistent with section 1688 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328). The committee is concerned that a delay of a Milestone A decision would delay investment in long lead items or test technologies that may be required to attain an operational capability.

The committee supports the Department's approach of maturing and demonstrating key technologies needed by both land- and sea-based CPS systems. The committee notes that the CPS integrated master plan required by the Senate report accompanying S. 2943 (S.R. 114-255) of the National Defense Authorization Act for Fiscal Year 2017 addressed test facility infrastructure for ground testing and flight testing, but it failed to address the potential future need for underwater launch test facilities. The committee recognizes that the Department has not yet made a decision that would determine testing needs, but it remains concerned that failure to adequately consider all potential requirements could lead to needless cost and schedule delays in a future program of record. Therefore, the committee directs the Secretary of Defense, in coordination with the Director of Navy Strategic Systems Programs, to provide a briefing to the congressional defense committees no later than February 28, 2018, that includes an assessment of the adequacy of sites in the Navy inventory to support underwater launch testing for a CPS capability, should the need arise.

### **Counter unmanned aerial systems capabilities**

The committee recognizes that adversaries continue to procure low-cost Unmanned Aerial Systems (UAS) and have armed them

for military purposes in conflict areas like Iraq and Syria. The United States must meet this threat by expanding its capability to protect military personnel, military installations, and critical infrastructure. The committee believes that UAS threats will only increase overseas and domestically and that additional resources are necessary to meet Joint Urgent Operational Needs Statements.

Significant advances in directed energy in recent years has proven that this technology is effective against the entire find, fix, track, target, engage and assess UAS kill chain. The committee notes that this technology has been demonstrated at recent military exercises such as a live-fire exercise at White Sands Missile Range and the U.S. Army's Maneuver Fires Integration Exercise (MFIIX) and is ready to be operationalized. The committee is aware of the Marine Corps intent to procure five compact high energy laser weapon systems for deployment for counter-UAS purposes and commends the Marine Corps for its forward-thinking.

High energy laser and high powered microwave weapon systems offer a game-changing capability that augment existing kinetic solutions and can also help break the cost disparity of using expensive kinetic weapons and interceptors against low-cost drones. The committee encourages the military services to continue their efforts to develop, procure, and deploy directed energy counter-UAS capabilities as appropriate.

**Expand capacity and capabilities of the ICCAE with focus on data sciences, machine learning, artificial intelligence, modeling & war gaming, and intelligence integration**

The Committee notes that the Intelligence Community Centers for Academic Excellence (ICCAE) have demonstrated ongoing support for the intelligence community in several areas, in particular the recruitment of a more diverse set analysts, collectors and other intelligence community staff. The ICCAE program has effectuated a strategy for recruitment that includes STEM related training, critical language requirements, and cultural immersion that underlie students' primary areas of study. Additionally, the Committee notes that the intelligence community requires staff who possess fundamental knowledge and critical skills in the data sciences, machine learning, artificial intelligence, computer vision, computationally efficient modeling techniques, empirically driven war gaming applications, and operational intelligence integration. The Committee believes these are key areas where expanded capacity, capability, research, and training would directly benefit the IC, while directly supporting the Objectives of the ICCAE program.

**Fill rate of billets for United States Cyber Command**

The committee directs the Commander of United States Cyber Command to track the rates at which the Services fill the personnel billets for United States Cyber Command, the Joint Force Cyber Headquarters of each of the Services, and the Cyber Mission Forces. The Commander shall compare these fill rates to averages for other joint assignments, component command assignments, and combat units. The Commander shall also track the degree to which the Services are assigning officers and enlisted personnel to repeat

tours in cyber headquarters and operational forces and to other positions that rely on and sustain the skills and knowledge acquired during tours at Cyber Command, Joint Force Cyber Headquarters, and Cyber Mission Forces. The committee directs that a brief summary of these statistics, and any other related metrics the Commander chooses to include, be provided annually to the congressional defense committees in documentation supporting the budget request for the duration of the current Future Years Defense Program.

**Importance and use of United States Federal Aviation Administration licensed spaceports**

The committee continues to recognize the unique importance of United States Federal Aviation Administration (FAA) licensed spaceports and, when appropriate, encourages the use of such spaceports and launch and range complexes for mid-to-low inclination orbits or polar high-inclination orbits in support of national security space priorities. The committee recognizes that these federally licensed, non-federally owned launch facilities, including the Pacific Spaceport Complex—Alaska (PSCA), the Mid-Atlantic Regional Spaceport (MARS), and Oklahoma Air & Space Port, are available to meet the requirements for the national security space program from the Department of Defense (DOD), Air Force Space Command, Operationally Responsive Space Office, and Missile Defense Agency. The committee notes that such spaceports improve the resiliency of U.S. launch infrastructure and help ensure consistent access to space to support national security space priorities.

The PSCA has supported numerous launches for Air Force Space Command including specific national security launches. It remains the only commercial polar launch range available in the United States. A state-of-the-industry spaceport on Kodiak Island, Alaska, PSCA provides access to space for vital government and commercial interests. The committee supports the Missile Defense Agency's plan to conduct tests of the Terminal High Altitude Area Defense (THAAD) system from the PSCA and encourages the Department, where appropriate, to consider expanding the use of federally-licensed, non-federally owned launch facilities to conduct national security launches and U.S. and foreign missile tests.

The Mid-Atlantic Regional Spaceport (MARS) at Wallops Island, Virginia provides medium-class and small-class launch capabilities for the Department. It has launched numerous missions for DOD with its agency partners, Air Force Space Command, the Operationally Responsive Space Office, and MDA. MARS provides assured/responsive access to mid-to-low inclination orbits for payloads up to 15,300 lbs. The committee supports the Air Force/National Reconnaissance Office's planned launch of the L-111 mission from MARS by the end of 2018 and encourages the DOD, where appropriate, to consider expanding the use of federally-licensed, non-federally owned launch facilities to conduct national security launches and missile tests. The Oklahoma Air & Space Port, near Bums Flat, Oklahoma, is the only space port in the United States to have a civilian FAA approved Space Flight Corridor in the National Airspace System. This Space Flight Corridor is unique because it is not within Military Operating Areas or within restricted airspace,

which provides an operational capability for space launch operations and associated industries specialized in space-related activities.

The committee believes that these three facilities can be used, when appropriate, to support the national security space program.

#### **Increased procurement of low-cost ballistic missile targets**

The committee continues to encourage the Missile Defense Agency (MDA) to use threat representative targets in its flight tests, to the maximum extent possible, in order to prove our Ballistic Missile Defense System (BMDS) is capable of defending against increasingly complex threat missiles. The committee is aware of potential target technologies that could provide flexibility, reduce cost, and improve schedule performance in meeting BMDS test objectives. Lower cost targets that are reliable and meet mission requirements could enable MDA to potentially procure more targets and test more frequently. Therefore, the committee directs MDA to complete an assessment that would consider the integration of low cost targets into the flight test plans for the BMDS.

#### **Intelligence support to U.S. Strategic Command**

The committee directs the Commander of the U.S. Strategic Command and the Director of the Defense Intelligence Agency (DIA) to review nuclear intelligence support to the U.S. Strategic Command. The review should take into account recent DIA policies that require senior intelligence analysts currently at the Command to rotate to different assignments in support of other commands. While such a policy is admirable for its career broadening effects, it can be detrimental to the highly specialized areas of support, namely nuclear forces intelligence, to the U.S. Strategic Command, where resident analysts' skills take years to replace. Given Russia's recent nuclear force modernization, having these long-term analysts at U.S. Strategic Command to inform the Commander on the long-term trends of such modernization is critical to our deterrence posture.

The Commander of U.S. Strategic Command and the Director of the DIA shall submit to the congressional defense and intelligence committees a report on this review no later than February 28, 2018.

#### **Patriot and Terminal High Altitude Area Defense interoperability**

The committee notes, following the U.S.-Republic of Korea (ROK) alliance decision, the recent deployment of a Terminal High Altitude Area Defense (THAAD) battery to the ROK to protect U.S. and allied forces against the rapidly escalating ballistic missile threat from the Democratic People's Republic of Korea. While the committee fully supports this deployment and the Missile Defense Agency's plans to test the THAAD and Patriot systems together in a series of simulated engagements in fiscal year 2018, it remains concerned about the lack of interoperability and coordination between THAAD and other critical forward-deployed integrated air and missile defense systems such as Patriot.



Therefore, unless otherwise directed or recommended by the Ballistic Missile Defense Review, the committee directs the Secretary of Defense, within 120 days of enactment of this Act, to provide a report to the congressional defense committees on the benefits of achieving full interoperability between the THAAD and Patriot weapon systems. The report shall include an estimated schedule for integration, resources required, and any recommendations the Secretary sees fit to improve the integration of the two systems. The report shall be delivered in an unclassified form but may include a classified annex.

#### **Positioning, Navigation, and Timing alternate sources**

The Department of Defense is reliant on Positioning, Navigation, and Timing (PNT) for a cross cutting range of military platforms and capabilities. Recognizing the importance of PNT, the committee strongly supports efforts by the Department's PNT Oversight Council to enhance PNT resilience and encourages the council to move quickly to deploy an alternate source of time and location with the ability to deliver time globally relative to United States Naval Observatory/Coordinated Universal Time. The committee encourages the PNT Oversight Council to utilize Department of Defense as well as commercial satellites systems to focus on technologies with high readiness levels that can be fielded rapidly and at reduced cost.

#### **Replacement of National Airborne Operations Center aircraft**

The Secretary of the Air Force is beginning an analysis of alternatives on the replacement of the National Airborne Operations Center in anticipation of a Milestone A decision. The committee is concerned that the replacement fleet may lower the mission capability. Upon completion of the analysis, the Secretary of the Air Force, in coordination with the Chairman of the Joint Chiefs of Staff, shall provide a briefing to the congressional defense committees on the conclusions of the analysis and the Air Force's planned course of action on the replacement of the fleet.

#### **Report on Electromagnetic Pulse Attack Commission findings and recommendations**

The committee notes that the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack was established in the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398), Title XIV, and re-established again in fiscal year 2006 to identify steps that should be taken by the United States to better protect its military and civilian systems from electromagnetic pulse (EMP) attack. The EMP Commission was charged with assessing the nature and magnitude of potential high-altitude EMP threats to the United States from all potentially hostile states or non-state actors, the vulnerability of U.S. military and civilian systems to an EMP attack, the capability of the United States to repair and recover from damage inflicted by an EMP attack, and the feasibility and cost of hardening select military and civilian systems against EMP attack.

Since its establishment, the EMP Commission produced multiple reports and briefings that included findings and recommendations for the Department of Defense. The committee directs the Secretary of Defense to provide a briefing to the committee on its assessment of the military findings and recommendations provided by the EMP Commission. The briefing shall, at a minimum, include: (1) An identification and assessment of the published findings and recommendations by the EMP Commission; (2) Actions taken on each of those findings and recommendations; and, (3) Recommended way ahead for the Department of Defense with regards to protection of military systems against EMP attack.

### **Reusable Launch Vehicles**

The committee is aware of the recent successful re-launch of an Evolved Expendable Launch Vehicle-class launch vehicle previously used to deliver a payload to orbit. With nearly every U.S. launch company moving toward full or partial reusability of boosters, the committee recognizes that the potential to reuse launch vehicles for orbital space launch may significantly reduce the cost and improve the reliability of space launch in the national security, civil, and commercial space sectors.

The committee recommends that the Air Force move rapidly to establish procedures to evaluate, certify, and leverage reusability technologies in order to meet national security space requirements. To this end, performance and excess margin beyond what is required to carry out a given national security space missions should not be withheld by the government, and booster recovery should be encouraged when possible.

The committee recommends that the government establish a process to evaluate and potentially certify reusable launch systems. Accordingly, the committee directs the Secretary of Defense to brief the committee not later than 180 days after the enactment of this Act on the Department's activities to evaluate and utilize reusable launch vehicles for use in national security space missions.

### **Sea-based X-Band Radar**

As the Director of the Missile Defense Agency evaluates the possible locations that would be best suited for a future home port of the Sea-based X-Band Radar (SBX) as required by section 1684 of the National Defense Authorization Act for Fiscal Year 2016 (P.L. 114-92), the Director should consult with the Secretary of the Navy to avoid home port sites for the SBX that could negatively impact U.S. naval operations, including ship and submarine maintenance activities at the public shipyards.

### **Simultaneous strategic missile system flight tests**

The committee supports efforts by both the Navy and the Air Force to conduct realistic flight tests of their respective strategic missile systems. These rigorous flight test programs are critical to ensuring the reliability of the Nation's nuclear forces and for strategic messaging regarding our credibility.

The committee directs the Secretary of the Air Force to provide a report to the congressional defense committees containing a plan for the Air Force to carry out a simultaneous test of at least two

Minuteman III LGM-31 missiles. In addition to the simultaneous launch itself, such a test would demonstrate: (1) The ability of planners to deconflict multiple launches and warhead reentries; (2) The capability of test and tracking assets to accommodate multiple simultaneous launches and reentries; and (3) The resolve of the United States to ensure a robust and credible deterrent.

The report should be submitted no later than February 28, 2018.

### **Space Launch Automated Flight Safety and Termination Systems**

The committee believes implementation of the Automated Flight Safety and Termination System may support and enable an increased launch cadence at the federal ranges.

Therefore the committee directs the Secretary of the Air Force, in consultation with the Administrator of National Aeronautics and Space Administration, to provide a report no later than December 31, 2017 to the congressional defense committees, the Senate Commerce, Science, and Transportation Committee, and the House Space, Science, and Technology Committee on a strategy to transition to Automated Flight Safety and Termination Systems at the Eastern and Western ranges by 2022.

This report should consider whether to exclude systems certified before enactment of this Act or when transition to automated systems is not in the best interest of the U.S. Government. This report shall also include an assessment of impacts to safety of both personnel involved with space launch activities and the general public not involved in such activities.

### **Staffing for nuclear command, control, and communications acquisition**

The committee applauds the recent steps taken by the U.S. Air Force to centralize responsibility for the nuclear command, control, and communications (NC3) enterprise in order to reduce fragmentation and increase accountability.

Modernization of the NC3 enterprise is a key national priority, and the committee remains concerned that there is little margin for error. Any delay or deferment of the existing programs poses unacceptable risk.

The committee received testimony in a Strategic Forces Subcommittee hearing on June 7, 2017, from General Robin Rand, Commander, Global Strike Command, on efforts to get the Nuclear Weapons Center and the Program Executive Office for NC3 50 to 60 additional acquisition professionals to adequately oversee these programs. Therefore, the committee requests a briefing on the Air Force plan to fully staff the acquisition oversight of NC3 consistent with this testimony not later than 180 days after the enactment of this Act.

### **Training for cyber mission forces**

The Secretary of Defense in fiscal year 2013 directed the stand up of the Cyber Mission Forces (CMF) and provided funds for U.S. Cyber Command (CYBERCOM) and the service cyber components to establish the teams and fund the training of personnel and units. The funding provided by the Secretary for training covered

fiscal year 2013 to fiscal year 2016. During this period of central funding, the Services, under the supervision of CYBERCOM, the Office of the Secretary of Defense, and the Joint Staff, were supposed to come to an agreement on a joint, federated training program funded by the Services for training of the CMF. This federated training program was to be an equitable division of labor that avoided duplication and built on the expertise of each service. The committee is concerned that the Services were not able to come to an agreement on a joint training program for the CMF for the budget submission for fiscal year 2018. The committee expects this issue to be resolved in the current budget planning cycle for fiscal year 2019 and expects to be kept informed of progress towards this goal in the coming months.

## **DIVISION B—MILITARY CONSTRUCTION AUTHORIZATIONS**

### **Summary and explanation of funding tables**

Division B of this Act authorizes funding for military construction projects of the Department of Defense (DOD). It includes funding authorizations for the construction and operation of military family housing as well as military construction for the reserve components, the defense agencies, and the North Atlantic Treaty Organization Security Investment Program. It also provides authorization for the base closure accounts that fund military construction, environmental cleanup, and other activities required to implement the decisions in base closure rounds.

The tables contained in this Act provide the project-level authorizations for the military construction funding authorized in Division B of this Act and summarize that funding by account.

The fiscal year 2018 budget requested \$10.4 billion for military construction and housing programs. Of this amount, \$8.7 billion was requested for military construction, \$1.4 billion for the construction and operation of family housing, and \$255.9 million for base closure activities.

The committee recommends authorization of appropriations for military construction, housing programs, and base closure activities totaling \$10.5. The total amount authorized for appropriations reflects the committee's continuing commitment to invest in the recapitalization of DOD facilities and infrastructure. However, the committee is concerned with the cost of some projects and has withheld authorization of those projects until such time as better analysis can be performed to determine the requirements and lower cost alternatives. Furthermore, the committee is concerned with cost increases and schedule delays on previous projects that appear to be the result of failure to properly manage these projects. Therefore the committee has included a number of provisions to ensure better management and accountability.

The committee also notes that the budget request includes funding for some projects beyond what can be executed in fiscal year 2018. While the committee includes the full authorization for these projects, it has provided only the increment of funding expected to be executed in the coming fiscal year.

### **Short title (sec. 2001)**

The committee recommends a provision that would designate division B of this Act as the "Military Construction Authorization Act for Fiscal Year 2018."

**Expiration of authorizations and amounts required to be specified by law (sec. 2002)**

The committee recommends a provision that would establish the expiration date for authorizations in this Act for military construction projects, land acquisition, family housing projects, and contributions to the North Atlantic Treaty Organization Security Investment Program as of October 1, 2022, or the date of enactment of an act authorizing funds for military construction for fiscal year 2023, whichever is later.

**Effective date (sec. 2003)**

The committee recommends a provision that would provide an effective date for titles XXI through XXVII and title XXIX of October 1, 2017 or the date of enactment of this Act.

## **TITLE XXI—ARMY MILITARY CONSTRUCTION**

### **Summary**

The budget request included authorization of appropriations of \$1.1 billion for military construction and \$183.0 million for family housing for the Army for fiscal year 2018.

The committee recommends authorization of appropriations of \$1.1 billion for military construction and \$152.0 million for family housing for fiscal year 2018.

The budget request included \$31.0 million for 22 homes on Kwajalein. There are currently 18 military families on Kwajalein. This project, and a planned phase 2 which would include an additional 30 homes for \$37.0 million, would result in 52 homes at an average cost of \$1.3 million. The committee does not include the authorization of this project. The committee also has withheld authorization of the funding for the new confinement facility at Joint Base Lewis-McChord pending a review of capacity and requirements throughout the military prison system.

The committee recognizes the significant unfunded military construction and family housing requirements identified by the Chief of Staff of the Army and has included an additional \$68.8 million for many of these projects, including authorization of a new Enlisted Barracks at Fort Leavenworth, Kansas and an air traffic control tower at Fort Benning, Georgia. Further details on projects authorized can be found in section 2101 and section 4601 of this Act.

### **Authorized Army construction and land acquisition projects (sec. 2101)**

The committee recommends a provision that would authorize military construction project for the active component of the Army for fiscal year 2018. The authorized amount is listed on an installation-by-installation basis.

### **Family housing (sec. 2102)**

The committee recommends a provision that would authorize new construction, planning, and design of family housing units for the Army for fiscal year 2018. This provision would also authorize funds for facilities that support family housing, including housing management offices, housing maintenance, and storage facilities.

### **Authorization of appropriations, Army (sec. 2103)**

The committee recommends a provision that would authorize appropriations for the active component military construction and family housing projects of the Army authorized for construction for fiscal year 2018. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the active component of the Army. The state

list contained in this report is the binding list of the specific projects authorized at each location.

**Modification of authority to carry out certain fiscal year 2014 project (sec. 2104)**

The committee recommends a provision that would modify the authorization contained in section 2101(a) of the Military Construction Authorization Act for Fiscal Year 2014 (division B of Public Law 113–66) for construction of an airfield operations complex at Joint Base Lewis-McChord, Washington, to include a standby generator capacity of 1,000 kilowatts.

**Modification of authority to carry out certain fiscal year 2015 project (sec. 2105)**

The committee recommends a provision that would modify the authorization contained in section 2101(a) of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291) for construction of a command and control facility at Fort Shafter, Hawaii, to include construction of 15 megawatts of redundant power generation.

**Extension of authorization of certain fiscal year 2014 project (sec. 2106)**

The committee recommends a provision that would extend the authorization contained in section 2101 of the Military Construction Authorization Act for Fiscal Year 2014 (division B of Public Law 113–66) for one project in Kyoga-Misaki, Japan, until October 1, 2018, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2019, whichever is later.

**Extension of authorizations of certain fiscal year 2015 projects (sec. 2107)**

The committee recommends a provision that would extend the authorization contained in section 2101 of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291) for four projects until October 1, 2018, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2019, whichever is later.



## **TITLE XXII—NAVY MILITARY CONSTRUCTION**

### **Summary**

The budget request included authorization of appropriations of \$1.6 billion for military construction and \$85.0 million for family housing for the Department of the Navy for fiscal year 2018.

The committee recommends authorization of appropriations of \$1.6 billion for military construction and \$43.0 million for family housing for fiscal year 2018.

The budget request includes \$60.0 million for the purchase of 4 acres adjacent to the Navy Yard. The committee does not include authorization for this project. The budget request also includes \$40.9 million for family housing units on Guam. The committee does not include authorization for this project pending the results of a review of policies involving accompanied versus unaccompanied tours required elsewhere in this act. The committee further notes the identified lack of available workforce on Guam to perform this work absent approval of a new visa program for construction workers.

The committee recognizes the significant unfunded military construction and family housing requirements identified by the Chief of Naval Operations and the Commandant of the Marine Corps and has included an additional \$459.4 million for many of these projects including authorization of a pier replacement in San Diego; an F-35 simulator facility at Miramar, California; and a force protection entry control point at Kaneohe Bay, Hawaii. Further details on projects authorized can be found in section 2201 and section 4601 of this Act.

### **Authorized Navy construction and land acquisition projects (sec. 2201)**

The committee recommends a provision that would authorize Navy and Marine Corps military construction projects for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

### **Family housing (sec. 2202)**

The committee recommends a provision that would authorize new construction, planning, and design of family housing units for the Navy for fiscal year 2018. This provision would also authorize funds for facilities that support family housing, including housing management offices, housing maintenance, and storage facilities.

### **Improvements to military family housing units (sec. 2203)**

The committee recommends a provision that would authorize the Secretary of the Navy to improve existing family housing units of

the Department of the Navy in an amount not to exceed \$36.3 million.

**Authorization of appropriations, Navy (sec. 2204)**

The committee recommends a provision that would authorize appropriations for the active component military construction and family housing projects of the Department of the Navy authorized for construction for fiscal year 2018. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the active components of the Navy and the Marine Corps. The state list contained in this report is the binding list of the specific projects authorized at each location.

**Extension of authorizations of certain fiscal year 2014 projects (sec. 2205)**

The committee recommends a provision that would further extend the authorization contained in section 2201 of the Military Construction Authorization Act for Fiscal Year 2014 (division B of Public Law 113–66), for three projects until October 1, 2018, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2019, whichever is later.

**Extension of authorizations of certain fiscal year 2015 projects (sec. 2206)**

The committee recommends a provision that would extend the authorization contained in section 2201 of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291), for two projects until October 1, 2018, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2019, whichever is later.

## **TITLE XXIII—AIR FORCE MILITARY CONSTRUCTION**

### **Summary**

The budget request included authorization of appropriations of \$1.7 billion for military construction and \$85.0 million for family housing for the Air Force in fiscal year 2018.

The committee recommends authorization of appropriations of \$2.2 billion for military construction and \$85.0 million for family housing for fiscal year 2018.

The committee recognizes the significant unfunded military construction and family housing requirements identified by the Chief of Staff of the Air Force and has included an additional \$265.5 million for many of these projects, including authorization of a fire rescue center at Altus Air Force Base and an Airmen dormitory at Little Rock Air Force Base, Arkansas. Further details on projects authorized can be found in section 2301 and section 4601 of this Act.

### **Authorized Air Force construction and land acquisition projects (sec. 2301)**

The committee recommends a provision that would authorize Air Force military construction projects for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

### **Family housing (sec. 2302)**

The committee recommends a provision that would authorize new construction, planning, and design of family housing units for the Air Force for fiscal year 2018. This provision would also authorize funds for facilities that support family housing, including housing management offices, housing maintenance, and storage facilities.

### **Improvements to military family housing units (sec. 2303)**

The committee recommends a provision that would authorize the Secretary of the Air Force to improve existing family housing units of the Department of the Air Force in an amount not to exceed \$80.6 million.

### **Authorization of appropriations, Air Force (sec. 2304)**

The committee recommends a provision that would authorize appropriations for the active component military construction and family housing projects of the Air Force authorized for construction for fiscal year 2018. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the active component of the Air Force. The state list contained in this report is the binding list of the specific projects authorized at each location.

**Modification of authority to carry out certain fiscal year 2017 projects (sec. 2305)**

The committee recommends a provision that would modify the authorization contained in section 2301(a) of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) for the construction of a gate complex at the installation at Hanscom Air Force Base, Massachusetts, to include the construction of a visitor control center, a traffic check house, an emergency power generator system, and a transfer switch.

This provision would also modify the authorization contained in section 2301(b) of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) for the purchase of 142 hectares of land on Tinian in the Northern Mariana Islands.

Additionally this provision would modify the authorization contained in section 2902 of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) for the construction of a parking apron and taxiway at Chabelley Airfield, Djibouti, to include the construction of paved shoulders, hangar pads, and a cargo apron.

Finally, this provision would modify the authorization contained in section 4601 of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) to strike the project title “Consolidated Corrosion Facility add/alter” and insert “Consolidated Communication Facility add/alter”.

**Extension of authorizations of certain fiscal year 2015 projects (sec. 2306)**

The committee recommends a provision that would extend the authorization contained in section 2301 of the Military Construction Act for Fiscal Year 2015 (division B of Public Law 113–291) for two projects until October 1, 2018, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2019, whichever is later.

## **TITLE XXIV—DEFENSE AGENCIES MILITARY CONSTRUCTION**

### **Summary**

The budget request included authorization of appropriations of \$3.1 billion for military construction for the defense agencies for fiscal year 2018.

The committee recommends authorization of appropriations of \$2.6 billion for military construction for fiscal year 2018.

### **Authorized Defense Agencies construction and land acquisition projects (sec. 2401)**

The committee recommends a provision that would authorize military construction projects for the defense agencies for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

### **Authorized energy conservation projects (sec. 2402)**

The committee recommends a provision that would authorize the Secretary of Defense to carry out energy resilience and conservation projects. The budget request included \$150.0 million for the Energy Resilience and Conservation Investment Program (ERCIP). The committee recommends an increase of \$26.5 million to allow for power upgrades and standby generation at SCSC Wallops Island, Virginia; central energy plant upgrades at Fort Jackson, South Carolina; and an IH Water Project at NSA South Potomac, MD.

### **Authorization of appropriations, Defense Agencies (sec. 2403)**

The committee recommends a provision that would authorize appropriations for the military construction and family housing projects of the defense agencies authorized for construction for fiscal year 2018. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the defense agencies. The state list contained in this report is the binding list of the specific projects authorized at each location.

### **Modification of authority to carry out certain fiscal year 2017 project (sec. 2404)**

The committee recommends a provision that would modify the authority contained in section 2401(b) of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) for the construction of the Sembach Elementary/Middle School Replacement at Kaiserslautern, Germany to allow the construction of an elementary school.

**Extension of authorizations of certain fiscal year 2014 projects (sec. 2405)**

The committee recommends a provision that would further extend the authorization contained in section 2401 of the Military Construction Authorization Act for Fiscal Year 2014 (division B of Public Law 113–66), as amended by the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328), for three projects until October 1, 2018, or the date of enactment of an act authorizing funds for the military construction for fiscal year 2019, whichever is later.

**Extension of authorizations of certain fiscal year 2015 projects (sec. 2406)**

The committee recommends a provision that would extend the authorization contained in section 2401 of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291) for nine projects until October 1, 2018, or the date of enactment of an act authorizing funds for the military construction for fiscal year 2019, whichever is later.

## **TITLE XXV—INTERNATIONAL PROGRAMS**

### **Summary**

The Department of Defense requested authorization of appropriations of \$154.0 million for military construction in fiscal year 2018 for the North Atlantic Treaty Organization (NATO) Security Investment Program. The committee recommends the requested amount.

### **Subtitle A—North Atlantic Treaty Organization Security Investment Program**

#### **Authorized NATO construction and land acquisition projects (sec. 2501)**

The committee recommends a provision that would authorize the Secretary of Defense to make contributions to the North Atlantic Treaty Organization Security Investment Program in an amount equal to the sum of the amount specifically authorized in section 2502 of this title and the amount of recoupment due to the United States for construction previously financed by the United States.

#### **Authorization of appropriations, NATO (sec. 2502)**

The committee recommends a provision that would authorize appropriations of \$154.0 million for the U.S. contribution to the North Atlantic Treaty Organization Security Investment Program for fiscal year 2018.

### **Subtitle B—Host Country In-Kind Contributions**

#### **Republic of Korea funded construction projects (sec. 2511)**

The committee recommends a provision that would authorize the Secretary of Defense to accept four military construction projects totaling \$105.5 million from the Republic of Korea as in-kind contributions.

#### **Modification of authority to carry out certain fiscal year 2017 projects (sec. 2512)**

The committee recommends a provision that would modify the authorization contained in section 2511 of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) for the construction of the 8th Army Correctional Facility at Camp Humphreys, Republic of Korea, to include a level 1 correctional facility and a utility and tool storage building.

The provision would also modify the authorization contained in section 2511 of the Military Construction Authorization Act for Fiscal Year 2017 (division B of Public Law 114–328) for the renovation of the Special Operations Forces (SOF) Operations Facility at K–

16 Air Base, Republic of Korea, to include a renovation of an operations administrative area.



## **TITLE XXVI—GUARD AND RESERVE FORCES FACILITIES**

### **Summary**

The Department of Defense requested authorization of appropriations of \$575 million for military construction in fiscal year 2018 for facilities for the National Guard and reserve components.

The committee recommends authorization of appropriations of \$850 million for military construction in fiscal year 2018 for facilities for the National Guard and reserve components. The detailed funding recommendations are contained in the state list table included in this report.

The committee recognizes the significant unfunded military construction and family housing requirements identified by the military service chiefs and has included as additional \$276.8 million for many of these projects including authorization of an Army reserve center at Joint Base Lewis-McChord, Washington and a maintenance facility at Westover Air Reserve Base, Massachusetts. Further details on projects authorized can be found in the tables in this title and section 4601 of this Act.

### **Subtitle A—Project Authorizations and Authorization of Appropriations**

#### **Authorized Army National Guard construction and land acquisition projects (sec. 2601)**

The committee recommends a provision that would authorize military construction projects for the Army National Guard for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

#### **Authorized Army Reserve construction and land acquisition projects (sec. 2602)**

The committee recommends a provision that would authorize military construction projects for the Army Reserve for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

#### **Authorized Navy Reserve and Marine Corps Reserve construction and land acquisition projects (sec. 2603)**

The committee recommends a provision that would authorize military construction projects for the Navy Reserve and Marine Corps Reserve for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

**Authorized Air National Guard construction and land acquisition projects (sec. 2604)**

The committee recommends a provision that would authorize military construction projects for the Air National Guard for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

**Authorized Air Force Reserve construction and land acquisition projects (sec. 2605)**

The committee recommends a provision that would authorize military construction projects for the Air Force Reserve for fiscal year 2018. The authorized amounts are listed on an installation-by-installation basis.

**Authorization of appropriations, National Guard and Reserve (sec. 2606)**

The committee recommends a provision that would authorize appropriations for the reserve component military construction projects authorized for construction for fiscal year 2018 in this Act. This provision would also provide an overall limit on the amount authorized for military construction projects for each of the reserve components of the military departments. The state list contained in this report is the binding list of the specific projects authorized at each location.

**Subtitle B—Other Matters**

**Modification of authority to carry out certain fiscal year 2015 project (sec. 2611)**

The committee recommends a provision that would modify the authorizations contained in section 2602 of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291) for construction of an Army Reserve Center in Starkville, Mississippi to allow for the acquisition of approximately 15 acres of land.

**Extension of authorizations for certain fiscal year 2014 projects (sec. 2612)**

The committee recommends a provision that would extend the authorization contained in sections 2602, 2604, and 2605 of the Military Construction Authorization Act for Fiscal Year 2014 (division B of Public Law 113–66) for three projects until October 1, 2018 or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2019, whichever is later.

**Extension of authorizations of certain fiscal year 2015 projects (sec. 2613)**

The committee recommends a provision that would extend the authorization contained in sections 2602 and 2604 of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291) for two projects until October 1, 2018 or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2019, whichever is later.

## **TITLE XXVII—BASE REALIGNMENT AND CLOSURE ACTIVITIES**

### **Summary and explanation of tables**

The budget request included \$255.9 million for the ongoing cost of environmental remediation and other activities necessary to continue implementation of the 1988, 1991, 1993, 1995, and 2005 Base Realignment and Closure rounds. The committee recommends \$255.9 million for these efforts. The detailed funding recommendations are contained in the state list table included in this report.

### **Authorization of appropriations for base realignment and closure activities funded through Department of Defense Base Closure Account (sec. 2701)**

The committee recommends a provision that would authorize appropriations for fiscal year 2018 for ongoing activities that are required to implement the decisions of the 1988, 1991, 1993, 1995, and 2005 Base Realignment and Closure rounds.

### **Prohibition on conducting additional base realignment and closure (BRAC) round (sec. 2702)**

The committee remains opposed to another base realignment and closure (BRAC) round. Our military is entering a period of growth and modernization with a focus on increasing the overall readiness of the force. The committee must understand what our future force structure will look like—its size and composition, how it will train, and the infrastructure required to sustain it—before we consider another BRAC round. Our nation cannot afford to spend precious resources that are needed to improve readiness on another BRAC round, given funds are still being appropriated for prior BRAC rounds. The committee is also concerned that the Secretary of Defense has yet to provide the force structure plan, the infrastructure inventory, and the assessment of infrastructure necessary to support the force structure that were required to be prepared under section 2815 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92). This congressionally directed report with requirements based on our military’s ability to deter and defeat future threats is necessary in order to evaluate any future base realignment and closure round.



## **TITLE XXVIII—MILITARY CONSTRUCTION AND GENERAL PROVISIONS**

### **Subtitle A—Military Construction Program and Military Family Housing Changes**

#### **Authority to use expiring funds for certain military construction projects (sec. 2801)**

The committee recommends a provision that would authorize funds that would otherwise expire to be used for the sole purpose of the expansion of a cemetery, in the case of the Army, and for the enhancement of installation security, in the case of the Navy, by purchasing property that is voluntarily offered for sale.

#### **Extension of temporary, limited authority to use operation and maintenance funds for construction projects in certain areas outside the United States (sec. 2802)**

The committee recommends a provision that would extend for 1 year the authority to use operation and maintenance funds for limited construction projects in certain areas outside the United States.

### **Subtitle B—Real Property and Facilities Administration**

#### **Authority to use energy cost savings for energy resilience, mission assurance, and weather damage repair and prevention measures (sec. 2811)**

The committee recommends a provision that would amend section 2912 of title 10, United States Code, to allow energy savings funds to be used for weather damage, mission assurance, and energy resilience.

#### **Modification of unspecified minor military construction project authority to cover correction of deficiencies that are threats to installation resilience (sec. 2812)**

The committee recommends a provision that would amend section 2805(a)(2) of title 10, United States Code, to include both safety risks and military mission risks.

#### **Land exchange valuation of property with reduced development that limits encroachment on military installations (sec. 2813)**

The committee recommends a provision that would amend chapter 159 of title 10, United States Code, in order to ensure that properties where development has been voluntarily restrained for the purpose of protecting military installations are fairly valued as

part of any land swap between the Department of Defense and a public or private landowner.

**Treatment of storm water collection systems as utility systems (sec. 2814)**

The committee includes a provision that amend section 2688(i)(1) of title 10, United States Code, to include storm water treatment systems in the definition of utility systems.

**Access to military installations by transportation network companies (sec. 2815)**

The committee recommends a provision that would amend section 346 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) to include transportation network companies to the list of transportation companies that are allowed, with proper clearance, to access military installations for the purposes of transporting military personnel to and from the base.

**Subtitle C—Land Conveyances**

**Land conveyance, Natick Soldier Systems Center, Massachusetts (sec. 2821)**

The committee recommends a provision that would authorize the Secretary of the Army to use competitive procedures to convey the parcels of real property consisting of approximately 98 acres located in the vicinity of Hudson, Wayland, and Needham, Massachusetts, that are the sites of military family housing supporting military personnel assigned to the U.S. Army Natick Soldier Systems Center.

**Land conveyance, Army and Air Force exchange service property, Dallas, Texas (sec. 2822)**

The committee recommends a provision that would authorize the Secretary of Defense to allow the Army and Air Force Exchange Service to convey to an entity all right, title, and interest of the United States in and to a parcel of real property consisting of approximately 7.857 acres located at 8901 Autobahn Drive, Dallas, Texas.

**Land conveyances, certain former peacekeeper ICBM facilities in Wyoming (sec. 2823)**

The committee recommends a provision that would authorize the conveyance, at no cost to the Air Force, of the missile alert facility and launch control center at the Quebec #1 Missile Alert Facility for the Peacekeeper ICBM facilities of the 190 Missile Group at F.E. Warren Air Force Base, Wyoming to the Wyoming Department of State Parks and Cultural Resources.

**Land exchange, Naval Industrial Ordnance Reserve Plant, Sunnyvale, California (sec. 2824)**

The committee recommends a provision that would allow the Secretary of the Navy to convey to an entity all right, title, and interest of the United States in and to the parcel of real property comprising Naval Industrial Reserve Ordnance Plant (NIROP) located

in Sunnyvale, California in exchange for property interests that meet the readiness requirements of the Department of the Navy, as determined by the Secretary. This provision would restrict the Secretary from making such a conveyance until after submitting an assessment to the congressional defense committees of the feasibility and advisability of transferring, in whole or in part, functions currently performed at NIROP to real property already in the Navy inventory and involved in supporting the fleet ballistic missile program.

**Land exchange, Naval Air Station Corpus Christi, Texas (sec. 2825)**

The committee recommends a provision that would allow the Secretary of the Navy to convey to an entity all right, title, and interest of the United States in and to the parcel of real property consisting of 44 acres known as Peary Place Transmitter Site in Nueces County associated with the Naval Air Station Corpus Christi, Texas.

**Subtitle D—Project Management and Oversight Reforms**

**Project management oversight reforms**

The committee is concerned with the number of construction projects that are experiencing significant schedule delays and cost increases. The recent notification that the Hospital at Fort Bliss, Texas would cost an additional \$250.0 million because of “omissions” and “design errors” is just one example of poor management of these projects with little to no accountability for those responsible. With other significant projects planned, including a new facility for the National Geospatial Agency and a hospital replacement at Fort Leonard Wood, it is essential that the Secretary of Defense ensure the proper oversight and management of the U.S. Army Corps of Engineers and Navy Facilities Command and, if these organizations are not able to consistently deliver projects on budget and on schedule, seek alternatives. Therefore the committee recommends a number of provisions that would increase transparency on the causes and individuals responsible for significant cost increases and schedule delays and would advance contracting with outside organizations if problems continue.

**Notification requirement for certain cost overruns and schedule delays (sec. 2831)**

The committee recommends a provision that would amend section 2853 of title 10, United States Code, to require the Secretary of Defense to notify the congressional defense committees of any military construction or military family housing project that has a cost overrun or a schedule delay of 25 percent or more.

**Limited authority for private sector supervision of military construction projects in event of extensive overruns or project delays (sec. 2832)**

The committee recommends a provision that would amend section 2851(a) of title 10, United States Code, to allow the Secretary of Defense to arrange for private sector direction or supervision of

projects where the Chief of Engineers or the Commander of the Naval Facilities Engineering Command had cost overruns or project delays of more than 5 percent on at least 10 percent of the projects for which either was responsible in the most recent fiscal year.

**Annual report on cost overruns and schedule delays (sec. 2833)**

The committee recommends a provision that would amend section 2853 of title 10, United States Code, to require the Secretary of Defense to submit to the congressional defense committees an annual report on military construction projects and military family housing projects that had cost overruns or schedule delays of 5 percent or more.

**Report on design errors and omissions related to Fort Bliss hospital replacement project (sec. 2834)**

The committee recommends a provision that would require the Secretary of Defense to submit a report to the congressional defense committees on design errors and omissions related to the hospital replacement project at Fort Bliss, Texas. The report should identify “design errors” and “omissions” that led to the \$245.0 million cost increase for the replacement project and identify the organization and individual responsible for the design errors and omissions. Additionally, the report describe the actions taken by the Secretary of Defense to hold such organizations and individuals responsible for the errors and omissions. This report should be due no later than December 1, 2017.

Additionally, this provision would prohibit the obligations of funds appropriated for the replacement project at Fort Bliss from being utilized until the report is submitted and a written certification is submitted outlining the steps taken to mitigate such overruns in the future of this project.

**Report on cost increase and delay related to USSTRATCOM command and control facility project at Offutt Air Force Base (sec. 2835)**

The committee recommends a provision that would require the Secretary of Defense to submit to the congressional defense committees a report on the 16-month schedule delay and 10 percent cost increase related to the United States Strategic Command command and control facility project at Offutt Air Force Base, Nebraska. The report should include the name of the organizations and/or persons responsible for the delay and cost increase as well as a description of actions that the Secretary has taken to hold such individuals or organizations accountable for these problems.

**Subtitle E—Other Matters**

**Annual Department of Defense energy management reports (sec. 2841)**

The committee recommends a provision that would amend section 2925 (a) of title 10, United States Code, to ensure the Department of Defense distinguishes between planned and unplanned



power outages and establishes critical mission resilience metrics in the installation energy report.

**Aggregation of energy efficiency and energy resilience projects in life cycle costs (sec. 2842)**

The committee recommends a provision that would ensure the Department of Defense's energy projects consider life cycle costs.

**Authority of the Secretary of the Air Force to accept lessee improvements at Air Force Plant 42 (sec. 2843)**

The committee recommends a provision that would authorize the Secretary of the Air Force to permit the lessee of Air Force Plant 42 to make improvements to the plant or facility as necessary for the development or production of military weapons systems, munitions, components, or supplies.

**Prohibition on use of funds for Kwajalein project (sec. 2844)**

The committee recommends a provision that would prohibit the use of funds to pursue the proposed 2-phase 52-home family housing project for 18 military personnel on Kwajalein. The committee is concerned that the project would cost \$1.3 million per unit. Therefore, the committee does not include authorization for the Department to proceed with this project, including planning and design.

The committee further directs the Secretary of Defense to explore alternative structures, such as those used by U.S. contractors on Kwajalein, that are a fraction of the price and can be used in similar remote locations where construction costs are prohibitively expensive.

**Energy resilience (sec. 2845)**

The committee recommends a provision that would: (1) Ensure the readiness of the armed forces for their military missions by making energy security and resilience the focus of the Department's energy policy; (2) Require energy security and resilience in the cost-benefit analysis for the procurement of energy; and (3) Pursue projects that provide power directly to a military facility or installation in the event of an outage.

The committee continues to be very concerned over the growing threat of cyberattacks, physical attacks, electro magnetic pulse events, weather-related outages, and their collective risk on readiness.

For example, the committee notes that a lack of resilience caused a remotely piloted aircraft (RPA) to lose its feed during a mission, causing a terrorist target to escape. Furthermore, a deliberate power outage at Incirlik Air Base left the Air Force without a grid power supply for almost a week, significantly reducing the number of airstrikes flown in support of the Syria mission.

Additionally, the Department has informed the committee of an increasing trend in utility outages on military installations—both domestic and abroad—notably 127 in fiscal year 2015 that lasted 8 hours or longer. The majority of the outages were caused by a lack of resilience, costing the Department over \$179,000 each day.

The committee notes that a growing number of the Department's missions, whether RPA sorties or cyber, are fought from its installations. Therefore, an enhanced policy of energy resilience is necessary to improve the Department's readiness.

**Consideration of energy security and energy resilience in awarding energy and fuel contracts for military installations (sec. 2846)**

The committee recommends a provision that would amend section 2922a of title 10, United States Code, to ensure the Secretary concerned prioritizes energy security and resilience when considering energy or fuel contracts for military installations.

**Requirement to address energy resilience in exercising utility system conveyance authority (sec. 2847)**

The committee recommends a provision that would amend section 2688(g) of title 10, United States Code, that would require that utility systems be managed and operated in a manner consistent with energy resilience requirements and metrics.

**In-kind lease payments; prioritization of utility services that promote energy resilience (sec. 2848)**

The committee recommends a provision that would amend section 2667(c) of the title 10, United States Code, to prioritize energy resilience as in-kind consideration.

**Disclosure of beneficial ownership by foreign persons of high security space leased by the Department of Defense (sec. 2849)**

The committee recommends a provision that would require the Department of Defense to identify the beneficial owner of potential high security leased space. If any beneficial owner of such space is a foreign entity, the Department would be required to notify the tenant so that appropriate precautions could be taken.

### **Items of Special Interest**

**Bachelor Enlisted Quarters conditions**

The committee has concerns that the conditions of some Bachelor Enlisted Quarters (BEQs) across the military services have fallen below a desirable level of habitability. The committee recognizes that the scarcity of military construction (MILCON) funding and a requirement to spend limited resources on emerging missions has caused the Services to make difficult decisions. However, the failure to construct new BEQs has created a situation where aging buildings are requiring increasing amounts of Facilities Sustainment, Restoration and Modernization (FSRM) funds in order to keep BEQs functioning, which is increasing the degradation of other installation infrastructure because of insufficient FSRM funds for routine maintenance. Furthermore, some servicemembers are required to reside in BEQs that fail to meet necessary standards, impacting work performance, morale, and retention rates. The committee strongly encourages the Secretaries of

the Services to increase the prioritization of their BEQs when considering MILCON submissions.

### **Joint Test and Training Operations Center**

The committee commends the Army and the Air Force for establishing the Joint Test and Training Operations Center (JTTOC) at White Sands Missile Range (WSMR). The JTTOC de-conflicts schedules between high-demand testing and training missions in the region. The JTTOC has increased real-time capability and airspace availability, making more effective use of the ranges, restricted airspace, and other airspace units. The committee applauds the progress made to-date and encourages the Army and Air Force to continue working together to create new efficiencies and optimize the use of WSMR's zero-to-infinity airspace and surrounding airspace.

### **Life cycle construction materials**

The committee strongly encourages the Department of Defense to make infrastructure and military construction investments based on life cycle cost analyses that demonstrate the lowest overall long-term costs needed to procure, install, maintain, and replace each project relative to the longest extension of service life. Such project materials may include, for example, low-logistics materials and structural systems for rapid force projection; infrastructure materials such as beams, girders, decking, and pilings for port and pier facilities construction; bridge construction, including rapidly deployable lightweight bridges; building construction on installations, such as cross-laminated timber; forward operating base (FOB) and contingency base construction; maritime and air shipping, including composite maritime shipping containers, vessels and high-speed boats, such as the Mark V Special Operations Craft; additive manufacturing using cellulose-reinforced thermoplastics; and materials for ballistic and blast protection for installations, FOBs, and contingency bases. The committee directs the Secretary of Defense to provide the congressional defense committees with a briefing on the use of these materials to reduce life cycle costs.

### **Lincoln Laboratory**

The committee recognizes the critical role that Lincoln Laboratory plays in conducting research and developing technologies that address critical national security challenges. The committee notes that the National Defense Authorization Act of Fiscal Year 2017 (Public Law 114-328) included \$40.0 million, as requested by the Air Force, for the planning and design of two military construction projects to support the recapitalization of facilities to support Lincoln Laboratories. The committee understands that the Air Force intends to award an architectural and engineering contact for the design of these facilities by early October 2017 and encourages the Air Force to maintain this schedule, in order to support construction of the Advanced Microelectronics Integration Facility currently programmed for fiscal year 2019.

The committee commends the Secretary of the Air Force for programming these investments and for committing to the recapital-

ization of the facilities and Lincoln Laboratory. The committee supports these important recapitalization efforts in order to keep the Department of Defense and the military services at the cutting edge of technology.

#### **Major range and test facility bases**

The committee remains concerned that while the Department of Defense's major range and test facility bases (MRTFBs) have unspecified minor military construction authority up to \$6.0 million, based on section 2805 of title 10, United States Code, the Department has yet to adequately exercise and use its authority.

Furthermore, the committee notes section 2806 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) amended the Defense Laboratory Modernization Pilot Program to specifically include MRTFBs. Under this pilot program, the funding limitation is \$150.0 million and the authority currently expires at the end of fiscal year 2020.

Accordingly, the committee strongly urges the Secretary of Defense to consider and use existing authorities to the maximum extent practicable, in order to make the appropriate infrastructure improvements necessary for the vital missions conducted at MRTFBs.

#### **Review of DOD utility privatization**

The committee notes that Department of Defense (DOD) installations serve as platforms from which the Department employs forces across the full spectrum of military operations. To accomplish their missions, these installations rely on the use of utilities systems, such as the equipment, fixtures, pipes, wires, and other structures used in the distribution of electric power and natural gas; the treatment and distribution of water; and the collection and treatment of wastewater. However, historically, military installations have been unable to upgrade and maintain reliable utility systems fully due to inadequate funding and competing installation management priorities.

In 1997, DOD decided that utility privatization (UP) was the preferred method for improving utility systems and services because privatization would allow installations to benefit from private sector financing and efficiencies. With private sector financing, installations could more quickly obtain major upgrades to their utility systems and pay for these improvements over time. Moreover, privatization of certain functions allows military commanders to focus on core defense missions and functions by relieving them of activities that can be done more efficiently and effectively by others.

Prior Government Accountability Office (GAO) reports have identified challenges with DOD's UP efforts. In 2005, the GAO identified several management weaknesses in DOD's implementation of the UP program. In 2006, GAO reported that DOD's progress in implementing the UP program had been slower than expected and management concerns remained.

Accordingly, the committee directs the Comptroller General of the United States to evaluate DOD's UP program. The GAO review should assess the extent to which: (1) DOD has fully identified its priorities for privatization and achieved its UP goals; (2) The mili-

tary services have complied with existing DOD requirements when implementing UP projects; (3) DOD has experienced any challenges in awarding and executing UP contracts; (4) DOD measures the performance of the UP contracts and whether or not DOD complies with industry standards; and (5) DOD has developed a means to have reasonable assurance the privatized utilities' operators are addressing reliability concerns and potential cyber threats to industrial control systems or other utilities' systems equipment.

The committee further directs the Comptroller General of the United States to brief the Committees on Armed Services of the Senate and the House of Representatives not later than February 28, 2018, on preliminary findings of the Comptroller General's evaluation with a final report to be completed by March 30, 2018.

#### **Unified Facilities Criteria for elevator design**

Unified Facilities Criteria (UFC) and Unified Facilities Guide Specifications (UFGS) provide guidance for the design and construction of facilities and the acquisition of building system components by the Department of Defense. In general, the UFC and UFGS system relies, to the maximum extent practicable, upon commercial best practices. The committee is concerned that recent Departmental guidance in elevator design departs from these practices by prohibiting the use of machine roomless elevator designs and equipment that are widely and increasingly utilized in the private sector.

The committee is also concerned that the guidance provides generally for construction specifications that depart markedly from established model building codes. The committee is unaware of any data regarding operational, safety, or other considerations that would recommend against the use of machine roomless elevator designs and equipment. The committee directs the Secretary of Defense to ensure that UFC and UFGS guidance on elevator design reflects current commercial best practices and that such guidance permits the Department to acquire contemporary building transportation systems widely available on the market, unless the Secretary certifies that data are available demonstrating that there are operational or safety considerations.

#### **Window fall prevention**

The Committee recognizes the risks of unintentional falls from windows in military family housing. According to the Safe Kids Worldwide 2015 Report to the Nation; Protecting Children in Your Home, about 8 children under age 5 die each year from falling out a window, and more than 3,300 are injured seriously enough to go to the hospital. Deaths and injuries often occur when children push against window screens or climb onto furniture located near to an open window. There have been a number of injuries and at least one death from children falling from windows in military housing.

As such, the committee urges the Department of Defense to update its Unified Facilities Criteria (UFC) for Family Housing (UFC 4-711-01) to require that all new and existing residential buildings have corrosion-resistant screens that meet the ANSI/SMA6001 specifications for at least Medium loads, or successor standard; or that windows shall be equipped with window fall prevention

screens, guards, or other devices that comply with ASTM F2006 or ASTM F2090, or a successor standard.

The Committee also urges DOD to: (1) Specify that military housing privatization partners shall be required to include window fall prevention screens, guards, or other devices for military housing and shall not be allowed to seek waivers or exemptions; (2) Conduct an oversight program to ensure that all military housing be equipped with window fall prevention screens, guards, or other devices; and (3) Establish an awareness campaign that educates families on window fall risks and window fall prevention measures.

## **TITLE XXIX—OVERSEAS CONTINGENCY OPERATIONS MILITARY CONSTRUCTION**

### **Authorized Army construction and land acquisition projects (sec. 2901)**

The committee recommends a provision that would authorize one Army military construction project for fiscal year 2018 for overseas contingency operations. The authorized amounts are listed on an installation-by-installation basis.

### **Authorized Air Force construction and land acquisition projects (sec. 2902)**

The committee recommends a provision that would authorize Air Force military construction projects for fiscal year 2018 for overseas contingency operations. The authorized amounts are listed on an installation-by-installation basis.

### **Authorization of appropriations (sec. 2903)**

The committee recommends a provision that would authorize appropriations for military construction in the overseas contingency operations account for fiscal year 2018.

### **Extension of authorization of certain fiscal year 2015 projects (sec. 2904)**

The committee recommends a provision that would extend the authorization contained in section 4602 of the Military Construction Authorization Act for Fiscal Year 2015 (division B of Public Law 113–291) for two projects until October 1, 2018, or the date of enactment of an act authorizing funds for the military construction for fiscal year 2019, whichever is later.





## **DIVISION C—DEPARTMENT OF ENERGY NATIONAL SECURITY AUTHORIZATIONS AND OTHER AUTHORIZATIONS**

### **TITLE XXXI—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**

#### **Overview**

Title XXXI authorizes appropriations for atomic energy defense activities of the Department of Energy for fiscal year 2018, including: the purchase, construction, and acquisition of plant and capital equipment; research and development; nuclear weapons; naval nuclear propulsion; environmental restoration and waste management; operating expenses; and other expenses necessary to carry out the purposes of the Department of Energy Organization Act (Public Law 95–91). This title authorizes appropriations in three categories: (1) National Nuclear Security Administration (NNSA); (2) defense environmental cleanup; and (3) other defense activities.

The committee recommends a provision allocating funding consistent with the funding allocations in section 4701.

The committee notes that the severity of the event at Waste Isolation Pilot Plant (WIPP) necessitates biannual briefings to the congressional defense committees on actions taken towards bringing WIPP toward full operational status, including key milestones, status of any capital projects under Department of Energy Order 413.1, as well as obligations and expenditures. The committee directs the Comptroller General of the United States to review these biannual updates and report to the congressional defense committees on significant findings and trends.

The committee directs the Comptroller General of the United States to continue its ongoing evaluation of the Hanford Waste Treatment Plant in the areas of cost-schedule performance, technology readiness levels, contractor assurance system, and other areas to be mutually agreed upon, and the committee further directs the Comptroller General of the United States to provide a briefing to the congressional defense committee no later than February 28, 2018.

Finally, section 3137 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) requires a 5-year assessment by a joint committee of the National Academies of Science and the National Academy of Public Administration of the report, “Governance and Management of the Nuclear Security Enterprise: Report to Congress,” December 30, 2016. The joint panel has endorsed three overarching themes of review: (1) clarifying roles, responsibilities, authorities, and accountability; (2) mitigating burdensome practices; and (3) enabling change to be achieved and sus-

tained. While the joint committee can assess the first two items, item (3) requires the NNSA to develop a methodology not only to track implementation but also to assess whether the recommendation has met the objectives it was intended to achieve. The committee directs the Administrator of the NNSA to report no later than February 28, 2018, on the implementation of a methodology similar to that developed by the Department of Defense's Office of Cost Analysis and Program Estimation, which not only tracks implementation of recommendations of the Department's Nuclear Enterprise Review but also determines whether the recommendations have achieved the change they were intended to achieve. This methodology should be of assistance to the joint committee in its review of item (3).

### **Subtitle A—National Security Programs Authorizations**

#### **National Nuclear Security Administration (sec. 3101)**

The committee recommends a provision that would authorize the appropriation of funds for the activities of the Department of Energy's National Nuclear Security Administration.

#### **Defense environmental cleanup (sec. 3102)**

The committee recommends a provision that would authorize the appropriation of funds for the Department of Energy's defense environmental clean-up activities.

#### **Other defense activities (sec. 3103)**

The committee recommends a provision that would authorize the appropriation of funds for the Department of Energy's other defense activities.

#### **Nuclear energy (sec. 3104)**

The committee recommends a provision that would authorize the appropriation of funds for the Department of Energy's nuclear energy activities.

### **Subtitle B—Program Authorizations, Restrictions, and Limitations**

#### **Assessment and development of prototype nuclear weapons of foreign countries (sec. 3111)**

The committee recommends a provision that would eliminate section 2660 of title 50, United States Code, (Design and use of prototypes of nuclear weapons for intelligence purposes) and incorporate its functions into section 2538b of title 50, United States Code (Stockpile Responsiveness Program). Both programs were created in part to exercise all capabilities required to design, develop, engineer, produce, and deploy nuclear weapons, but only the latter has received funding through the appropriations process. The committee strongly supports this mission and supports the request of the National Nuclear Security Administration to combine the two programs into one fully-funded program.

**Use of funds for construction and project support activities relating to MOX facility (sec. 3112)**

The committee recommends a provision that would require the Secretary of Energy to carry out construction and project support activities for the Mixed Oxide Fuel Fabrication Facility (MFFF) with any funds authorized to be appropriated or otherwise made available for such purposes for fiscal year 2018.

The Secretary may waive this requirement to carry out construction and project support activities related to the MFFF project if the Secretary submits to the congressional defense committees: (1) The commitment of the Secretary to remove plutonium intended to be disposed of in the MOX facility from South Carolina and ensure a sustainable future for the Savannah River Site and (2) Certification that an alternative option exists for carrying out the plutonium disposition program for the same amount of plutonium identified that was to be disposed of in the MOX facility is completed meeting the requirements of National Nuclear Security Administration Business Operating Procedure “BOP-03.07, Analysis of Alternatives” dated March 14, 2016; details of any required statutory or regulatory changes to complete the alternative option, and that the total lifecycle cost, consistent with Government Accountability Office cost estimating and assessment best practices as found in GAO-09-3SP “GAO Cost Estimating and Assessment Guide,” that the alternative option would be less than half of the estimated remaining lifecycle cost of the mixed-oxide fuel program, estimates that should be of comparable accuracy.

**Repeal, consolidation, and modification of reporting requirements (sec. 3113)**

The committee recommends modifying certain National Nuclear Security Administration reporting requirements to streamline such requirements for efficiency or eliminate requirements for programs that no longer exist.

**National Nuclear Security Administration personnel system (sec. 3114)**

The committee recommends a provision that would adapt the pay banding and performance-based pay adjustment demonstration project carried out by the National Nuclear Security Administration (NNSA) since 2008 into a permanent alternative personnel system.

**Annual reports on unfunded priorities of National Nuclear Security Administration (sec. 3115)**

The committee recommends a provision that would require the Administrator of the National Nuclear Security Administration (NNSA) to submit to the congressional defense committees, no later than 10 days after the date on which the budget for each fiscal year is submitted to Congress, a list, in priority order, of the unfunded requirements for the NNSA. The committee notes that section 222a of title 10, United States Code, requires the service chiefs and the commanders of the combatant commands to submit to Congress a list of unfunded requirements. The NNSA has not followed this practice but is a vital component to the safety and security of

the United States. Each requirement in the list shall include a summary description of the priority, including the objectives to be achieved if such priority is funded and the additional amount of funds recommended.

### **Budget Items**

#### **National Nuclear Security Administration research and development certification and safety**

The budget request for the National Nuclear Security Administration (NNSA) included \$196.8 million for research and development certification and safety. The committee notes that these programs constitute the current investment in technology maturation for future systems, such as the interoperable warhead series, and also support the subcritical experiments necessary for stockpile stewardship and management. In order to meet anticipated needs in this program, the committee recommends an increase of \$20.9 million in research and development certification and safety for a total of \$217.7 million.

#### **Enhanced capabilities for subcritical experiments**

The budget request for the National Nuclear Security Administration included \$50.8 million for enhanced capabilities for subcritical experiments. The committee notes that funding at this level is not expected to allow for completion of the radiography project on time in 2024. This capability is necessary to obtain experimental results in support of stockpile stewardship and management as well as modern configuration changes to support the sustainment program schedule. Therefore, the committee recommends an increase of \$15.0 million in enhanced capabilities for subcritical experiments for a total of \$65.8 million.

#### **National Nuclear Security Administration enhanced surety**

The budget request for the National Nuclear Security Administration (NNSA) included \$39.7 million for enhanced surety. The committee notes that the NNSA reduced funding for this program in order to support other NNSA priorities. Investment in this area is necessary to meet technology maturation goals, and to meet future stockpile requirements and insertion opportunities, such as the interoperable warhead series. Therefore, the committee recommends an increase of \$12.3 million in enhanced surety for a total of \$52.0 million.

#### **Stockpile Responsiveness Program**

The budget request for the National Nuclear Security Administration (NNSA) included \$40.0 million for the Stockpile Responsiveness Program. The committee strongly supports this program and recommends an increase of \$10.0 million in Stockpile Responsiveness for a total of \$50.0 million. This program is necessary to exercise the spectrum of capabilities required to develop and manufacture nuclear weapons to ensure that the U.S. nuclear deterrent remains secure, reliable, credible, and responsive.

### **Inertial confinement facility operations**

The budget request for the National Nuclear Security Administration (NNSA) included \$334.8 million for inertial confinement fusion and high yield facility operations and target production. Increased shot rates across inertial confinement facilities would better support the Science, Advanced Simulation and Computing, and Directed Stockpile Work programs. Accordingly, the committee recommends an increase of \$12.0 million in facility operations and target production for a total of \$346.8 million. These operations are necessary for the successful execution of the NNSA Stockpile Stewardship and Management Plan.

### **National Nuclear Security Administration additive manufacturing**

The budget request for the National Nuclear Security Administration (NNSA) included \$12.0 million for additive manufacturing. The committee notes that additive manufacturing has the potential to decrease production schedules, design cycles, and production costs for NNSA projects. Further research and investment in infrastructure is necessary to understand how additive manufacturing can be applied in this field. Therefore, the committee recommends an increase of \$12.0 million in additive manufacturing for a total of \$24.0 million.

### **National Nuclear Security Administration component manufacturing development**

The budget request for the National Nuclear Security Administration (NNSA) included \$38.6 million for component manufacturing development within the advanced manufacturing development program. The committee notes that the NNSA decreased funding for this program from prior years in order to support other NNSA priorities. The committee believes that immediate investment in this program will improve production efficiency and support component insertion in current and future systems. In order to restore funding to prior year levels, the committee recommends an increase of \$36.4 million in component manufacturing development for a total of \$75.0 million.

### **National Nuclear Security Administration deferred maintenance**

The budget request for the National Nuclear Security Administration (NNSA) included \$360.0 million for maintenance and repair of facilities and \$427.3 million for recapitalization. The committee notes the risks and inefficiencies for both safety and programs posed by the poor condition of NNSA facilities and infrastructure across the nuclear enterprise. Therefore, in order to reduce the backlog of deferred maintenance, the committee recommends an increase of \$50.0 million to maintenance and repair of facilities for a total of \$410.0 million and an increase of \$100.0 million in recapitalization for a total of \$527.3 million.

### **Defense Nuclear Security deferred maintenance**

The budget request for the National Nuclear Security Administration (NNSA) included \$687.0 million for Defense Nuclear Secu-

rity operations and maintenance. The committee notes that facilities operated by the Defense Nuclear Security enterprise face a similar challenge with deferred maintenance to that of the rest of the NNSA enterprise. Therefore, to speed up execution of critical security infrastructure projects, the committee recommends an increase of \$5.0 million in operations and maintenance for a total of \$692.0 million.

#### **International nuclear security program**

The budget request for the National Nuclear Security Administration (NNSA) included \$337.1 million for global material security. To support the ongoing efforts of the NNSA, the committee recommends an increase of \$100.0 million in global material security for a total of \$437.1 million. This program directly supports the International Atomic Energy Agency with technical expertise, works with international governments to detect and deter nuclear smuggling, and prevents nuclear and radiological material from being used against the United States and its interests. The additional funding shall be apportioned as follows: \$20.0 million for international nuclear security; \$20.0 million for radiological security; and \$60.0 million for nuclear smuggling detection.

#### **Nonproliferation and arms control**

The budget request for the National Nuclear Security Administration (NNSA) included \$129.7 million for nonproliferation and arms control. To support the ongoing efforts by the NNSA, the committee recommends an increase of \$70.3 million in nonproliferation and arms control for a total of \$200.0 million. The threat of global nuclear proliferation continues to grow, and this program is vital to reducing the risk of nuclear and dual-use materials proliferation, equipment, and technology, while playing an essential role in supporting arms control treaty and agreement implementation. The additional funding shall be apportioned as follows: \$60.3 million for nuclear verification and \$10.0 million for international nuclear safeguards.

#### **Mixed Oxide Fuel Fabrication facility**

The budget request for the National Nuclear Security Administration (NNSA) contained \$270.0 million in nonproliferation construction for the Mixed Oxide Fuel Fabrication Facility (MFFF). According to the budget request, this funding is for activities in support of a decision to terminate the MFFF project in fiscal year 2018.

The committee is disappointed in the lack of progress made on MFFF despite repeated concerns regarding its cost and management expressed by Congress, the Government Accountability Office, and other independent groups. The Department of Defense's failure to provide an updated performance baseline for MFFF as directed in the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) and its failure to submit the owner's agent report as directed by the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) are particularly troubling. Meanwhile, the committee is concerned by the lack of specificity in the proposed dilute and disposal alternative despite direc-

tion to address several aspects of this approach in the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92) and report language accompanying S. 2943, the Senate-passed version of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). Furthermore, the committee is concerned that, if the MFFF project is terminated at a later date, NNSA has not yet considered what the MFFF complex would be used for in lieu of its current mission.

In light of the failure of the Department of Energy to substantiate the viability of its alternative to MFFF, the committee recommends an additional \$80.0 million in nonproliferation construction for the MFFF for a total of \$350.0 million, and it directs the Department of Energy to continue construction. Additional measures pertaining to MFFF are contained in title 31 of this Act.

#### **Naval Reactors deferred maintenance**

The budget request for Naval Reactors included \$466.9 million for operations and infrastructure. The committee notes that Naval Reactors owns aging and excess facilities that pose safety and program risks and environmental liabilities. Therefore, in order to increase the pace of remediation, dismantlement, and disposal of inactive Naval Reactors facilities and to reduce the deferred maintenance backlog in operational facilities, the committee recommends an increase of \$38.0 million in Naval Reactors operations and infrastructure for a total of \$504.9 million.

### **Items of Special Interest**

#### **Common financial reporting**

The committee directs the Comptroller General of the United States to periodically review, on a biannual basis beginning in fiscal year 2018 and through 2022, the National Nuclear Security Administration's (NNSA) financial integration efforts and to report to the congressional defense committees on NNSA's progress in implementing a common financial reporting system as required in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). The committee has an interest in understanding NNSA's experience with financial integration and in ensuring that efforts to complete this integration are effective. The committee directs the first of the Comptroller General's reviews to examine the National Nuclear Security Administration's efforts to integrate financial systems at its Y–12 National Security Complex and Pantex Plant as part of the effort to combine the two sites' management and operating contracts.

#### **Competition in contracting**

The committee believes competition is essential to efficient and effective use of taxpayer resources. However, the committee is concerned that unpredictability in contracting schedules of the Department of Energy (DOE), including the National Nuclear Security Administration (NNSA), could negatively affect competition. Specifically, and with particular respect to large contracts for management and operations (M&O), decontamination and decommissioning (D&D), and remediation, the committee is concerned that

qualified entities may be less willing to undertake the expenses necessary to participate in a process that is prone to delay and reconsideration. Such an eventuality does not serve the interests of the Department or the taxpayer. The committee's concerns are amplified by the value of contracts planned for the next decade, which is expected to be around \$60.0 billion. Accordingly, the committee encourages both DOE and NNSA to improve the stability and reliability of its schedule for releasing draft requests for proposals, requests for proposals, and awarding contracts. Further, the committee directs the Secretary of Energy to submit a report to the congressional defense committees, not later than 60 days after the date of enactment of this Act, on the schedule of major contract awards and procurements expected in the next 18 months funded under Atomic Energy Defense Activities.

#### **Comptroller General review of high explosives capability**

The committee directs the Comptroller General of the United States to review the National Nuclear Security Administration's (NNSA) high-explosives (HE) capability. The committee recognizes that HE are a vital nuclear weapons component and that it is critical that NNSA maintain both a robust research and development (R&D) program as well as a production capability. Maintaining this capability across multiple NNSA sites, while perhaps necessary, is an expensive and potentially risky undertaking. Accordingly, the committee directs the Comptroller General of the United States to: (1) identify all Department of Energy (DOE) and NNSA HE R&D and production capabilities specific to nuclear weapons, the justification for these sites, and what is known about the costs to maintain them; (2) examine DOE's projected requirements for HE capabilities to support the stockpile and work for others; (3) compare these requirements to current capabilities to identify any gaps or duplication in these capabilities; and 4) assess how NNSA plans for its HE capability and the extent to which it manages this capability as a strategic material.

The Comptroller General of the United States should provide to the congressional defense committees a briefing within 270 days of the enactment of this Act with a full report to follow.

#### **Comptroller General review of Kansas City Plant capabilities**

The committee directs the Comptroller General of the United States to review the Kansas City Plant's staffing plans and capabilities to meet national security requirements. The Comptroller General shall provide an update of the review to the congressional defense committees no later than February 28, 2018, with a final report to follow.

The National Nuclear Security Administration's Kansas City Plant is responsible for producing non-nuclear components for Life Extension Programs (LEPs). The Kansas City Plant, which is currently producing components for two LEPs, will soon see its requirements double to accommodate four LEPs. Its timely production of components for Sandia National Laboratories is essential for maintaining LEP schedules.



**Comptroller General review of plutonium oxide feedstock production capacity**

The committee directs the Comptroller General of the United States to assess the Department of Energy's (DOE) current capacity and plans to meet the feedstock production needs of the plutonium disposition program, including the status of the Advanced Recovery and Integrated Extraction System (ARIES) and whether there are any potential alternatives to ARIES for feedstock production not later than May 1, 2018.

The DOE's approaches for disposing of excess defense plutonium require that nuclear weapons pits from dismantled U.S. nuclear weapons are disassembled and that weapons-grade plutonium from these pits is converted into plutonium oxide feedstock. In 2012, DOE canceled plans for constructing a stand-alone facility where this work would take place and determined it would rely on existing facilities, particularly the Plutonium Facility 4 (PF-4) at Los Alamos National Lab (LANL), to accomplish feedstock production. The National Nuclear Security Administration (NNSA) operates the ARIES project, which is the technology development and demonstration project for disassembling pits and converting the resulting plutonium into oxide, within PF-4. However, in a 2009 report, NNSA concluded that the ARIES project at LANL would not be a viable option to perform the entire pit disassembly and conversion mission. Moreover, NNSA stated that the ARIES project would be unable to sustain the annual output of plutonium oxide feedstock necessary to support plutonium disposition through the mixed oxide fuel option. NNSA reached this conclusion in part because the nuclear weapons research and production missions that occupy most of the space at PF-4 take precedence over other priorities at the facility.

More recently, an independent assessment of DOE's options for plutonium disposition published by Aerospace in April 2015 concluded that the production of plutonium oxide feedstock was a major risk factor for increasing costs. Aerospace did not assess the adequacy of the existing and proposed facilities to support the physics, chemistry, and metallurgical processes required for plutonium disposition. However, GAO's reporting on this subject in 2010 noted that there were a number of key technologies for pit disassembly and conversion that had not attained an appropriate technology readiness level.

Given the importance of feedstock production to the success of U.S. plutonium disposition efforts, as well as the cost implications of delays to feedstock production, the committee is concerned that DOE may not have produced adequate plans for feedstock production. Specifically, the committee is concerned that the current capacity of the ARIES project, as well as the earlier planned use of H canyon for feedstock production, may not be sufficient to meet the needs of the plutonium disposition program and that competing priorities for space at PF-4 may interfere with feedstock production efforts.

### **National Nuclear Security Administration arms control research and development plan**

The committee notes that Annex I, Section N of the Joint Comprehensive Plan of Action (JCPOA) provides for the long-term presence of the International Atomic Energy Agency (IAEA) in Iran using modern technologies. This section allows the IAEA to utilize internationally accepted modern technologies for inspection and verification of Iran's compliance with the JCPOA.

The committee included an increase of \$70.3 million above the President's budget request for National Nuclear Security Administration (NNSA) nonproliferation and arms control, for a total of \$200.0 million.

The committee directs the NNSA to provide a briefing to the congressional defense committees on planned and potential research and development of technologies to detect proliferation of nuclear material which can be used for verification of Iran's compliance with the JCPOA. The briefing should include information on what amount of funding would be required to support significant advances and breakthroughs in technology development before the end of calendar year 2023.

### **National Nuclear Security Administration plutonium strategy**

Since 2008, the Nuclear Weapons Council has had a requirement to be able to produce between 50 and 80 plutonium pits per year by 2030 in order to meet deterrence requirements and national requirements related to the creation of a responsive nuclear infrastructure. In section 3112 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113–291), Congress enacted a number of milestone pit production requirements to ensure the National Nuclear Security Administration (NNSA) is making adequate progress to achieve the goal established by the Nuclear Weapons Council, culminating with the requirement to demonstrate the capability to produce 80 pits per year in 2027.

The committee strongly supports the actions NNSA has taken to repurpose existing facilities at Los Alamos National Laboratory in pursuit of these requirements. By more economically using laboratory space, NNSA has developed a plan that it expects will eventually provide it with the capability to produce about 30 plutonium pits per year. Despite the important progress that has been made to resurrect this critical capability, the committee remains concerned about NNSA's plans to achieve the additional pit production capacity necessary for the long-term viability of the Nation's nuclear deterrent.

In February 2016, the Administrator of the NNSA testified that NNSA was conducting an Analysis of Alternatives (AoA) to evaluate infrastructure options associated with achieving the required pit production level of up to 80 pits per year by 2030. In May 2017, the Administrator indicated that this AoA is expected to be complete in the summer of 2017. The committee strongly encourages NNSA to complete the AoA within the Administrator's estimated timeframe.

While the committee appreciates the testimony of the Administrator that the AoA may not be “necessarily dispositive,” the committee expects the results of the AoA to evaluate and resolve most of the essential matters relating to how NNSA plans to achieve the required level of pit production. The committee believes NNSA must develop an actionable strategy that represents the most effective way to achieve the required level of capability, within the available schedule and at an appropriate cost, and it believes that progress must be made before these three requirements come into competition with each other.

#### **Pantex material staging facility**

The National Nuclear Security Administration’s (NNSA) Pantex plant uses a 60-year-old facility to store and stage special nuclear material. The committee understands that efforts are underway to develop a new material staging area to facilitate workflow as well as secure special nuclear material that is awaiting final disposition. However, while the NNSA has begun a process to validate requirements for such a facility and expects that to be accomplished by the end of fiscal year 2017, it has not scheduled a start date for an Analysis of Alternatives (AoA) of such a facility, nor has it identified an anticipated completion date. In addition, the committee understands that there may be opportunities for the NNSA to work with the Air Force and the Corps of Engineers as the Air Force replaces its aging weapons storage areas, which will have similar design and construction requirements.

Accordingly, the committee directs the Administrator of the NNSA to provide a report to the congressional defense committees, to be submitted no later than February 28, 2018, with the validated requirements and the start and end dates of the AoA, as well as an account of how it will utilize, if possible, the design and construction expertise being developed for the replacement of the Air Force weapons storage areas.

#### **Requirement for update on progress on interoperable warhead**

The committee supports the efforts of the National Nuclear Security Administration (NNSA) to design and produce the first interoperable warhead (IW-1), which is an important piece of the modernization plan for the U.S. nuclear stockpile. However, while the NNSA’s internal independent cost estimates for the IW-1 assume spending in fiscal year 2019, NNSA’s Stockpile Stewardship and Management Plan does not propose to begin work until 2020. The committee is concerned that the misalignment of plans within NNSA could lead to delays in the program.

Therefore, the committee directs the Administrator of the NNSA to provide an annual briefing to the congressional defense committees, beginning in fiscal year 2018 and no later than February 28th of each year, addressing whether the design and production of IW-1 remains on schedule; whether NNSA will be ready for an accelerated start should the Nuclear Weapons Council give authorization for Phase 6.2 by fiscal year 2020; and whether activities supporting the design and production are proceeding on schedule and will be available.

The committee also directs the Comptroller General of the United States to brief the congressional defense committees no later than February 28, 2018, with a report to follow, on NNSA's progress on the IW-1. GAO's review shall also cover NNSA's planning and program management for the infrastructure, equipment, and personnel needed to complete the IW-1.

**Requirements for managing schedules for analyses of alternatives for projects of the National Nuclear Security Administration**

The Comptroller General of the United States issued a report in August 2016 titled "NNSA Needs to Clarify Requirements for Its Plutonium Analysis Project at Los Alamos," which found that the National Nuclear Security Administration (NNSA) "has spent billions of dollars designing and partially constructing several one-of-a-kind major capital asset projects only to later reassess alternatives for each project in the wake of significant cost increases and schedule delays." The same report found that in some cases, the NNSA failed to identify key requirements for projects before beginning design work on a major project. In particular, the revised Chemistry and Metallurgy Research Replacement (CMRR) facility project may not be able to support the requirement mandated by the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291) to demonstrate the capability to produce 80 plutonium pits per year by 2027, because "NNSA only tasked the CMRR project with replacing analysis equipment used in an aging facility" and did not include a pit production-related parameter.

Furthermore, the Government Accountability Office report found that the revised CMRR project schedule did not meet best practices because it only included near-term work ending in 2017 and did not include all necessary work activities. The Department of Energy (DOE) updated its guidance "Program and Project Management for the Acquisition of Capital Assets" (DOE O. 413.3B) in May 2016 to direct that all major capital projects include an integrated master schedule, but NNSA has not followed that practice.

The committee is concerned that the facility produced by the revised CMRR project will not have the capacity for the legal requirements for pit production, and may continue to fall short of best practices for schedule and project management.

The committee therefore directs the Administrator of the NNSA to submit to the congressional defense committees a report that includes an integrated master schedule for the revised CMRR project and updated key performance parameters and program-specific requirements for the same project, including anticipated needs to support pit production in the completed facility.

The report should be submitted no later than February 28, 2018.

**Waste Isolation Pilot Plant planning**

The committee is concerned that the Department of Energy (DOE) lacks a strategic plan for the Waste Isolation Pilot Plant's (WIPP) transuranic (TRU) waste disposal mission that would include an analysis of whether the facility's existing disposal space is sufficient for existing and likely future TRU waste and whether

future expansion of the facility will be necessary. The committee notes that the National Nuclear Security Agency's (NNSA) Plutonium Disposition Program, radioactive waste cleanup projects across the country, and ongoing nuclear modernization efforts depend on the availability of disposal space at the WIPP. In addition to the need for plans to account for the physical space limitations at WIPP, long-term planning is also required to ensure that future requirements and plans are consistent with the statutory disposal limit established in the 1992 WIPP Land Withdrawal Act, which was carefully negotiated between the State of New Mexico, the Department of Energy, and the Congress. DOE may need to excavate more storage at WIPP as early as 2026 and has already begun reviewing potential changes to the method it uses to count waste volumes that, if approved, would allow WIPP to accept more TRU waste. DOE, however, lacks complete information on the future volume of TRU waste it will need to dispose of and has not developed a plan or timeline for completing the regulatory approvals and construction tasks needed to ensure that WIPP can continue to support all of DOE's critical missions in 2026 and beyond.

Therefore, to ensure that NNSA's Plutonium Disposition Program and other cleanup projects have accurate and up-to-date information on whether WIPP will be able to accept additional TRU waste, the committee directs the Secretary of Energy to develop a strategic plan for disposing of its TRU Waste that includes: (1) an analysis of WIPP's need for additional disposal space to dispose of the waste currently accounted for in its Annual TRU Waste Inventory Report as well as waste likely to be sent to WIPP but not yet in the inventory; (2) a plan for expanding WIPP's disposal space based on this analysis, including a timeline for completing the necessary regulatory approvals and construction tasks before WIPP's remaining disposal space is filled; and (3) a timeline for implementing DOE's preferred method for changing the way in which waste volumes disposed of at WIPP are counted and an analysis of the extent to which this change will allow for additional volumes of waste to be disposed of at WIPP without exceeding the statutory limit. The Secretary of Energy should submit this strategic plan to the congressional defense committees no later than 180 days after the date of the enactment of this Act.



## **TITLE XXXII—DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

### **Authorization (sec. 3201)**

The committee recommends a provision that would authorize funding for the Defense Nuclear Facilities Safety Board at \$30.6 million consistent with the budget request.





## **TITLE XXXV—MARITIME ADMINISTRATION**

### **Maritime Administration (sec. 3501)**

The committee recommends a provision that would re-authorize certain aspects of the Maritime Administration.



## **DIVISION D—FUNDING TABLES**

### **Authorization of amounts in funding tables (sec. 4001)**

The committee recommends a provision that would provide for the allocation of funds among programs, projects, and activities in accordance with the tables in division D of this Act, subject to re-programming in accordance with established procedures.

Consistent with the previously expressed views of the committee, the provision would also require that decisions by an agency head to commit, obligate, or expend funds to a specific entity on the basis of such funding tables be based on authorized, transparent, statutory criteria or merit-based selection procedures in accordance with the requirements of sections 2304(k) and 2374 of title 10, United States Code, and other applicable provisions of law.



# SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2018

(In Thousands of Dollars)

	FY 2018 Request	Senate Change	Senate Authorized
<b>DISCRETIONARY AUTHORIZATIONS WITHIN THE JURISDICTION OF THE ARMED SERVICES COMMITTEE</b>			
<b>NATIONAL DEFENSE BASE BUDGET</b>			
<b>DEPARTMENT OF DEFENSE-MILITARY (BUDGET SUB-FUNCTION 051)</b>			
<b>DIVISION A: DEPARTMENT OF DEFENSE AUTHORIZATIONS</b>			
<b>TITLE I--PROCUREMENT</b>			
AIRCRAFT PROCUREMENT, ARMY .....	4,149,894	887,174	5,037,068
MISSILE PROCUREMENT, ARMY .....	2,519,054	1,514,570	4,033,624
PROCUREMENT OF W&TCV, ARMY .....	2,423,608	1,931,402	4,355,010
PROCUREMENT OF AMMUNITION, ARMY .....	1,879,283	885,552	2,764,835
OTHER PROCUREMENT, ARMY .....	6,469,331	1,491,332	7,960,663
JOINT IMPROVISED-THREAT DEFEAT FUND .....	14,442		14,442
AIRCRAFT PROCUREMENT, NAVY .....	15,056,235	5,154,008	20,210,243
WEAPONS PROCUREMENT, NAVY .....	3,420,107	69,400	3,489,507
PROCUREMENT OF AMMO, NAVY & MC .....	792,345	42,500	834,845
SHIPBUILDING AND CONVERSION, NAVY .....	19,903,682	4,850,800	24,754,482
OTHER PROCUREMENT, NAVY .....	8,277,789	1,218,069	9,495,858
PROCUREMENT, MARINE CORPS .....	2,064,825	59,803	2,124,628
AIRCRAFT PROCUREMENT, AIR FORCE .....	15,430,849	5,139,437	20,570,286
MISSILE PROCUREMENT, AIR FORCE .....	2,296,182	48,000	2,344,182
SPACE PROCUREMENT, AIR FORCE .....	3,370,775	107,328	3,478,103
PROCUREMENT OF AMMUNITION, AIR FORCE .....	1,376,602		1,376,602
OTHER PROCUREMENT, AIR FORCE .....	19,603,497	452,399	20,055,896
PROCUREMENT, DEFENSE-WIDE .....	4,835,418	611,150	5,446,568
JOINT URGENT OPERATIONAL NEEDS FUND .....	99,795		99,795
UNDISTRIBUTED .....	0	1,870,600	1,870,600
<b>SUBTOTAL, TITLE I--PROCUREMENT .....</b>	<b>113,983,713</b>	<b>26,333,524</b>	<b>140,317,237</b>
<b>TITLE II--RESEARCH, DEVELOPMENT, TEST AND EVALUATION</b>			
RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY .....	9,425,440	480,912	9,906,352
RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY .....	17,675,035	378,455	18,053,490
RESEARCH, DEVELOPMENT, TEST & EVAL, AF .....	34,914,359	1,224,318	36,138,677
RESEARCH, DEVELOPMENT, TEST & EVAL, DW .....	20,490,902	1,167,608	21,658,510
OPERATIONAL TEST & EVAL, DEFENSE .....	210,900		210,900
UNDISTRIBUTED .....	0	64,100	64,100
<b>SUBTOTAL, TITLE II--RESEARCH, DEVELOPMENT, TEST AND EVALUATION .....</b>	<b>82,716,636</b>	<b>3,315,393</b>	<b>86,032,029</b>

## SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2018—Continued

(In Thousands of Dollars)

	FY 2018 Request	Senate Change	Senate Authorized
<b>TITLE III--OPERATION AND MAINTENANCE</b>			
OPERATION & MAINTENANCE, ARMY .....	38,945,417	1,261,823	40,207,240
OPERATION & MAINTENANCE, ARMY RES .....	2,906,842	73,024	2,979,866
OPERATION & MAINTENANCE, ARNG .....	7,307,170	182,923	7,490,093
OPERATION & MAINTENANCE, NAVY .....	45,439,407	761,181	46,200,588
OPERATION & MAINTENANCE, MARINE CORPS .....	6,933,408	46,891	6,980,299
OPERATION & MAINTENANCE, NAVY RES .....	1,084,007		1,084,007
OPERATION & MAINTENANCE, MC RESERVE .....	278,837	1,077	279,914
OPERATION & MAINTENANCE, AIR FORCE .....	39,429,232	2,133,433	41,562,665
OPERATION & MAINTENANCE, AF RESERVE .....	3,267,507	59,800	3,327,307
OPERATION & MAINTENANCE, ANG .....	6,939,968	203,700	7,143,668
OPERATION AND MAINTENANCE, DEFENSE-WIDE .....	34,709,717	74,000	34,783,717
MISCELLANEOUS APPROPRIATIONS .....	1,452,686		1,452,686
UNDISTRIBUTED .....	0	1,411,595	1,411,595
<b>SUBTOTAL, TITLE III--OPERATION AND MAINTENANCE .....</b>	<b>188,694,198</b>	<b>6,209,447</b>	<b>194,903,645</b>
<b>TITLE IV--MILITARY PERSONNEL</b>			
MILITARY PERSONNEL .....	133,881,636	-154,913	133,726,723
MEDICARE-ELIGIBLE RETIREE HEALTH FUND CONTRIBUTIONS .....	7,804,427	16,000	7,820,427
<b>SUBTOTAL, TITLE IV--MILITARY PERSONNEL .....</b>	<b>141,686,063</b>	<b>-138,913</b>	<b>141,547,150</b>
<b>TITLE XIV--OTHER AUTHORIZATIONS</b>			
WORKING CAPITAL FUND .....	1,586,596	50,100	1,636,696
CHEM AGENTS & MUNITIONS DESTRUCTION .....	961,732		961,732
DRUG INTERDICTION & CTR-DRUG ACTIVITIES, DEF .....	790,814		790,814
OFFICE OF THE INSPECTOR GENERAL .....	336,887		336,887
DEFENSE HEALTH PROGRAM .....	33,664,466		33,664,466
NATIONAL DEFENSE SEALIFT FUND .....	509,327	7,000	516,327
<b>SUBTOTAL, TITLE XIV--OTHER AUTHORIZATIONS .....</b>	<b>37,849,822</b>	<b>57,100</b>	<b>37,906,922</b>
<b>TOTAL, DIVISION A: DEPARTMENT OF DEFENSE AUTHORIZATIONS .....</b>	<b>564,930,432</b>	<b>35,776,551</b>	<b>600,706,983</b>
<b>DIVISION B: MILITARY CONSTRUCTION AUTHORIZATIONS</b>			
<b>MILITARY CONSTRUCTION</b>			
ARMY .....	920,394	18,500	938,894
NAVY .....	1,616,665	426,904	2,043,569
AIR FORCE .....	1,738,796	228,330	1,967,126
DEFENSE-WIDE .....	3,114,913	-501,450	2,613,463
ARMY NATIONAL GUARD .....	210,652	83,500	294,152
AIR NATIONAL GUARD .....	161,491	26,000	187,491
ARMY RESERVE .....	73,712	58,600	132,312
NAVY RESERVE .....	65,271		65,271
AIR FORCE RESERVE .....	63,535	108,700	172,235
NATO SECURITY INVESTMENT PROGRAM .....	154,000		154,000
<b>SUBTOTAL, MILITARY CONSTRUCTION .....</b>	<b>8,119,429</b>	<b>449,084</b>	<b>8,568,513</b>
<b>FAMILY HOUSING</b>			

## SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2018—Continued

(In Thousands of Dollars)

	FY 2018 Request	Senate Change	Senate Authorized
CONSTRUCTION, ARMY .....	182,662	—31,000	151,662
OPERATION AND MAINTENANCE, ARMY .....	346,625		346,625
CONSTRUCTION, NAVY AND MARINE CORPS .....	83,682	—40,875	42,807
OPERATION AND MAINTENANCE, NAVY AND MARINE CORPS ..	328,282		328,282
CONSTRUCTION, AIR FORCE .....	85,062		85,062
OPERATION AND MAINTENANCE, AIR FORCE .....	318,324		318,324
OPERATION AND MAINTENANCE, DEFENSE-WIDE .....	59,169		59,169
IMPROVEMENT FUND .....	2,726		2,726
<b>SUBTOTAL, FAMILY HOUSING .....</b>	<b>1,406,532</b>	<b>—71,875</b>	<b>1,334,657</b>
<b>BASE REALIGNMENT AND CLOSURE</b>			
ARMY .....	58,000		58,000
NAVY .....	143,644		143,644
AIR FORCE .....	54,223		54,223
<b>SUBTOTAL, BASE REALIGNMENT AND CLOSURE .....</b>	<b>255,867</b>		<b>255,867</b>
<b>TOTAL, DIVISION B: MILITARY CONSTRUCTION AUTHORIZA- TIONS .....</b>	<b>9,781,828</b>	<b>377,209</b>	<b>10,159,037</b>
<b>TOTAL, DEPARTMENT OF DEFENSE-MILITARY (BUDGET SUB- FUNCTION 051) .....</b>	<b>574,712,260</b>	<b>36,153,760</b>	<b>610,866,020</b>
<b>ATOMIC ENERGY DEFENSE ACTIVITIES (BUDGET SUB-FUNCTION 053)</b>			
<b>DIVISION C: DEPARTMENT OF ENERGY NATIONAL SECURITY AND INDEPENDENT FEDERAL AGENCY AUTHOR- IZATIONS</b>			
<b>DEPARTMENT OF ENERGY AUTHORIZATIONS</b>			
<b>ENERGY PROGRAMS</b>			
NUCLEAR ENERGY .....	133,000		133,000
<b>SUBTOTAL, ENERGY PROGRAMS .....</b>	<b>133,000</b>		<b>133,000</b>
<b>NATIONAL NUCLEAR SECURITY ADMINISTRATION</b>			
WEAPONS ACTIVITIES .....	10,239,344	273,600	10,512,944
DEFENSE NUCLEAR NONPROLIFERATION .....	1,793,310	250,297	2,043,607
NAVAL REACTORS .....	1,479,751	38,000	1,517,751
FEDERAL SALARIES AND EXPENSES .....	418,595		418,595
<b>SUBTOTAL, NATIONAL NUCLEAR SECURITY ADMINISTRATION</b>	<b>13,931,000</b>		<b>14,492,897</b>
<b>ENVIRONMENTAL AND OTHER DEFENSE ACTIVITIES</b>			
OTHER DEFENSE ACTIVITIES .....	815,512		815,512
DEFENSE NUCLEAR WASTE DISPOSAL .....	30,000		30,000
DEFENSE ENVIRONMENTAL CLEANUP .....	5,537,186		5,537,186
<b>SUBTOTAL, ENVIRONMENTAL AND OTHER DEFENSE ACTIVI- TIES .....</b>	<b>6,382,698</b>		<b>6,382,698</b>
<b>SUBTOTAL, DEPARTMENT OF ENERGY AUTHORIZATIONS .....</b>	<b>20,446,698</b>	<b>561,897</b>	<b>21,008,595</b>
<b>INDEPENDENT FEDERAL AGENCY AUTHORIZATION</b>			

## SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2018—Continued

(In Thousands of Dollars)

	FY 2018 Request	Senate Change	Senate Authorized
DEFENSE FACILITIES NUCLEAR SAFETY BOARD .....	30,600		30,600
<b>SUBTOTAL, INDEPENDENT FEDERAL AGENCY AUTHORIZATION</b>	<b>30,600</b>		<b>30,600</b>
<b>TOTAL, DIVISION C: DEPARTMENT OF ENERGY NATIONAL SECURITY AND INDEPENDENT FEDERAL AGENCY AUTHORIZATIONS</b> .....	<b>20,477,298</b>	<b>561,897</b>	<b>21,039,195</b>
<b>ATOMIC ENERGY DEFENSE ACTIVITIES (BUDGET SUB-FUNCTION 053)</b> .....	<b>20,477,298</b>	<b>561,897</b>	<b>21,039,195</b>
<b>TOTAL, NATIONAL DEFENSE FUNDING, BASE BUDGET REQUEST</b> .....	<b>595,189,558</b>	<b>36,715,657</b>	<b>631,905,215</b>
<b>NATIONAL DEFENSE OCO BUDGET REQUEST</b>			
<b>DEPARTMENT OF DEFENSE-MILITARY (BUDGET SUB-FUNCTION 051)</b>			
<b>PROCUREMENT</b>			
AIRCRAFT PROCUREMENT, ARMY .....	424,686		424,686
MISSILE PROCUREMENT, ARMY .....	559,283		559,283
PROCUREMENT OF W&TCV, ARMY .....	1,191,139		1,191,139
PROCUREMENT OF AMMUNITION, ARMY .....	193,436		193,436
OTHER PROCUREMENT, ARMY .....	405,575		405,575
JOINT IMPROVISED-THREAT DEFEAT FUND .....	483,058		483,058
AIRCRAFT PROCUREMENT, NAVY .....	157,300		157,300
WEAPONS PROCUREMENT, NAVY .....	152,373		152,373
PROCUREMENT OF AMMO, NAVY & MC .....	225,587		225,587
OTHER PROCUREMENT, NAVY .....	220,059		220,059
PROCUREMENT, MARINE CORPS .....	65,274		65,274
AIRCRAFT PROCUREMENT, AIR FORCE .....	740,778		740,778
MISSILE PROCUREMENT, AIR FORCE .....	395,400		395,400
SPACE PROCUREMENT, AIR FORCE .....	2,256		2,256
PROCUREMENT OF AMMUNITION, AIR FORCE .....	501,509		501,509
OTHER PROCUREMENT, AIR FORCE .....	4,008,887		4,008,887
PROCUREMENT, DEFENSE-WIDE .....	518,026	15,900	533,926
UNDISTRIBUTED .....	0	-1,870,600	
<b>SUBTOTAL, PROCUREMENT</b> .....	<b>10,244,626</b>	<b>-1,854,700</b>	<b>8,389,926</b>
<b>RESEARCH, DEVELOPMENT, TEST AND EVALUATION</b>			
RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY .....	119,368		119,368
RESEARCH, DEVELOPMENT, TEST & EVAL, NAVY .....	130,365		130,365
RESEARCH, DEVELOPMENT, TEST & EVAL, AF .....	135,358		135,358
RESEARCH, DEVELOPMENT, TEST & EVAL, DW .....	226,096		226,096
UNDISTRIBUTED .....	0	-64,100	-64,100
<b>SUBTOTAL, RESEARCH, DEVELOPMENT, TEST AND EVALUATION</b> .....	<b>611,187</b>	<b>-64,100</b>	<b>547,087</b>
<b>OPERATION AND MAINTENANCE</b>			



## SUMMARY OF NATIONAL DEFENSE AUTHORIZATIONS FOR FISCAL YEAR 2018—Continued

(In Thousands of Dollars)

	FY 2018 Request	Senate Change	Senate Authorized
OPERATION & MAINTENANCE, ARMY .....	16,126,403		16,126,403
OPERATION & MAINTENANCE, ARMY RES .....	24,699		24,699
OPERATION & MAINTENANCE, ARNG .....	108,111		108,111
AFGHANISTAN SECURITY FORCES FUND .....	4,937,515		4,937,515
OPERATION & MAINTENANCE, NAVY .....	5,875,015		5,875,015
OPERATION & MAINTENANCE, MARINE CORPS .....	1,116,640		1,116,640
OPERATION & MAINTENANCE, NAVY RES .....	23,980		23,980
OPERATION & MAINTENANCE, MC RESERVE .....	3,367		3,367
OPERATION & MAINTENANCE, AIR FORCE .....	10,266,295		10,266,295
OPERATION & MAINTENANCE, AF RESERVE .....	58,523		58,523
OPERATION & MAINTENANCE, ANG .....	15,400		15,400
OPERATION AND MAINTENANCE, DEFENSE-WIDE .....	7,712,080	256,300	7,968,380
UNDISTRIBUTED .....	0	-2,121,300	-2,121,300
<b>SUBTOTAL, OPERATION AND MAINTENANCE .....</b>	<b>46,268,028</b>	<b>-1,865,000</b>	<b>44,403,028</b>
<b>MILITARY PERSONNEL</b>			
MILITARY PERSONNEL .....	4,276,276	-214,300	4,061,976
<b>SUBTOTAL, MILITARY PERSONNEL .....</b>	<b>4,276,276</b>	<b>-214,300</b>	<b>4,061,976</b>
<b>OTHER AUTHORIZATIONS</b>			
WORKING CAPITAL FUND .....	148,956	-50,111	98,845
DRUG INTERDICTION & CTR-DRUG ACTIVITIES, DEF .....	196,300		196,300
OFFICE OF THE INSPECTOR GENERAL .....	24,692		24,692
DEFENSE HEALTH PROGRAM .....	395,805		395,805
COUNTER-ISLAMIC ISIS TRAIN & EQUIP FUND .....	1,769,000		1,769,000
<b>SUBTOTAL, OTHER AUTHORIZATIONS .....</b>	<b>2,534,753</b>	<b>-50,111</b>	<b>2,484,642</b>
<b>MILITARY CONSTRUCTION</b>			
ARMY .....	139,700	-15,700	124,000
NAVY .....	18,500	-18,500	
AIR FORCE .....	478,030	-270,830	207,200
DEFENSE-WIDE .....	1,900	-1,900	
<b>SUBTOTAL, MILITARY CONSTRUCTION .....</b>	<b>638,130</b>	<b>-306,930</b>	<b>331,200</b>
<b>TOTAL, NATIONAL DEFENSE (BUDGET FUNCTION 050) OCO BUDGET REQUEST .....</b>	<b>64,573,000</b>	<b>-4,355,141</b>	<b>60,217,859</b>
<b>TOTAL, NATIONAL DEFENSE (BUDGET FUNCTION 050) .....</b>	<b>659,762,558</b>	<b>32,360,516</b>	<b>692,123,074</b>
<b>MEMORANDUM: NON-DEFENSE AUTHORIZATIONS</b>			
TITLE XIV—ARMED FORCES RETIREMENT HOME (FUNCTION 600) .....	64,300		64,300
<b>MEMORANDUM: TRANSFER AUTHORITIES (NON-ADDS)</b>			
TITLE X—GENERAL TRANSFER AUTHORITY .....	[4,000,000]		[4,000,000]
TITLE XV—SPECIAL TRANSFER AUTHORITY .....	[3,500,000]		[3,500,000]

## NATIONAL DEFENSE BUDGET AUTHORITY IMPLICATION

(In Thousands of Dollars)

	FY 2018 Request	Senate Change	Senate Authorized
<b>SUMMARY DISCRETIONARY AUTHORIZATIONS WITHIN THE JURISDICTION OF THE ARMED SERVICES COMMITTEE</b>			
<b>NATIONAL DEFENSE (050)</b>			
DEPARTMENT OF DEFENSE-MILITARY, BASE BUDGET (051) .....	574,712,260	36,153,760	610,866,020
ATOMIC ENERGY DEFENSE ACTIVITIES (053) .....	20,477,298	561,897	21,039,195
OVERSEAS CONTINGENCY OPERATIONS .....	64,573,000	-4,355,141	60,217,859
<b>TOTAL, NATIONAL DEFENSE (050) .....</b>	<b>659,762,558</b>	<b>32,360,516</b>	<b>692,123,074</b>
<b>OTHER DEFENSE DISCRETIONARY AUTHORIZATIONS PROGRAMS OUTSIDE THE JURISDICTION OF THE ARMED SERVICES COMMITTEE OR ALREADY AUTHORIZED</b>			
<b>DEPARTMENT OF DEFENSE-MILITARY (051)</b>			
DEFENSE PRODUCTION ACT PURCHASES .....	37,000		37,000
INDEFINITE ACCOUNT: DISPOSAL OF DOD REAL PROPERTY .....	9,000		9,000
INDEFINITE ACCOUNT: LEASE OF DOD REAL PROPERTY .....	37,000		37,000
<b>SUBTOTAL, DEPARTMENT OF DEFENSE-MILITARY (051) .....</b>	<b>83,000</b>	<b>0</b>	<b>83,000</b>
<b>ATOMIC ENERGY DEFENSE ACTIVITIES (053)</b>			
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM .....	118,000		118,000
<b>SUBTOTAL, ATOMIC ENERGY DEFENSE ACTIVITIES (053) .....</b>	<b>118,000</b>	<b>0</b>	<b>118,000</b>
<b>DEFENSE-RELATED ACTIVITIES (054)</b>			
OTHER DISCRETIONARY PROGRAMS .....	7,855,000		7,855,000
<b>SUBTOTAL, DEFENSE-RELATED ACTIVITIES (054) .....</b>	<b>7,855,000</b>	<b>0</b>	<b>7,855,000</b>
<b>TOTAL, OTHER DEFENSE DISCRETIONARY AUTHORIZATIONS (050) .....</b>	<b>8,056,000</b>	<b>0</b>	<b>8,056,000</b>
<b>DISCRETIONARY BUDGET AUTHORITY IMPLICATION (050)</b>			
<b>NATIONAL DEFENSE DISCRETIONARY AUTHORIZATIONS (050)</b>			
DEPARTMENT OF DEFENSE--MILITARY (051) .....	574,795,260	36,153,760	610,949,020
ATOMIC ENERGY DEFENSE ACTIVITIES (053) .....	20,595,298	561,897	21,157,195
DEFENSE-RELATED ACTIVITIES (054) .....	7,855,000		7,855,000
<b>TOTAL, DISCRETIONARY BUDGET AUTHORITY IMPLICATION, 050 .....</b>	<b>603,245,558</b>	<b>36,715,657</b>	<b>639,961,215</b>
<b>NATIONAL DEFENSE MANDATORY PROGRAMS, CURRENT LAW (CBO BASELINE)</b>			
<b>DEPARTMENT OF DEFENSE-MILITARY (051)</b>			
CONCURRENT RECEIPT ACCRUAL PAYMENTS TO THE MILITARY			
RETIREMENT FUND .....	7,496,000		7,496,000
REVOLVING, TRUST AND OTHER DOD MANDATORY .....	1,333,000		1,333,000
OFFSETTING RECEIPTS .....	-1,889,000		-1,889,000
<b>SUBTOTAL, DEPARTMENT OF DEFENSE-MILITARY (051) .....</b>	<b>6,940,000</b>	<b>0</b>	<b>6,940,000</b>
<b>ATOMIC ENERGY DEFENSE ACTIVITIES (053)</b>			

## NATIONAL DEFENSE BUDGET AUTHORITY IMPLICATION—Continued

(In Thousands of Dollars)

	FY 2018 Request	Senate Change	Senate Authorized
ENERGY EMPLOYEES OCCUPATIONAL ILLNESS COMPENSATION PROGRAMS AND OTHER .....	1,273,000		1,273,000
<b>SUBTOTAL, ATOMIC ENERGY DEFENSE ACTIVITIES (053) .....</b>	<b>1,273,000</b>	<b>0</b>	<b>1,273,000</b>
<b>DEFENSE-RELATED ACTIVITIES (054)</b>			
RADIATION EXPOSURE COMPENSATION TRUST FUND .....	59,000		59,000
PAYMENT TO CIA RETIREMENT FUND AND OTHER .....	514,000		514,000
<b>SUBTOTAL, DEFENSE-RELATED ACTIVITIES (054) .....</b>	<b>573,000</b>	<b>0</b>	<b>573,000</b>
<b>TOTAL, NATIONAL DEFENSE MANDATORY PROGRAMS (050) .....</b>	<b>8,095,000</b>	<b>0</b>	<b>8,095,000</b>
<b>DISCRETIONARY AND MANDATORY BUDGET AUTHORITY IMPLICATION (050)</b>			
<b>DISCRETIONARY AND MANDATORY BUDGET AUTHORITY IMPLICATION (050)</b>			
DEPARTMENT OF DEFENSE--MILITARY (051) .....	581,735,260	36,153,760	617,889,020
ATOMIC ENERGY DEFENSE ACTIVITIES (053) .....	21,868,298	561,897	22,430,195
DEFENSE-RELATED ACTIVITIES (054) .....	8,428,000		8,428,000
<b>TOTAL, BUDGET AUTHORITY IMPLICATION (050) .....</b>	<b>612,031,558</b>	<b>36,715,657</b>	<b>648,747,215</b>



## **TITLE XLI—PROCUREMENT**

TITLE XLI—PROCUREMENT

SEC. 4101. PROCUREMENT.

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
AIRCRAFT PROCUREMENT, ARMY							
FIXED WING							
2	UTILITY F/W AIRCRAFT .....	4	75,115			4	75,115
4	MQ-1 UAV .....	2	30,206	10	100,000	12	130,206
	UFR: ER Improved Gray Eagle Air Vehicles .....			[10]	[100,000]		
ROTARY							
5	HELICOPTER, LIGHT UTILITY (LUH) .....	13	108,383			13	108,383
6	AH-64 APACHE BLOCK IIA REMAN .....	48	725,976	2	39,000	50	764,976
	UFR: Procures remanufactured AH64Es .....			[2]	[39,000]		
7	AH-64 APACHE BLOCK IIA REMAN (AP) .....	0	170,910			0	170,910
8	AH-64 APACHE BLOCK IIIB NEW BUILD .....	13	374,100	9	273,700	22	647,800
	UFR: Procures AH-64E .....			[9]	[273,700]		
9	AH-64 APACHE BLOCK IIIB NEW BUILD (AP) .....	0	71,900			0	71,900
10	UH-60 BLACKHAWK M MODEL (MYP) .....	48	938,308			48	938,308
11	UH-60 BLACKHAWK M MODEL (MYP) (AP) .....	0	86,295			0	86,295
12	UH-60 BLACK HAWK A AND L MODELS .....	36	76,516			36	76,516
13	CH-47 HELICOPTER .....	6	202,576	4	246,564	10	449,140
	UFR: New Build MH-47G aircraft .....			[4]	[246,564]		
14	CH-47 HELICOPTER (AP) .....	0	17,820			0	17,820
MODIFICATION OF AIRCRAFT							

15	MQ-1 PAYLOAD (MIP) .....	0	5,910	10	16,000	10	21,910
	UFR: Procures of Common Sensor Payloads .....			[10]	[16,000]		
16	UNIVERSAL GROUND CONTROL EQUIPMENT (UAS) .....	0	15,000			0	15,000
17	GRAY EAGLE MODS2 .....	0	74,291			0	74,291
18	MULTI SENSOR ABN RECON (MIP) .....	0	68,812	0	29,475	0	98,287
	UFR: Procures of Electronic Intelligence (ELINT) upgrades .....			[0]	[29,475]		
19	AH-64 MODS .....	0	238,141			0	238,141
20	CH-47 CARGO HELICOPTER MODS (MYP) .....	0	20,166			0	20,166
21	GRCS SEMA MODS (MIP) .....	0	5,514			0	5,514
22	ARL SEMA MODS (MIP) .....	0	11,650			0	11,650
23	EMARSS SEMA MODS (MIP) .....	0	15,279			0	15,279
24	UTILITY/CARGO AIRPLANE MODS .....	0	57,737			0	57,737
25	UTILITY HELICOPTER MODS .....	0	5,900			0	5,900
26	NETWORK AND MISSION PLAN .....	0	142,102			0	142,102
27	COMMS, NAV SURVEILLANCE .....	0	166,050			0	166,050
28	GATM ROLLUP .....	0	37,403			0	37,403
29	RQ-7 UAV MODS .....	0	83,160	5	131,000	5	214,160
	UFR: Procures Shadow V2 BLK III systems .....			[5]	[131,000]		
30	UAS MODS .....	0	26,109	9	320	9	26,429
	UFR: Procures OSRVT systems .....			[9]	[320]		
	<b>GROUND SUPPORT AVIONICS</b>						
31	AIRCRAFT SURVIVABILITY EQUIPMENT .....	0	70,913			0	70,913
32	SURVIVABILITY CM .....	0	5,884			0	5,884
33	CMWS .....	0	26,825	24	25,000	24	51,825
	UFR: Limited Interim Missile Warning System (LIMWS) Quick Reaction Capability .....			[24]	[25,000]		
34	COMMON INFRARED COUNTERMEASURES (CIRCW) .....	0	6,337	24	25,000	24	31,337
	UFR: CIRCW B-kits .....			[24]	[25,000]		
	<b>OTHER SUPPORT</b>						
35	AVIONICS SUPPORT EQUIPMENT .....	0	7,038			0	7,038
36	COMMON GROUND EQUIPMENT .....	0	47,404			0	47,404
37	AIRCREW INTEGRATED SYSTEMS .....	0	47,066			0	47,066

SEC. 4101. PROCUREMENT (In Thousands of Dollars)									
Line	Item	FY 2018 Request		Senate Change		Senate Authorized		Qty	Cost
		Qty	Cost	Qty	Cost	Qty	Cost		
38	AIR TRAFFIC CONTROL .....	0	83,790	0	1,115	0	84,905		
	UFR: Airspace Information System shelter and Alternate Workstation .....			[0]	[1,115]				
39	INDUSTRIAL FACILITIES .....	0	1,397			0	1,397		
40	LAUNCHER, 2.75 ROCKET .....	0	1,911			0	1,911		
	<b>TOTAL AIRCRAFT PROCUREMENT, ARMY .....</b>	<b>170</b>	<b>4,149,894</b>	<b>97</b>	<b>887,174</b>	<b>267</b>	<b>5,037,068</b>		
<b>MISSILE PROCUREMENT, ARMY</b>									
<b>SURFACE-TO-AIR MISSILE SYSTEM</b>									
1	LOWER TIER AIR AND MISSILE DEFENSE (AMD) .....	0	140,826			0	140,826		
2	MSE MISSILE .....	93	459,040	147	650,041	240	1,109,081		
	UFR: Additional MSE missiles .....			[147]	[650,041]				
3	INDIRECT FIRE PROTECTION CAPABILITY INC 2-I .....	0	57,742	0	-19,000	0	38,742		
	Available prior year funds .....			[0]	[-19,000]				
<b>AIR-TO-SURFACE MISSILE SYSTEM</b>									
5	HELLFIRE SYS SUMMARY .....	998	94,790	106	10,070	1,104	104,860		
	UFR: Procures maximum Hellfire missile .....			[106]	[10,070]				
6	JOINT AIR-TO-GROUND MSLS (JAGM) .....	824	178,432	0	-45,000	824	133,432		
	Excess due to delays .....			[0]	[-45,000]				
<b>ANTI-TANK/ASSAULT MISSILE SYS</b>									
8	JAVELIN (AAWS-M) SYSTEM SUMMARY .....	525	110,123	373	147,365	898	257,488		
	UFR: Procures additional Javelin .....			[373]	[147,365]				
9	TOW 2 SYSTEM SUMMARY .....	1,156	85,851			1,156	85,851		
10	TOW 2 SYSTEM SUMMARY (AP) .....	0	19,949			0	19,949		
11	GUIDED MLRS ROCKET (GMLRS) .....	4,458	595,182	0	14,500	4,458	609,682		
	UFR: Tooling and practice rounds .....			[0]	[14,500]				
12	MLRS REDUCED RANGE PRACTICE ROCKETS (RRPR) .....	3,306	28,321	576	6,330	3,882	34,651		



	UFR: Funds Reduced Range Practice Rockets	[576]	[6,330]	
	<b>MODIFICATIONS</b>			
15	PATRIOT MODS	0	329,073	47
	UFR: Procures additional ELES	[47]	167,454	47
16	ATACMS MODS	0	116,040	75
	UFR: Additional ATACMS	[75]	69,400	75
17	GMLRS MOD	0	531	0
18	STINGER MODS	0	63,090	576
	UFR: Maximizes Stinger	[576]	28,800	576
19	AVENGER MODS	0	62,931	0
20	ITAS/TOW MODS	0	3,500	0
21	MLRS MODS	0	138,235	32
	UFR: Procures M270A1 MLRS launchers	[32]	48,882	32
22	HIMARS MODIFICATIONS	0	9,566	0
	<b>AIR-TO-SURFACE MISSILE SYSTEM</b>			
27	HIMARS	0	0	32
	UFR: Procures HIMARS launchers	[32]	435,728	32
	<b>SPARES AND REPAIR PARTS</b>			
23	SPARES AND REPAIR PARTS	0	18,915	0
	<b>SUPPORT EQUIPMENT &amp; FACILITIES</b>			
24	AIR DEFENSE TARGETS	0	5,728	0
26	PRODUCTION BASE SUPPORT	0	1,189	0
	<b>TOTAL MISSILE PROCUREMENT, ARMY</b>	<b>11,360</b>	<b>2,519,054</b>	<b>1,964</b>
			<b>1,514,570</b>	<b>13,324</b>
				<b>4,033,624</b>
	<b>PROCUREMENT OF W&amp;TCV, ARMY</b>			
	<b>TRACKED COMBAT VEHICLES</b>			
1	BRADLEY PROGRAM	0	0	0
	UFR: Recap 1 Infantry Battalion Set of M2A4	[0]	111,000	0
2	ARMORED MULTI PURPOSE VEHICLE (AMPV)	42	193,715	42
	<b>MODIFICATION OF TRACKED COMBAT VEHICLES</b>			
4	STRYKER (MOD)	0	97,552	0
	UFR: Second SBCT set of 30mm	[0]	695,500	0
			[347,500]	

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	UFR: Stryker ECP .....			[0]	[348,000]		
6	BRADLEY PROGRAM (MOD) .....	0	444,851			0	444,851
7	M109 FOV MODIFICATIONS .....	0	64,230			0	64,230
8	PALADIN INTEGRATED MANAGEMENT (PIM) .....	59	646,413			59	646,413
9	IMPROVED RECOVERY VEHICLE (M88A2 HERCULES) .....	16	72,402	0	122,000	16	194,402
	UFR: Procures one ABCT set of HERCULES (M88A2) .....			[0]	[122,000]		
10	ASSAULT BRIDGE (MOD) .....	0	5,855			0	5,855
11	ASSAULT BREACHER VEHICLE .....	7	34,221	0	60,000	7	94,221
	UFR: Procures Assault Breacher Vehicles, Combat Dozer Blades, Full Width Mine Plows .....			[0]	[60,000]		
12	M88 FOV MODS .....	0	4,826			0	4,826
13	JOINT ASSAULT BRIDGE .....	27	128,350			27	128,350
14	M1 ABRAMS TANK (MOD) .....	0	248,826	0	221,000	0	469,826
	UFR: Completes the first Brigade set of Trophy (NDI APS) for Abrams w/ ERI OCO (1 APS Set) .....			[0]	[221,000]		
15	ABRAMS UPGRADE PROGRAM .....	20	275,000	0	561,000	20	836,000
	UFR: Recapitalization of 29 Abrams tanks to M1A2SEPV3 .....			[0]	[561,000]		
WEAPONS & OTHER COMBAT VEHICLES							
18	M240 MEDIUM MACHINE GUN (7.62MM) .....	0	1,992	0	2,350	0	4,342
	UFR: Procures additional .....			[0]	[2,350]		
19	MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON S .....	0	6,520	0	20,000	0	26,520
	UFR: Procures M3E1 light weight Carl Gustaf weapon systems .....			[0]	[20,000]		
20	MORTAR SYSTEMS .....	0	21,452	0	13,050	0	34,502
	UFR: Procures M121 120mm Mortars .....			[0]	[13,050]		
21	XM320 GRENADE LAUNCHER MODULE (GLM) .....	0	4,524	0	799	0	5,323
	UFR: Procures M320A1 40mm Grenade Launchers .....			[0]	[799]		

23	CARBINE .....	0	43,150	0	13,987	0	57,137
	UFR: Procures M4A1 carbines .....			[0]	[13,987]		
24	COMMON REMOTELY OPERATED WEAPONS STATION .....	0	750	0	10,000	0	10,750
	UFR: Accelerate CROWS modifications .....			[0]	[10,000]		
25	HANDGUN .....	0	8,326	0	378	0	8,704
	UFR: Procures Modular Handgun Systems .....			[0]	[378]		
	<b>MOD OF WEAPONS AND OTHER COMBAT VEH</b>						
26	MK-19 GRENADE MACHINE GUN MODS .....	0	2,000	0		0	2,000
27	M777 MODS .....	0	3,985	0	85,787	0	89,772
	UFR: Funds M777 lightweight towed howitzers .....			[0]	[85,787]		
28	M4 CARBINE MODS .....	0	31,315	0	5,256	0	31,315
29	M2 50 CAL MACHINE GUN MODS .....	0	47,414	0	[2,350]	0	52,670
	UFR: Procures M2A1 .50cal machine .....			[0]	[2,906]		
30	M249 SAW MACHINE GUN MODS .....	0	3,339	0		0	3,339
31	M240 MEDIUM MACHINE GUN MODS .....	0	4,577	0	6,582	0	11,159
	UFR: Procures M192 tripods, M240B 7.62mm, M240L 7.62mm, Gun Optics .....			[0]	[6,582]		
32	SNIPER RIFLES MODIFICATIONS .....	0	1,488	0		0	1,488
33	M119 MODIFICATIONS .....	0	12,678	0		0	12,678
34	MORTAR MODIFICATION .....	0	3,998	0		0	3,998
35	MODIFICATIONS LESS THAN \$5.0M (WOCV-WTCV) .....	0	2,219	0		0	2,219
	<b>SUPPORT EQUIPMENT &amp; FACILITIES</b>						
36	ITEMS LESS THAN \$5.0M (WOCV-WTCV) .....	0	5,075	0	2,713	0	7,788
	UFR: Procures M150 Rifle Combat Optic (RCO); M68 Close Combat Optics (CCO) .....			[0]	[2,713]		
37	PRODUCTION BASE SUPPORT (WOCV-WTCV) .....	0	992			0	992
39	SMALL ARMS EQUIPMENT (SOLDIER ENH PROG) .....	0	1,573			0	1,573
	<b>TOTAL PROCUREMENT OF W&amp;TCV, ARMY</b> .....	<b>171</b>	<b>2,423,608</b>	<b>0</b>	<b>1,931,402</b>	<b>171</b>	<b>4,355,010</b>
	<b>PROCUREMENT OF AMMUNITION, ARMY</b>						
	<b>SMALL/MEDIUM CAL AMMUNITION</b>						
1	CTG, 5.56MM, ALL TYPES .....	0	39,767	0	7,225	0	46,992

38  
39

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
2	UFR: Additional ammunition CTG, 7.62MM, ALL TYPES	0	46,804	[0]	[7,225]	0	61,704
3	UFR: Additional ammunition CTG, HANDGUN, ALL TYPES	0	10,413	[0]	[14,900]	0	10,503
4	UFR: Additional ammunition CTG, .50 CAL, ALL TYPES	0	62,837	[0]	[90]	0	71,727
5	UFR: Additional ammunition CTG, 20MM, ALL TYPES	0	8,208	[0]	[8,890]	0	8,208
6	UFR: Additional ammunition CTG, 25MM, ALL TYPES	0	8,640	0	31,862	0	40,502
7	UFR: Additional ammunition CTG, 30MM, ALL TYPES	0	76,850	[0]	[31,862]	0	79,000
8	UFR: Additional ammunition CTG, 40MM, ALL TYPES	0	108,189	[0]	[2,150]	0	125,380
	UFR: Additional ammunition			[0]	[17,191]		
	MORTAR AMMUNITION						
9	60MM MORTAR, ALL TYPES	0	57,359	0	2,506	0	59,865
	UFR: Additional ammunition			[0]	[2,506]		
10	81MM MORTAR, ALL TYPES	0	49,471	0	3,109	0	52,580
	UFR: Additional mortar			[0]	[3,109]		
11	120MM MORTAR, ALL TYPES	0	91,528	0	18,192	0	109,720
	UFR: Additional 120mm			[0]	[18,192]		
	TANK AMMUNITION						
12	CARTRIDGES, TANK, 105MM AND 120MM, ALL TYPES	0	133,500	0	40,300	0	173,800
	UFR: Additional Tank cartridge			[0]	[40,300]		
	ARTILLERY AMMUNITION						
13	ARTILLERY CARTRIDGES, 75MM & 105MM, ALL TYPES	0	44,200			0	44,200

14	ARTILLERY PROJECTILE, 155MM, ALL TYPES .....	0	187,149	0	159,181	0	346,330
	UFR: Additional ammunition .....			[0]	[159,181]		
15	PROJ 155MM EXTENDED RANGE M982 .....	480	49,000	0	233,500	480	282,500
	UFR: Excalibur .....			[0]	[233,500]		
16	ARTILLERY PROPELLANTS, FUZES AND PRIMERS, ALL .....	0	83,046	0	80,722	0	163,768
	UFR: Additional PGK, prop charges, artillery fuzes .....			[0]	[48,601]		
	UFR: Required to execute simultaneous OPLAN .....			[0]	[32,121]		
	<b>MINES</b>						
17	MINES & CLEARING CHARGES, ALL TYPES .....	0	3,942	0	3,050	0	6,992
	UFR: Additional ammunition .....			[0]	[3,050]		
	<b>ROCKETS</b>						
19	SHOULDER LAUNCHED MUNITIONS, ALL TYPES .....	0	5,000	0	61,881	0	66,881
	UFR: Additional rockets, grenades .....			[0]	[61,881]		
20	ROCKET, HYDRA 70, ALL TYPES .....	0	161,155	0	68,087	0	229,242
	UFR: Additional APKWS .....			[0]	[68,087]		
	<b>OTHER AMMUNITION</b>						
21	CAD/PAD, ALL TYPES .....	0	7,441	0		0	7,441
22	DEMOLITION MUNITIONS, ALL TYPES .....	0	19,345	0	2,261	0	21,606
	UFR: Additional munitions .....			[0]	[2,261]		
23	GRENADES, ALL TYPES .....	0	22,759	0	25,361	0	48,120
	UFR: Additional ammunition .....			[0]	[25,361]		
24	SIGNALS, ALL TYPES .....	0	2,583	0	829	0	3,412
	UFR: Additional signal munitions .....			[0]	[829]		
25	SIMULATORS, ALL TYPES .....	0	13,084	0	450	0	13,534
	UFR: Additional signal munitions .....			[0]	[450]		
	<b>MISCELLANEOUS</b>						
26	AMMO COMPONENTS, ALL TYPES .....	0	12,237			0	12,237
27	NON-LETHAL AMMUNITION, ALL TYPES .....	0	1,500	0	150	0	1,650
	UFR: Non-Lethal Hand Grenade Munitions .....			[0]	[150]		
28	ITEMS LESS THAN \$5 MILLION (AMMO) .....	0	10,730	0	3,665	0	14,395
	UFR: Additional ammunition .....			[0]	[3,665]		
29	AMMUNITION PECULIAR EQUIPMENT .....	0	16,425			0	16,425

**SEC. 4101. PROCUREMENT**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
30	FIRST DESTINATION TRANSPORTATION (AMMO) .....	0	15,221			0	15,221
	<b>PRODUCTION BASE SUPPORT</b>						
32	INDUSTRIAL FACILITIES .....	0	329,356	0	100,000	0	429,356
	UFR: Upgrade at GOCO Army ammunition plants .....			[0]	[100,000]		
33	CONVENTIONAL MUNITIONS DEMILITARIZATION .....	0	197,825			0	197,825
34	ARMS INITIATIVE .....	0	3,719			0	3,719
	<b>TOTAL PROCUREMENT OF AMMUNITION, ARMY</b> .....	<b>480</b>	<b>1,879,283</b>	<b>0</b>	<b>885,552</b>	<b>480</b>	<b>2,764,835</b>
	<b>OTHER PROCUREMENT, ARMY</b>						
	<b>TACTICAL VEHICLES</b>						
1	TACTICAL TRAILERS/DOLLY SETS .....	0	9,716	25	1,155	25	10,871
	UFR: Provides self-haul capability to Engineer Construction Units .....			[25]	[1,155]		
2	SEMITRAILERS, FLATBED: .....	0	14,151	0	27,000	0	41,151
	UFR: Procures 100 % of equipment shortage in Europe for M872 .....			[0]	[27,000]		
3	AMBULANCE, 4 LITTER, 5/4 TON, 4X4 .....	0	53,000	0	15,593	0	68,593
	UFR: Procures HMMWV ambulances .....			[0]	[15,000]		
	UFR: Support increased end-strength .....			[0]	[593]		
4	GROUND MOBILITY VEHICLES (GMV) .....	0	40,935			0	40,935
6	JOINT LIGHT TACTICAL VEHICLE .....	2,110	804,440			2,110	804,440
7	TRUCK, DUMP, 20T (CCE) .....	0	967			0	967
8	FAMILY OF MEDIUM TACTICAL VEH (FMTV) .....	0	78,650	0	185,222	0	263,872
	UFR: Procures vehicles .....			[0]	[185,222]		
9	FIRETRUCKS & ASSOCIATED FIREFIGHTING EQUIP .....	0	19,404			0	19,404
10	FAMILY OF HEAVY TACTICAL VEHICLES (FHTV) .....	0	81,656	31	7,443	31	89,099
	UFR: Procures Forward Repair Systems (FRS) .....			[31]	[7,443]		
11	PLS ESP .....	0	7,129	0	52,675	0	59,804

		UFR: Provides transportation of ammunition and break-bulk cargo .....							
13	TACTICAL WHEELED VEHICLE PROTECTION KITS .....	0	43,040	[0]	[52,675]	0	43,040		
14	MODIFICATION OF IN SVC EQUIP .....	0	83,940	0	107,727	0	191,667		
UFR: Additional Buffalo and MMPV .....				[0]	[107,727]				
<b>NON-TACTICAL VEHICLES</b>									
16	HEAVY ARMORED SEDAN .....	0	269			0	269		
17	PASSENGER CARRYING VEHICLES .....	0	1,320			0	1,320		
18	NONTACTICAL VEHICLES, OTHER .....	0	6,964			0	6,964		
<b>COMM—JOINT COMMUNICATIONS</b>									
19	WIN-T—GROUND FORCES TACTICAL NETWORK .....	0	420,492	0	—420,492	0	0		
Early to need .....				[0]	[—420,492]				
20	SIGNAL MODERNIZATION PROGRAM .....	0	92,718			0	92,718		
21	TACTICAL NETWORK TECHNOLOGY MOD IN SVC .....	0	150,497			0	150,497		
22	JOINT INCIDENT SITE COMMUNICATIONS CAPABILITY .....	0	6,065			0	6,065		
23	JCSSE EQUIPMENT (USREDCOM) .....	0	5,051			0	5,051		
<b>COMM—SATELLITE COMMUNICATIONS</b>									
24	DEFENSE ENTERPRISE WIDEBAND SATCOM SYSTEMS .....	0	161,383			0	161,383		
25	TRANSPORTABLE TACTICAL COMMAND COMMUNICATIONS .....	0	62,600			0	62,600		
26	SHF TERM .....	0	11,622			0	11,622		
28	SMART-T (SPACE) .....	0	6,799			0	6,799		
29	GLOBAL BRODCST SVC—GBS .....	0	7,065	0	11,000	0	18,065		
UFR: Procures Global Broadcast Systems .....				[0]	[11,000]				
31	ENROUTE MISSION COMMAND (EMC) .....	0	21,667			0	21,667		
<b>COMM—COMBAT SUPPORT COMM</b>									
33	MOD-IN-SERVICE PROFILER .....	0	70			0	70		
<b>COMM—C3 SYSTEM</b>									
34	ARMY GLOBAL CMD & CONTROL SYS (AGCCS) .....	0	2,658			0	2,658		
<b>COMM—COMBAT COMMUNICATIONS</b>									
36	HANDHELD MANPACK SMALL FORM FIT (HMS) .....	0	355,351			0	355,351		
37	MID-TIER NETWORKING VEHICULAR RADIO (MNVr) .....	0	25,100			0	25,100		
38	RADIO TERMINAL SET, MIDS LVT(2) .....	0	11,160			0	11,160		
40	TRACTOR DESK .....	0	2,041			0	2,041		

**SEC. 4101. PROCUREMENT**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
41	TRACTOR RIDE .....	0	5,534	0	8,200	0	13,734
	UFR: Procurement of Offensive Cyber Operations .....			[0]	[8,200]		
42	SPIDER APLA REMOTE CONTROL UNIT .....	0	996			0	996
43	SPIDER FAMILY OF NETWORKED MUNITIONS INCR .....	0	4,500	0	2,358	0	6,858
	UFR: Procures SPIDER INC 1A systems .....			[0]	[2,358]		
45	TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM .....	0	4,411			0	4,411
46	UNIFIED COMMAND SUITE .....	0	15,275			0	15,275
47	FAMILY OF MED COMM FOR COMBAT CASUALTY CARE .....	0	15,964			0	15,964
	<b>COMM—INTELLIGENCE COMM</b> .....						
49	CI AUTOMATION ARCHITECTURE .....	0	9,560			0	9,560
50	DEFENSE MILITARY DECEPTION INITIATIVE .....	0	4,030			0	4,030
	<b>INFORMATION SECURITY</b> .....						
54	COMMUNICATIONS SECURITY (COMSEC) .....	0	107,804	0	23,278	0	131,082
	UFR: Security Data System and End Cryptographic Units .....			[0]	[23,278]		
55	DEFENSIVE CYBER OPERATIONS .....	0	53,436	4	8,000	4	61,436
	UFR: Funds Deployable DC0 Systems for COMPO 2&3 Cyber Protection Teams .....			[4]	[8,000]		
56	INSIDER THREAT PROGRAM—UNIT ACTIVITY MONITO .....	0	690			0	690
57	PERSISTENT CYBER TRAINING ENVIRONMENT .....	0	4,000			0	4,000
	<b>COMM—LONG HAUL COMMUNICATIONS</b> .....						
58	BASE SUPPORT COMMUNICATIONS .....	0	43,751			0	43,751
	<b>COMM—BASE COMMUNICATIONS</b> .....						
59	INFORMATION SYSTEMS .....	0	118,101			0	118,101
60	EMERGENCY MANAGEMENT MODERNIZATION PROGRAM .....	0	4,490			0	4,490
61	HOME STATION MISSION COMMAND CENTERS (HSMCC) .....	0	20,050			0	20,050
62	INSTALLATION INFO INFRASTRUCTURE MOD PROGRAM .....	0	186,251			0	186,251

38  
38  
88



<b>ELECT EQUIP—TACT INT REL ACT (TIARA)</b>									
65	JTI/CIBS-M .....	0	12,154	0	7,600	0	19,754		
	UFR: Procures critical spare parts .....			[0]	[7,600]				
68	DCGS-A (MIP) .....	0	274,782	0	-150,000	0	124,782		
	Changing tactical requirements .....			[0]	[-150,000]				
70	TROJAN (MIP) .....	0	16,052	0	13,160	0	29,212		
	UFR: Procures TROJAN SPIRIT .....			[0]	[13,160]				
71	MOD OF IN-SVC EQUIP (INTEL SPT) (MIP) .....	0	51,034	0		0	51,034		
72	CI HUMINT AUTO REPRING AND COLL(CHARGS) .....	0	7,815	0	76	0	7,891		
	UFR: Provides CI/HUMINT Automated Reporting and Collection System capabilities .....			[0]	[76]				
73	CLOSE ACCESS TARGET RECONNAISSANCE (CATR) .....	0	8,050	0		0	8,050		
74	MACHINE FOREIGN LANGUAGE TRANSLATION SYSTEM-M .....	0	567	0		0	567		
<b>ELECT EQUIP—ELECTRONIC WARFARE (EW)</b>									
76	LIGHTWEIGHT COUNTER MORTAR RADAR .....	0	20,459	0		0	20,459		
77	EW PLANNING & MANAGEMENT TOOLS (EWPMT) .....	0	5,805	0		0	5,805		
78	AIR VIGILANCE (AV) .....	0	5,348	0		0	5,348		
81	COUNTERINTELLIGENCE/SECURITY COUNTERMEASURES .....	0	469	0		0	469		
82	CI MODERNIZATION .....	0	285	0		0	285		
<b>ELECT EQUIP—TACTICAL SURV. (TAC SURV)</b>									
83	SENTINEL MODS .....	0	28,491	12	72,000	12	100,491		
	UFR: Procures additional Sentinel Radars .....			[12]	[72,000]				
84	NIGHT VISION DEVICES .....	0	166,493	50	65,005	50	231,498		
	New night vision testing devices .....			[50]	[2,500]				
	UFR: Accelerates fielding of the LTLM .....			[0]	[15,749]				
	UFR: AN/PVS-14 Night Vision Goggles .....			[0]	[5,414]				
	UFR: Enhanced Night Vision Goggles .....			[0]	[4,608]				
	UFR: Security Force Assistance Bde .....			[0]	[36,734]				
85	SMALL TACTICAL OPTICAL RIFLE MOUNTED MLRF .....	0	13,947	0	2,150	0	16,097		
	UFR: Procures Small Tactical Optical Rifle Mounted laser range finder .....			[0]	[2,150]				
87	INDIRECT FIRE PROTECTION FAMILY OF SYSTEMS .....	0	21,380	0	577,283	0	598,663		
	UFR: IFPC/Avengeer Battalions and Warn Suites .....			[0]	[577,283]				

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
88	FAMILY OF WEAPON SIGHTS (FWS) .....	0	59,105			0	59,105
89	ARTILLERY ACCURACY EQUIP .....	0	2,129			0	2,129
91	JOINT BATTLE COMMAND—PLATFORM (JBC-P) .....	0	282,549	0	120,422	0	402,971
	UFR: Replenishes Joint Battle Command- Platform .....			[0]	[120,422]		
92	JOINT EFFECTS TARGETING SYSTEM (JETS) .....	0	48,664			0	48,664
93	MOD OF IN-SVC EQUIP (LLDR) .....	0	5,198			0	5,198
94	COMPUTER BALLISTICS: LHMBC XM32 .....	0	8,117			0	8,117
95	MORTAR FIRE CONTROL SYSTEM .....	0	31,813	0	20,700	0	52,513
	UFR: Procures Mortar Fire Control systems (M95, M96) .....			[0]	[20,700]		
96	COUNTERFIRE RADARS .....	0	329,057	0	64,200	0	393,257
	UFR: Procures AN/TPQ-53 Counterfire Target Acquisition Radar System .....			[0]	[64,200]		
	<b>ELECT EQUIP—TACTICAL C2 SYSTEMS</b>						
97	FIRE SUPPORT C2 FAMILY .....	0	8,700	0	4,758	0	13,458
	UFR: Additional Advanced Field Artillery Tactical Data System (AFATDS) .....			[0]	[4,758]		
98	AIR & MSL DEFENSE PLANNING & CONTROL SYS .....	0	26,635	0	96,978	0	123,613
	UFR: Supports fielding (AMD) mission command assets to a Army Corps HQ .....			[0]	[96,978]		
100	LIFE CYCLE SOFTWARE SUPPORT (LCSS) .....	0	1,992			0	1,992
101	NETWORK MANAGEMENT INITIALIZATION AND SERVICE .....	0	15,179			0	15,179
102	MANEUVER CONTROL SYSTEM (MCS) .....	0	132,572	0	4,819	0	137,391
	UFR: Tactical Mission Command Equipment .....			[0]	[4,819]		
103	GLOBAL COMBAT SUPPORT SYSTEM-ARMY (GCSS-A) .....	0	37,201			0	37,201
104	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (IPP) .....	0	16,140			0	16,140
105	RECONNAISSANCE AND SURVEYING INSTRUMENT SET .....	0	6,093	0	19,755	0	25,848
	UFR: Procures Engineer Instrument Set Field Reconnaissance and Survey Kits .....			[0]	[19,755]		

106	MOD OF IN-SVC EQUIPMENT (ENFIRE) .....	0	1,134	0	1,459 [1,459]	0	2,593
	UFR: Support Security Force Assistance Bde .....			[0]			
	<b>ELECT EQUIP—AUTOMATION</b>						
107	ARMY TRAINING MODERNIZATION .....	0	11,575			0	11,575
108	AUTOMATED DATA PROCESSING EQUIP .....	0	91,983	0	–15,000 [–15,000]	0	76,983
	Accelerate commercial IT solutions .....			[0]			
109	GENERAL FUND ENTERPRISE BUSINESS SYSTEMS FAM .....	0	4,465			0	4,465
110	HIGH PERF COMPUTING MOD PGM (HPCMP) .....	0	66,363			0	66,363
111	CONTRACT WRITING SYSTEM .....	0	1,001			0	1,001
112	RESERVE COMPONENT AUTOMATION SYS (RCAS) .....	0	26,183			0	26,183
	<b>ELECT EQUIP—AUDIO VISUAL SYS (A/V)</b>						
113	TACTICAL DIGITAL MEDIA .....	0	4,441			0	4,441
114	ITEMS LESS THAN \$5M (SURVEYING EQUIPMENT) .....	0	3,414	0	13,000 [3,000]	0	16,414
	UFR: Accelerate procurement of Global Positioning System-Survey .....			[0]			
	UFR: Procures Automated Integrated Survey Instrument (AIS) systems .....			[0]	[10,000]		
	<b>ELECT EQUIP—SUPPORT</b>						
115	PRODUCTION BASE SUPPORT (C-E) .....	0	499			0	499
116	BCT EMERGING TECHNOLOGIES .....	0	25,050			0	25,050
	<b>CLASSIFIED PROGRAMS</b>						
185	CLASSIFIED PROGRAMS .....	0	4,819			0	4,819
	<b>CHEMICAL DEFENSIVE EQUIPMENT</b>						
117	PROTECTIVE SYSTEMS .....	0	1,613			0	1,613
118	FAMILY OF NON-LETHAL EQUIPMENT (FNLE) .....	0	9,696			0	9,696
120	CBRN DEFENSE .....	0	11,110			0	11,110
	<b>BRIDGING EQUIPMENT</b>						
121	TACTICAL BRIDGING .....	0	16,610			0	16,610
122	TACTICAL BRIDGE, FLOAT-RIBBON .....	0	21,761	28	22,000 [22,000]	28	43,761
	UFR: Procures Bridge Erection Boats .....			[28]			
124	COMMON BRIDGE TRANSPORTER (CBT) RECAP .....	0	21,046	112	50,400 [50,400]	112	71,446
	UFR: Procure Common Bridge Transporters .....			[112]			
	<b>ENGINEER (NON-CONSTRUCTION) EQUIPMENT</b>						
125	HANDHELD STANDOFF MINEFIELD DETECTION SYS-HST .....	0	5,000	0	5,600	0	10,600

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
126	UFR: Procures hand held mine detectors ..... GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS) .....	0	32,442	[0]	[5,600]	0	43,262
127	UFR: Equipment for 15th and 16th ABCT .....			[0]	[10,820]		
128	AREA MINE DETECTION SYSTEM (AMDS) .....	0	10,571			0	10,571
128	HUSKY MOUNTED DETECTION SYSTEM (HMDS) .....	0	21,695	0	2,400	0	24,095
129	UFR: Procures Husky Mounted Detection System .....			[0]	[2,400]		
129	ROBOTIC COMBAT SUPPORT SYSTEM (RCSS) .....	0	4,516	5	15,100	5	19,616
130	UFR: Procures M160s .....			[5]	[15,100]		
130	EOD ROBOTICS SYSTEMS RECAPITALIZATION .....	0	10,073	211	11,000	211	21,073
131	UFR: Procures the Talon 5A robot .....			[211]	[11,000]		
131	ROBOTICS AND APPLIQUE SYSTEMS .....	0	3,000			0	3,000
133	REMOTE DEMOLITION SYSTEMS .....	0	5,847	44	1,192	44	7,039
134	UFR: Procures Radio Frequency Remote Activated Munitions .....			[44]	[1,192]		
134	< \$5M, COUNTERMINE EQUIPMENT .....	0	1,530			0	1,530
135	FAMILY OF BOATS AND MOTORS .....	0	4,302			0	4,302
COMBAT SERVICE SUPPORT EQUIPMENT							
136	HEATERS AND ECUs .....	0	7,405	0	9,056	0	16,461
137	UFR: Procures Improved Environmental Control Units .....			[0]	[9,056]		
137	SOLDIER ENHANCEMENT .....	0	1,095			0	1,095
138	PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS) .....	0	5,390			0	5,390
139	GROUND SOLDIER SYSTEM .....	0	38,219	0	9,808	0	48,027
140	UFR: Procures NETT Warrior .....			[0]	[9,808]		
140	MOBILE SOLDIER POWER .....	0	10,456	0	1,562	0	12,018
142	UFR: Procures ISPDS-C systems for a Security Forces Assistance Bde .....			[0]	[1,562]		
142	FIELD FEEDING EQUIPMENT .....	0	15,340	0	14,440	0	29,780
	UFR: BCT support equipment .....			[0]	[14,440]		

143	CARGO AERIAL DEL & PERSONNEL PARACHUTE SYSTEM .....	0	30,607		0	30,607
144	FAMILY OF ENGR COMBAT AND CONSTRUCTION SETS .....	0	10,426	0	9,736	20,162
	UFR: Engineering equipment .....			[0]	[9,736]	
	<b>PETROLEUM EQUIPMENT</b>					
146	QUALITY SURVEILLANCE EQUIPMENT .....	0	6,903		0	6,903
147	DISTRIBUTION SYSTEMS, PETROLEUM & WATER .....	0	47,597		0	47,597
	<b>MEDICAL EQUIPMENT</b>					
148	COMBAT SUPPORT MEDICAL .....	0	43,343		0	43,343
	<b>MAINTENANCE EQUIPMENT</b>					
149	MOBILE MAINTENANCE EQUIPMENT SYSTEMS .....	0	33,774	0	21,591	55,365
	UFR: Shop equipment .....			[0]	[21,591]	
150	ITEMS LESS THAN \$5.0M (MAINT EQ) .....	0	2,728	0	954	3,682
	UFR: Additional equipment for growing Army .....			[0]	[954]	
	<b>CONSTRUCTION EQUIPMENT</b>					
151	GRADER, ROAD MTZD, HVY, 6X4 (CCE) .....	0	989	48	14,730	15,719
	UFR: Procures 48 Graders for the 16th ABCT .....			[48]	[14,730]	
152	SCRAPERS, EARTHMOVING .....	0	11,180		0	11,180
155	ALL TERRAIN CRANES .....	0	8,935	2	3,000	11,935
	UFR: Procures cranes to support bridging assets .....			[2]	[3,000]	
157	HIGH MOBILITY ENGINEER EXCAVATOR (HMEE) .....	0	64,339	0	20,560	84,899
	UFR: Procures HMEE for the 16th ABCT .....			[0]	[20,560]	
158	ENHANCED RAPID AIRFIELD CONSTRUCTION CAPAP .....	0	2,563		0	2,563
160	CONST EQUIP ESP .....	0	19,032	0	70,679	89,711
	UFR: Procures Engineer Mission Module—Water Distributors and 31 Vibratory Rollers .....			[0]	[7,000]	
	UFR: Procures T9 Dozers and Armor Kits .....			[0]	[63,679]	
161	ITEMS LESS THAN \$5.0M (CONST EQUIP) .....	0	6,899	0	10,012	16,911
	UFR: Procures 2 Vibratory Plate Compactors (VPC) for the 16th ABCT .....			[0]	[10,012]	
	<b>RAIL FLOAT CONTAINERIZATION EQUIPMENT</b>					
162	ARMY WATERCRAFT ESP .....	0	20,110		0	20,110
163	ITEMS LESS THAN \$5.0M (FLOAT/RAIL) .....	0	2,877		0	2,877
	<b>GENERATORS</b>					

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
164	GENERATORS AND ASSOCIATED EQUIP ..... UFR: Additional equipment for growing Army .....	0	115,635	380 [380]	27,210 [27,210]	380	142,845
165	TACTICAL ELECTRIC POWER RECAPITALIZATION .....	0	7,436			0	7,436
166	<b>MATERIAL HANDLING EQUIPMENT</b> FAMILY OF FORKLIFTS ..... UFR: Procures additional 5K LCRTF .....	0	9,000	15 [15]	1,635 [1,635]	15	10,635
167	<b>TRAINING EQUIPMENT</b> COMBAT TRAINING CENTERS SUPPORT .....	0	88,888			0	88,888
168	TRAINING DEVICES, NONSYSTEM .....	0	285,989			0	285,989
169	CLOSE COMBAT TACTICAL TRAINER .....	0	45,718			0	45,718
170	AVIATION COMBINED ARMS TACTICAL TRAINER .....	0	30,568			0	30,568
171	GAMING TECHNOLOGY IN SUPPORT OF ARMY TRAINING .....	0	5,406			0	5,406
172	<b>TEST MEASURE AND DIG EQUIPMENT (TMD)</b> CALIBRATION SETS EQUIPMENT .....	0	5,564			0	5,564
173	INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE) .....	0	30,144			0	30,144
174	TEST EQUIPMENT MODERNIZATION (TEMOD) .....	0	7,771	0 [0]	525 [525]	0	8,296
	UFR: Test Equipment Modernization systems (TEMOD) .....						
175	<b>OTHER SUPPORT EQUIPMENT</b> M25 STABILIZED BINOCULAR .....	0	3,956			0	3,956
176	RAPID EQUIPPING SOLDIER SUPPORT EQUIPMENT .....	0	5,000	0 [0]	5,000 [5,000]	0	10,000
177	UFR: Support 10 initiatives per year .....						
178	PHYSICAL SECURITY SYSTEMS (OPA3) .....	0	60,047			0	60,047
179	BASE LEVEL COMMON EQUIPMENT .....	0	13,239			0	13,239
	MODIFICATION OF IN-SVC EQUIPMENT (OPA-3) .....	0	60,192	0 [0]	60,134 [60,134]	0	120,326
	UFR: Additional support equipment .....						
180	PRODUCTION BASE SUPPORT (OTH) .....	0	2,271			0	2,271

181	SPECIAL EQUIPMENT FOR USER TESTING .....	0	5,319		0	5,319
182	TRACTOR YARD .....	0	5,935		0	5,935
185	BETSS-C COMPACT PAYLOADS .....	0	0		0	0
186	INTELLIGENT REMOTE IMAGING SPECTROMETER—GROUND SYSTEM .....	0	0	0	0	8,600
	UFR: Development of six focal plan arrays .....			[0]		[8,600]
187	FORCE PROVIDER EXPEDITIONARY .....	0	0	12	12	27,700
	UFR: Procures Force Providers Battle-loss and components for RESET .....			[12]		[27,700]
188	HVY EXPANDED MOBILE TACTICAL TRUCK EXT SERV .....	0	0	230	230	132,250
	UFR: Procures HEMITTS .....			[230]		[132,250]
189	FIRE PROTECTION TYPE I .....	0	0	9	9	54
	UFR: Procures Fire Protection Type 1 sets .....			[9]		[54]
	<b>OPAZ</b>					
184	INITIAL SPARES—C&E .....	0	38,269	0	0	14,329
	Early to need .....			[0]		[−23,940]
	<b>TOTAL OTHER PROCUREMENT, ARMY .....</b>	<b>2,110</b>	<b>6,469,331</b>	<b>1,218</b>	<b>1,491,332</b>	<b>7,960,663</b>
	<b>JOINT IMPROVISED-THREAT DEFEAT FUND</b>				<b>3,328</b>	<b>7,960,663</b>
	<b>NETWORK ATTACK</b>					
1	RAPID ACQUISITION AND THREAT RESPONSE .....	0	14,442		0	14,442
	<b>TOTAL JOINT IMPROVISED-THREAT DEFEAT FUND .....</b>	<b>0</b>	<b>14,442</b>	<b>0</b>	<b>0</b>	<b>14,442</b>
	<b>AIRCRAFT PROCUREMENT, NAVY</b>					
	<b>COMBAT AIRCRAFT</b>					
2	F/A-18E/F (FIGHTER) HORNET .....	14	1,200,146	10	24	1,939,146
	UFR: Additional F/A-18 E/F Super Hornets .....			[10]		[739,000]
3	F/A-18E/F (FIGHTER) HORNET (AP) .....	0	52,971		0	52,971
4	JOINT STRIKE FIGHTER CV .....	4	582,324	6	10	1,382,324
	UFR: Additional F-35C .....			[6]		[800,000]
5	JOINT STRIKE FIGHTER CV (AP) .....	0	263,112		0	263,112
6	JSF STOVL .....	20	2,398,139	4	24	2,923,739
	UFR: Additional F-35B .....			[4]		[525,600]
7	JSF STOVL (AP) .....	0	413,450		0	413,450

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
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		Qty	Cost	Qty	Cost	Qty	Cost
8	CH-53K (HEAVY LIFT) .....	4	567,605	2	280,200	6	847,805
	UFR: Additional CH-53K .....			[2]	[280,200]		
9	CH-53K (HEAVY LIFT) (AP) .....	0	147,046			0	147,046
10	V-22 (MEDIUM LIFT) .....	6	677,404	6	562,464	12	1,239,868
	Multi-year savings .....			[0]	[-10,000]		
	UFR: Additional MV-22N-22 .....			[2]	[180,464]		
	UFR: Additional MV-22B .....			[4]	[392,000]		
11	V-22 (MEDIUM LIFT) (AP) .....	0	27,422			0	27,422
12	H-1 UPGRADES (UH-1Y/AH-1Z) .....	22	678,429	7	220,500	29	898,929
	UFR: Additional AH-1Z .....			[7]	[220,500]		
13	H-1 UPGRADES (UH-1Y/AH-1Z) (AP) .....	0	42,082			0	42,082
16	P-8A POSEIDON .....	7	1,245,251	6	1,011,000	13	2,256,251
	UFR: Additional P-8A Poseidon .....			[6]	[1,011,000]		
17	P-8A POSEIDON (AP) .....	0	140,333			0	140,333
18	E-2D ADV HAWKEYE .....	5	733,910			5	733,910
19	E-2D ADV HAWKEYE (AP) .....	0	102,026			0	102,026
	<b>OTHER AIRCRAFT</b> .....						
22	KC-130J .....	2	129,577	4	342,700	6	472,277
	UFR: Additional KC-130J .....			[4]	[342,700]		
23	KC-130J (AP) .....	0	25,497			0	25,497
24	MQ-4 TRITON .....	3	522,126			3	522,126
25	MQ-4 TRITON (AP) .....	0	57,266			0	57,266
26	MQ-8 UAV .....	0	49,472			0	49,472
27	OTHER SUPPORT AIRCRAFT .....	0	0			4	59,200
27	STUASLO UAV .....	0	880			0	880
	UFR: Procure additional aircraft .....			[4]	[59,200]		



71	C-40A AIRCRAFT PROCUREMENT .....	0	0	2	215,000	2	215,000
	UFR: Procure additional aircraft .....			[2]	[215,000]		
	<b>MODIFICATION OF AIRCRAFT</b>						
30	AEA SYSTEMS .....	0	52,960			0	52,960
31	AV-8 SERIES .....	0	43,555			0	43,555
32	ADVERSARY .....	0	2,565			0	2,565
33	F-18 SERIES .....	0	1,043,661	62	81,100	62	1,124,761
	UFR: ALQ-214 USMC Retrofit .....			[28]	[65,100]		
	UFR: ALR-67 Retrofit A-KITS and Partial B-Kits .....			[34]	[16,000]		
34	H-53 SERIES .....	0	38,712			0	38,712
35	SH-60 SERIES .....	0	95,333			0	95,333
36	H-1 SERIES .....	0	101,886			0	101,886
37	EP-3 SERIES .....	0	7,231			0	7,231
38	P-3 SERIES .....	0	700			0	700
39	E-2 SERIES .....	0	97,563			0	97,563
40	TRAINER A/C SERIES .....	0	8,184			0	8,184
41	C-2A .....	0	18,673			0	18,673
42	C-130 SERIES .....	0	83,541			0	83,541
43	FEWSG .....	0	630			0	630
44	CARGO/TRANSPORT A/C SERIES .....	0	10,075			0	10,075
45	E-6 SERIES .....	0	223,508			0	223,508
46	EXECUTIVE HELICOPTERS SERIES .....	0	38,787			0	38,787
47	SPECIAL PROJECT AIRCRAFT .....	0	8,304			0	8,304
48	T-45 SERIES .....	0	148,071			0	148,071
49	POWER PLANT CHANGES .....	0	19,827			0	19,827
50	JPATS SERIES .....	0	27,007			0	27,007
51	COMMON ECM EQUIPMENT .....	0	146,642			0	146,642
52	COMMON AVIONICS CHANGES .....	0	123,507			0	123,507
53	COMMON DEFENSIVE WEAPON SYSTEM .....	0	2,317			0	2,317
54	ID SYSTEMS .....	0	49,524			0	49,524
55	P-8 SERIES .....	0	18,665			0	18,665
56	MAGTF EW FOR AVIATION .....	0	10,111			0	10,111

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
57	MQ-8 SERIES .....	0	32,361			0	32,361
59	V-22 (TILT/ROTOR ACFT) OSPREY .....	0	228,321			0	228,321
60	F-35 STOVL SERIES .....	0	34,963			0	34,963
61	F-35 CV SERIES .....	0	31,689			0	31,689
62	QRC .....	0	24,766			0	24,766
63	MQ-4 SERIES .....	0	39,996			0	39,996
	<b>AIRCRAFT SPARES AND REPAIR PARTS</b>						
64	SPARES AND REPAIR PARTS .....	0	1,681,914	0	299,744	0	1,981,658
	UFR: C-40A Spares .....			[0]	[12,600]		
	UFR: CH-53K Spares .....			[0]	[7,500]		
	UFR: F-35B Spares .....			[0]	[91,000]		
	UFR: Fund to max executable .....			[0]	[168,000]		
	UFR: KC-130J Spares .....			[0]	[12,844]		
	UFR: UC-12W Spares .....			[0]	[7,800]		
	<b>AIRCRAFT SUPPORT EQUIP &amp; FACILITIES</b>						
65	COMMON GROUND EQUIPMENT .....	0	388,052	0	17,500	0	405,552
	UFR: F/A-18C/D Training Systems .....			[0]	[17,500]		
66	AIRCRAFT INDUSTRIAL FACILITIES .....	0	24,613			0	24,613
67	WAR CONSUMABLES .....	0	39,614			0	39,614
68	OTHER PRODUCTION CHARGES .....	0	1,463			0	1,463
69	SPECIAL SUPPORT EQUIPMENT .....	0	48,500			0	48,500
70	FIRST DESTINATION TRANSPORTATION .....	0	1,976			0	1,976
	<b>TOTAL AIRCRAFT PROCUREMENT, NAVY .....</b>	<b>87</b>	<b>15,056,235</b>	<b>113</b>	<b>5,154,008</b>	<b>200</b>	<b>20,210,243</b>
	<b>WEAPONS PROCUREMENT, NAVY</b>						
	<b>MODIFICATION OF MISSILES</b>						

1	TRIDENT II MODS .....	0	1,143,595	0	1,143,595
	<b>SUPPORT EQUIPMENT &amp; FACILITIES</b>				
2	MISSILE INDUSTRIAL FACILITIES .....	0	7,086	0	7,086
	<b>STRATEGIC MISSILES</b>				
3	TOMAHAWK .....	34	134,375	34	134,375
	<b>TACTICAL MISSILES</b>				
4	AMRAAM .....	120	197,109	0	12,000
	UFR: Munitions Wholeness .....			[0]	[12,000]
5	SIDEWINDER .....	185	79,692	185	79,692
6	JSOW .....	0	5,487	0	5,487
7	STANDARD MISSILE .....	117	510,875	117	510,875
8	SMALL DIAMETER BOMB II .....	90	20,968	90	20,968
9	RAM .....	60	58,587	60	48,000
	UFR: Additional RAM BLK II .....			[60]	[48,000]
10	JOINT AIR GROUND MISSILE (JAGM) .....	0	3,789	0	3,789
13	STAND OFF PRECISION GUIDED MUNITIONS (SOPGM) .....	19	3,122	0	9,400
	UFR: AGM-176A Griffin Missile Qualifications .....			[0]	[9,400]
14	AERIAL TARGETS .....	0	124,757	0	124,757
15	OTHER MISSILE SUPPORT .....	0	3,420	0	3,420
16	LRASM .....	25	74,733	25	74,733
	<b>MODIFICATION OF MISSILES</b>				
17	ESSM .....	30	74,524	30	74,524
19	HARPOON MODS .....	0	17,300	0	17,300
20	HARM MODS .....	0	183,368	0	183,368
21	STANDARD MISSILES MODS .....	0	11,729	0	11,729
	<b>SUPPORT EQUIPMENT &amp; FACILITIES</b>				
22	WEAPONS INDUSTRIAL FACILITIES .....	0	4,021	0	4,021
23	FLEET SATELLITE COMM FOLLOW-ON .....	0	46,357	0	46,357
	<b>ORDNANCE SUPPORT EQUIPMENT</b>				
25	ORDNANCE SUPPORT EQUIPMENT .....	0	47,159	0	47,159
	<b>TORPEDOES AND RELATED EQUIP</b>				
26	SSTD .....	0	5,240	0	5,240

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
27	MK-48 TORPEDO .....	17	44,771			17	44,771
28	ASW TARGETS .....	0	12,399			0	12,399
	MOD OF TORPEDOES AND RELATED EQUIP						
29	MK-54 TORPEDO MODS .....	0	104,044			0	104,044
30	MK-48 TORPEDO ADCAP MODS .....	0	38,954			0	38,954
31	QUICKSTRIKE MINE .....	0	10,337			0	10,337
	SUPPORT EQUIPMENT						
32	TORPEDO SUPPORT EQUIPMENT .....	0	70,383			0	70,383
33	ASW RANGE SUPPORT .....	0	3,864			0	3,864
	DESTINATION TRANSPORTATION						
34	FIRST DESTINATION TRANSPORTATION .....	0	3,961			0	3,961
	GUNS AND GUN MOUNTS						
35	SMALL ARMS AND WEAPONS .....	0	11,332			0	11,332
	MODIFICATION OF GUNS AND GUN MOUNTS						
36	CWS MODS .....	0	72,698			0	72,698
37	COAST GUARD WEAPONS .....	0	38,931			0	38,931
38	GUN MOUNT MODS .....	0	76,025			0	76,025
39	LCS MODULE WEAPONS .....	110	13,110			110	13,110
40	CRUISER MODERNIZATION WEAPONS .....	0	34,825			0	34,825
41	AIRBORNE MINE NEUTRALIZATION SYSTEMS .....	0	16,925			0	16,925
	SPARES AND REPAIR PARTS						
43	SPARES AND REPAIR PARTS .....	0	110,255			0	110,255
	TOTAL WEAPONS PROCUREMENT, NAVY .....	807	3,420,107	60	69,400	867	3,489,507
	PROCUREMENT OF AMMO, NAVY & MC						
	NAVY AMMUNITION						

1	GENERAL PURPOSE BOMBS .....	0	34,882			0	34,882
2	JDAM .....	2,492	57,343			2,492	57,343
3	AIRBORNE ROCKETS, ALL TYPES .....	0	79,318			0	79,318
4	MACHINE GUN AMMUNITION .....	0	14,112			0	14,112
5	PRACTICE BOMBS .....	0	47,027			0	47,027
6	CARTRIDGES & CART ACTUATED DEVICES .....	0	57,718			0	57,718
7	AIR EXPENDABLE COUNTERMEASURES .....	0	65,908			0	65,908
8	JATOS .....	0	2,895			0	2,895
10	5 INCH/54 GUN AMMUNITION .....	0	22,112			0	22,112
11	INTERMEDIATE CALIBER GUN AMMUNITION .....	0	12,804			0	12,804
12	OTHER SHIP GUN AMMUNITION .....	0	41,594			0	41,594
13	SMALL ARMS & LANDING PARTY AMMO .....	0	49,401			0	49,401
14	PYROTECHNIC AND DEMOLITION .....	0	9,495			0	9,495
16	AMMUNITION LESS THAN \$5 MILLION .....	0	3,080			0	3,080
	<b>MARINE CORPS AMMUNITION</b>						
20	MORTARS .....	0	24,118	0	25,500	0	49,618
	UFR: Additional 60mm Full Range Practice Rounds .....			[0]	[11,000]		
	UFR: Additional 81mm Full Range Practice Rounds .....			[0]	[14,500]		
23	DIRECT SUPPORT MUNITIONS .....	0	64,045			0	64,045
24	INFANTRY WEAPONS AMMUNITION .....	0	91,456			0	91,456
29	COMBAT SUPPORT MUNITIONS .....	0	11,788			0	11,788
32	AMMO MODERNIZATION .....	0	17,862			0	17,862
33	ARTILLERY MUNITIONS .....	0	79,427	0	17,000	0	96,427
	UFR: Additional training rounds .....			[0]	[17,000]		
34	ITEMS LESS THAN \$5 MILLION .....	0	5,960			0	5,960
	<b>TOTAL PROCUREMENT OF AMMO, NAVY &amp; MC</b> .....	<b>2,492</b>	<b>792,345</b>	<b>0</b>	<b>42,500</b>	<b>2,492</b>	<b>834,845</b>
	<b>SHIPBUILDING AND CONVERSION, NAVY</b>						
	<b>FLEET BALLISTIC MISSILE SHIPS</b>						
1	OHIO REPLACEMENT SUBMARINE (AP) .....	0	842,853			0	842,853
	<b>OTHER WARSHIPS</b>						
2	CARRIER REPLACEMENT PROGRAM .....	1	4,441,772	0	-300,000	1	4,141,772

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Unjustified cost growth .....			[0]	[-300,000]		
4	VIRGINIA CLASS SUBMARINE .....	2	3,305,315			2	3,305,315
5	VIRGINIA CLASS SUBMARINE (AP) .....	0	1,920,596	0	1,173,000	0	3,093,596
	3rd FY20 SSN or SIB expansion .....			[0]	[450,000]		
	Additional EOQ funding Blk V MYP .....			[0]	[750,000]		
	NSBDF Savings .....			[0]	[-27,000]		
6	CVN REFUELING OVERHAULS .....	0	1,604,890			0	1,604,890
7	CVN REFUELING OVERHAULS (AP) .....	0	75,897			0	75,897
8	DDG 1000 .....	0	223,968	0	-50,000	0	173,968
	Unjustified cost growth .....			[0]	[-50,000]		
9	DDG-51 .....	2	3,499,079	1	1,559,000	3	5,058,079
	Available prior year funds .....			[0]	[-225,000]		
	Procure 1 additional DDG-51 .....			[1]	[1,750,000]		
	UFR, SSEE Inc F for DDG .....			[0]	[34,000]		
10	DDG-51 (AP) .....	0	90,336	0	300,000	0	390,336
	EOQ for FY18-22 MYP contract .....			[0]	[300,000]		
11	LITTORAL COMBAT SHIP .....	1	636,146	0	-40,000	1	596,146
	Unit price adjustment .....			[0]	[-40,000]		
	AMPHIBIOUS SHIPS						
12	LX(R) OR LPD-30 .....	0	0	1	1,000,000	1	1,000,000
	Incremental funding for LX(R) or LPD-30 .....			[1]	[1,000,000]		
15	LHA REPLACEMENT .....	0	1,710,927			0	1,710,927
	AUXILIARIES, CRAFT AND PRIOR YR PROGRAM COST						
18	TAO FLEET OILER .....	1	465,988			1	465,988
19	TAO FLEET OILER (AP) .....	0	75,068			0	75,068
20	TOWING, SALVAGE, AND RESCUE SHIP (ATS) .....	1	76,204			1	76,204

23	LCU 1700 .....	1	31,850		1	31,850
24	OUTFITTING .....	0	548,703		0	510,503
	Post-delivery funds early to need .....			0		
				[0]		[-38,200]
25	SHIP TO SHORE CONNECTOR .....	3	212,554		8	509,554
	Quantity unit price adjustment .....			5		297,000
	UFR: 5 additional Ship-to-Shore Connector .....			[0]		[-15,000]
				[5]		[312,000]
26	SERVICE CRAFT .....	0	23,994		0	62,994
	UFR: Berthing barge .....			0		39,000
				[0]		[39,000]
29	COMPLETION OF PY SHIPBUILDING PROGRAMS .....	0	117,542		0	117,542
30	ESB .....	0	0		1	661,000
	Procure additional ESB .....			[1]		[661,000]
32	CABLE SHIP .....	0	0		1	250,000
	Procure cable ship .....			1		250,000
				[1]		[250,000]
	<b>TOTAL SHIPBUILDING AND CONVERSION, NAVY .....</b>	<b>12</b>	<b>19,903,682</b>	<b>9</b>	<b>21</b>	<b>24,754,482</b>
						<b>4,850,800</b>
	<b>OTHER PROCUREMENT, NAVY</b>					
	<b>SHIP PROPULSION EQUIPMENT</b>					
3	SURFACE POWER EQUIPMENT .....	0	41,910		0	41,910
4	HYBRID ELECTRIC DRIVE (HED) .....	0	6,331		0	0
	Unjustified cost growth .....			0		-6,331
				[0]		[-6,331]
	<b>GENERATORS</b>					
5	SURFACE COMBATANT HM&E .....	0	27,392		0	27,392
	<b>NAVIGATION EQUIPMENT</b>					
6	OTHER NAVIGATION EQUIPMENT .....	0	65,943		0	65,943
	<b>OTHER SHIPBOARD EQUIPMENT</b>					
8	SUB PERISCOPE, IMAGING AND SUPT EQUIP PROG .....	0	151,240		0	180,240
	UFR: 3 Submarine Warfare Federated Tactical Systems .....			0		29,000
				[0]		[29,000]
9	DDG MOD .....	0	603,355		0	603,355
10	FIREFIGHTING EQUIPMENT .....	0	15,887		0	15,887
11	COMMAND AND CONTROL SWITCHBOARD .....	0	2,240		0	2,240
12	LHA/LHD MIDLIFE .....	0	30,287		0	30,287
14	POLLUTION CONTROL EQUIPMENT .....	0	17,293		0	17,293

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
15	SUBMARINE SUPPORT EQUIPMENT .....	0	27,990			0	27,990
16	VIRGINIA CLASS SUPPORT EQUIPMENT .....	0	46,610			0	46,610
17	LCS CLASS SUPPORT EQUIPMENT .....	0	47,955	0	-42,600	0	5,355
	Procurement ahead of need .....			[0]	[-42,600]		
18	SUBMARINE BATTERIES .....	0	17,594			0	17,594
19	LPD CLASS SUPPORT EQUIPMENT .....	0	61,908			0	61,908
21	STRATEGIC PLATFORM SUPPORT EQUIP .....	0	15,812			0	15,812
22	DSSP EQUIPMENT .....	0	4,178			0	4,178
23	CG MODERNIZATION .....	0	306,050			0	306,050
24	LCAC .....	0	5,507			0	5,507
25	UNDERWATER EOD PROGRAMS .....	0	55,922			0	55,922
26	ITEMS LESS THAN \$5 MILLION .....	0	96,909			0	96,909
27	CHEMICAL WARFARE DETECTORS .....	0	3,036			0	3,036
28	SUBMARINE LIFE SUPPORT SYSTEM .....	0	10,364			0	10,364
	REACTOR PLANT EQUIPMENT .....						
29	REACTOR POWER UNITS .....	0	324,925			0	324,925
30	REACTOR COMPONENTS .....	0	534,468			0	534,468
	OCEAN ENGINEERING .....						
31	DIVING AND SALVAGE EQUIPMENT .....	0	10,619			0	10,619
	SMALL BOATS .....						
32	STANDARD BOATS .....	0	46,094			0	46,094
	PRODUCTION FACILITIES EQUIPMENT .....						
34	OPERATING FORCES IPE .....	0	191,541			0	191,541
	OTHER SHIP SUPPORT .....						
36	LCS COMMON MISSION MODULES EQUIPMENT .....	0	34,666			0	34,666
37	LCS MCM MISSION MODULES .....	0	55,870	2	28,900	2	84,770





SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
64	SHALLOW WATER MCM .....	0	8,796			0	8,796
65	NAVSTAR GPS RECEIVERS (SPACE) .....	0	15,923			0	15,923
66	AMERICAN FORCES RADIO AND TV SERVICE .....	0	2,730			0	2,730
67	STRATEGIC PLATFORM SUPPORT EQUIP .....	0	6,889			0	6,889
	AVIATION ELECTRONIC EQUIPMENT						
70	ASHORE ATC EQUIPMENT .....	0	71,882			0	71,882
71	AFLOAT ATC EQUIPMENT .....	0	44,611			0	44,611
77	ID SYSTEMS .....	0	21,239			0	21,239
78	NAVAL MISSION PLANNING SYSTEMS .....	0	11,976	0	1,000	0	12,976
	UFR: Munitions Wholeness .....			[0]	[1,000]		
	OTHER SHORE ELECTRONIC EQUIPMENT						
80	TACTICAL/MOBILE C4I SYSTEMS .....	0	32,425			0	32,425
81	DCGS-N .....	0	13,790			0	13,790
82	CANES .....	0	322,754			0	322,754
83	RADIAC .....	0	10,718			0	10,718
84	CANES-INTELL .....	0	48,028			0	48,028
85	GPETE .....	0	6,861			0	6,861
86	MA5F .....	0	8,081			0	8,081
87	INTEG COMBAT SYSTEM TEST FACILITY .....	0	5,019			0	5,019
88	EMI CONTROL INSTRUMENTATION .....	0	4,188			0	4,188
89	ITEMS LESS THAN \$5 MILLION .....	0	105,292			0	105,292
	SHIPBOARD COMMUNICATIONS						
90	SHIPBOARD TACTICAL COMMUNICATIONS .....	0	23,695			0	23,695
91	SHIP COMMUNICATIONS AUTOMATION .....	0	103,990			0	103,990
92	COMMUNICATIONS ITEMS UNDER \$5M .....	0	18,577			0	18,577
	SUBMARINE COMMUNICATIONS						

93	SUBMARINE BROADCAST SUPPORT .....	0	29,669	0	29,669
94	SUBMARINE COMMUNICATION EQUIPMENT .....	0	86,204	0	86,204
	<b>SATELLITE COMMUNICATIONS</b>				
95	SATELLITE COMMUNICATIONS SYSTEMS .....	0	14,654	0	14,654
96	NAVY MULTIBAND TERMINAL (NMT) .....	0	69,764	0	69,764
	<b>SHORE COMMUNICATIONS</b>				
97	JOINT COMMUNICATIONS SUPPORT ELEMENT (JCSE) .....	0	4,256	0	4,256
	<b>CRYPTOGRAPHIC EQUIPMENT</b>				
99	INFO SYSTEMS SECURITY PROGRAM (ISSP) .....	0	89,663	0	12,000
	UFR: Crypto modernization .....			[0]	[12,000]
100	MIO INTEL EXPLOITATION TEAM .....	0	961	0	961
	<b>CRYPTOLOGIC EQUIPMENT</b>				
101	CRYPTOLOGIC COMMUNICATIONS EQUIP .....	0	11,287	0	11,287
	<b>OTHER ELECTRONIC SUPPORT</b>				
110	COAST GUARD EQUIPMENT .....	0	36,584	0	36,584
	<b>SONOBUOYS</b>				
112	SONOBUOYS—ALL TYPES .....	0	173,616	0	173,616
	<b>AIRCRAFT SUPPORT EQUIPMENT</b>				
113	WEAPONS RANGE SUPPORT EQUIPMENT .....	0	72,110	0	72,110
114	AIRCRAFT SUPPORT EQUIPMENT .....	0	108,482	0	108,482
115	ADVANCED ARRESTING GEAR (AAG) .....	0	10,900	0	10,900
116	METEOROLOGICAL EQUIPMENT .....	0	21,137	0	21,137
117	DCRS/DPL .....	0	660	0	660
118	AIRBORNE MINE COUNTERMEASURES .....	0	20,605	0	20,605
119	AVIATION SUPPORT EQUIPMENT .....	0	34,032	0	34,032
	<b>SHIP GUN SYSTEM EQUIPMENT</b>				
120	SHIP GUN SYSTEMS EQUIPMENT .....	0	5,277	0	5,277
	<b>SHIP MISSILE SYSTEMS EQUIPMENT</b>				
121	SHIP MISSILE SUPPORT EQUIPMENT .....	0	272,359	0	272,359
122	TOMAHAWK SUPPORT EQUIPMENT .....	0	73,184	0	73,184
	<b>FBM SUPPORT EQUIPMENT</b>				
123	STRATEGIC MISSILE SYSTEMS EQUIP .....	0	246,221	0	246,221

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
ASW SUPPORT EQUIPMENT							
124	SSN COMBAT CONTROL SYSTEMS .....	0	129,972	0	20,000	0	149,972
	UFR: 3 Submarine Warfare Federated Tactical Systems .....			[0]	[20,000]		
125	ASW SUPPORT EQUIPMENT .....	0	23,209			0	23,209
OTHER ORDNANCE SUPPORT EQUIPMENT							
126	EXPLOSIVE ORDNANCE DISPOSAL EQUIP .....	0	15,596			0	15,596
127	ITEMS LESS THAN \$5 MILLION .....	0	5,981			0	5,981
OTHER EXPENDABLE ORDNANCE							
128	SUBMARINE TRAINING DEVICE MODS .....	0	74,550			0	74,550
130	SURFACE TRAINING EQUIPMENT .....	0	83,022			0	83,022
CIVIL ENGINEERING SUPPORT EQUIPMENT							
131	PASSENGER CARRYING VEHICLES .....	0	5,299			0	5,299
132	GENERAL PURPOSE TRUCKS .....	0	2,946			0	2,946
133	CONSTRUCTION & MAINTENANCE EQUIP .....	0	34,970			0	34,970
134	FIRE FIGHTING EQUIPMENT .....	0	2,541			0	2,541
135	TACTICAL VEHICLES .....	0	19,699			0	19,699
136	AMPHIBIOUS EQUIPMENT .....	0	12,162			0	12,162
137	POLLUTION CONTROL EQUIPMENT .....	0	2,748			0	2,748
138	ITEMS UNDER \$5 MILLION .....	0	18,084			0	18,084
139	PHYSICAL SECURITY VEHICLES .....	0	1,170			0	1,170
SUPPLY SUPPORT EQUIPMENT							
141	SUPPLY EQUIPMENT .....	0	21,797			0	21,797
143	FIRST DESTINATION TRANSPORTATION .....	0	5,572			0	5,572
144	SPECIAL PURPOSE SUPPLY SYSTEMS .....	0	482,916			0	482,916
TRAINING DEVICES							
146	TRAINING AND EDUCATION EQUIPMENT .....	0	25,624			0	25,624



SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
8	MODIFICATION KITS .....	0	17,778			0	17,778
	<b>GUIDED MISSILES</b>						
10	GROUND BASED AIR DEFENSE .....	0	9,432			0	9,432
11	JAVELIN .....	222	41,159			222	41,159
12	FOLLOW ON TO SMW .....	0	25,125			0	25,125
13	ANTI-ARMOR WEAPONS SYSTEM-HEAVY (AAWS-H) .....	0	51,553			0	51,553
	<b>COMMAND AND CONTROL SYSTEMS</b>						
16	COMMON AVIATION COMMAND AND CONTROL SYSTEM (C) .....	0	44,928			0	44,928
	<b>REPAIR AND TEST EQUIPMENT</b>						
17	REPAIR AND TEST EQUIPMENT .....	0	33,056			0	33,056
	<b>COMMAND AND CONTROL SYSTEM (NON-TEL)</b>						
20	ITEMS UNDER \$5 MILLION (COMM & ELEC) .....	0	17,644	0	20,200	0	37,844
	UFR: Night Optics for Sniper Rifle .....			[0]	[20,200]		
21	AIR OPERATIONS C2 SYSTEMS .....	0	18,393			0	18,393
	<b>RADAR + EQUIPMENT (NON-TEL)</b>						
22	RADAR SYSTEMS .....	0	12,411			0	12,411
23	GROUND/AIR TASK ORIENTED RADAR (G/ATOR) .....	3	139,167			3	139,167
24	RQ-21 UAS .....	4	77,841			4	77,841
	<b>INTEL/COMM EQUIPMENT (NON-TEL)</b>						
25	GCSS-MC .....	0	1,990			0	1,990
26	FIRE SUPPORT SYSTEM .....	0	22,260			0	22,260
27	INTELLIGENCE SUPPORT EQUIPMENT .....	0	55,759	0	10,120	0	65,879
	UFR: CI and HUMINT Equipment Program .....			[0]	[10,120]		
29	UNMANNED AIR SYSTEMS (INTEL) .....	0	10,154	10	13,500	10	23,654
	UFR: Long Endurance Small UAS .....			[10]	[13,500]		
30	DCGS-MC .....	0	13,462			0	13,462

31	UAS PAYLOADS .....	0	14,193		0	14,193
	<b>OTHER SUPPORT (NON-TEL)</b>					
35	NEXT GENERATION ENTERPRISE NETWORK (NGEN) .....	0	98,511		0	98,511
36	COMMON COMPUTER RESOURCES .....	0	66,894		0	73,998
	UFR: Full Spectrum Cyber Operations DMSS .....			0	7,104	
	UFR: Spectrum Cyber Operations DMSS .....			[0]	[7,104]	
37	COMMAND POST SYSTEMS .....	0	186,912		0	186,912
38	RADIO SYSTEMS .....	0	34,361		0	34,361
39	COMM SWITCHING & CONTROL SYSTEMS .....	0	54,615		0	54,615
40	COMM & ELEC INFRASTRUCTURE SUPPORT .....	0	44,455		0	44,455
	<b>CLASSIFIED PROGRAMS</b>					
41	CLASSIFIED PROGRAMS .....	0	4,214		0	4,214
	<b>ADMINISTRATIVE VEHICLES</b>					
42	COMMERCIAL CARGO VEHICLES .....	0	66,951		0	66,951
	<b>TACTICAL VEHICLES</b>					
43	MOTOR TRANSPORT MODIFICATIONS .....	0	21,824		0	21,824
44	JOINT LIGHT TACTICAL VEHICLE .....	527	233,639		527	233,639
45	FAMILY OF TACTICAL TRAILERS .....	0	1,938		0	1,938
46	TRAILERS .....	0	10,282		0	10,282
	<b>ENGINEER AND OTHER EQUIPMENT</b>					
48	ENVIRONMENTAL CONTROL EQUIP ASSORT .....	0	1,405		0	1,405
50	TACTICAL FUEL SYSTEMS .....	0	1,788		0	1,788
51	POWER EQUIPMENT ASSORTED .....	0	9,910		0	9,910
52	AMPHIBIOUS SUPPORT EQUIPMENT .....	0	5,830		0	5,830
53	EOD SYSTEMS .....	0	27,240		0	27,240
	<b>MATERIALS HANDLING EQUIPMENT</b>					
54	PHYSICAL SECURITY EQUIPMENT .....	0	53,477		0	53,477
	<b>GENERAL PROPERTY</b>					
56	TRAINING DEVICES .....	0	76,185		0	85,064
	UFR: ITSS-II Force on Force Training System .....			0	8,879	
	UFR: ITSS-II Force on Force Training System .....			[0]	[8,879]	
58	FAMILY OF CONSTRUCTION EQUIPMENT .....	0	26,286		0	26,286
59	FAMILY OF INTERNALLY TRANSPORTABLE VEH (ITV) .....	0	1,583		0	1,583
	<b>OTHER SUPPORT</b>					

**SEC. 4101. PROCUREMENT**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
60	ITEMS LESS THAN \$5 MILLION .....	0	7,716			0	7,716
	<b>SPARES AND REPAIR PARTS</b>						
62	SPARES AND REPAIR PARTS .....	0	35,640			0	35,640
	<b>TOTAL PROCUREMENT, MARINE CORPS</b> .....	<b>782</b>	<b>2,064,825</b>	<b>10</b>	<b>59,803</b>	<b>792</b>	<b>2,124,628</b>
	<b>AIRCRAFT PROCUREMENT, AIR FORCE</b>						
	<b>TACTICAL FORCES</b>						
1	F-35 .....	46	4,544,684	14	1,760,000	60	6,304,684
	UFR: Procure additional F-35As .....			[14]	[1,760,000]		
2	F-35 (AP) .....	0	780,300			0	780,300
2a	O/A-X LIGHT ATTACK FIGHTER .....	0	0	0	1,200,000	0	1,200,000
	O/A-X Light Attack Fighter .....			[0]	[1,200,000]		
	<b>TACTICAL AIRLIFT</b>						
3	KC-46A TANKER .....	15	2,545,674	2	400,000	17	2,945,674
	UFR: Procure KC-46 .....			[2]	[400,000]		
	<b>OTHER AIRLIFT</b>						
4	C-130J .....	0	57,708	3	162,100	3	219,808
	Technical adjustments .....			[3]	[102,000]		
	UFR: C-130J simulators .....			[0]	[60,000]		
6	HC-130J .....	2	198,502	1	100,000	3	298,502
	UFR: Procures HC-130s .....			[1]	[100,000]		
8	MC-130J .....	5	379,373	12	1,230,000	17	1,609,373
	UFR: Procure MC-130J WST .....			[0]	[30,000]		
	UFR: Procures MC-130s .....			[12]	[1,200,000]		
9	MC-130J (AP) .....	0	30,000			0	30,000
	<b>MISSION SUPPORT AIRCRAFT</b>						



12	CIVIL AIR PATROL A/C .....	6	2,695		6	2,695
	<b>OTHER AIRCRAFT</b>					
14	TARGET DRONES .....	42	109,841		42	109,841
17	MQ-9 .....	0	117,141		0	117,141
17a	COMPASS CALL .....	0	0	0	0	108,173
	Technical adjustment .....			[0]		[108,173]
	<b>STRATEGIC AIRCRAFT</b>					
18	B-2A .....	0	96,727		0	96,727
19	B-1B .....	0	155,634		0	121,634
	Excess funding .....			[0]		[-34,000]
20	B-52 .....	0	109,295		0	109,295
21	LARGE AIRCRAFT INFRARED COUNTERMEASURES .....	0	4,046		0	4,046
	<b>TACTICAL AIRCRAFT</b>					
22	A-10 .....	0	6,010	4	4	109,010
	UFR: A-10 Wings .....			[4]		[103,000]
23	F-15 .....	0	417,193		0	417,193
24	F-16 .....	0	203,864		0	203,864
25	F-22A .....	0	161,630		0	161,630
26	F-22A (AP) .....	0	15,000		0	15,000
27	F-35 MODIFICATIONS .....	0	68,270		0	68,270
28	INCREMENT 3.2B .....	72	105,756		72	105,756
30	KC-46A TANKER .....	0	6,213		0	6,213
	<b>ARLIFT AIRCRAFT</b>					
31	C-5 .....	0	36,592		0	36,592
32	C-5M .....	0	6,817		0	6,817
33	C-17A .....	0	125,522		0	125,522
34	C-21 .....	0	13,253		0	13,253
35	C-32A .....	0	79,449		0	79,449
36	C-37A .....	0	15,423		3	206,723
	UFR: Procure C-37B .....			[3]		[191,300]
37	C-130J .....	0	10,727		0	-10,727
	Technical adjustments .....			[0]		[-10,727]

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
TRAINER AIRCRAFT							
38	GLIDER MODS .....	0	136			0	136
39	T-6 .....	0	35,706			0	35,706
40	T-1 .....	0	21,477			0	21,477
41	T-38 .....	0	51,641			0	51,641
OTHER AIRCRAFT							
42	U-2 MODS .....	0	36,406			0	36,406
43	KC-10A (ATCA) .....	0	4,243			0	4,243
44	C-12 .....	0	5,846			0	5,846
45	VC-25A MOD .....	0	52,107			0	52,107
46	C-40 .....	0	31,119			0	31,119
47	C-130 .....	0	66,310	0	29,800	0	96,110
	Propulsion improvement .....			[0]	[26,800]		
	UFR: Procures AC-130J AGM-114 Cape .....			[0]	[3,000]		
48	C-130J MODS .....	0	171,230	0	10,727	0	181,957
	Technical adjustments .....			[0]	[10,727]		
49	C-135 .....	0	69,428			0	69,428
50	OC-135B .....	0	23,091			0	23,091
51	COMPASS CALL MODS .....	0	166,541	0	-63,573	0	102,968
	Technical adjustment .....			[0]	[-108,173]		
	UFR: Avionics Viability Program (AVP) upgrades .....			[0]	[10,000]		
	UFR: Expected disconnect in air vehicle .....			[0]	[10,000]		
	UFR: Mission and support equipment .....			[0]	[24,600]		
52	COMBAT FLIGHT INSPECTION (CFIN) .....	0	495			0	495
53	RC-135 .....	0	201,559			0	201,559
54	E-3 .....	0	189,772			0	189,772

55	E-4 .....	0	30,493	0	30,493
56	E-8 .....	0	13,232	0	13,232
57	AIRBORNE WARNING AND CONTROL SYSTEM .....	0	164,786	0	164,786
58	FAMILY OF BEYOND LINE-OF-SIGHT TERMINALS .....	0	24,716	0	31,353
	UFR: Family of Advance Beyond Line of Sight-Terminals .....			0	6,637
59	H-1 .....	0	3,730	[0]	[6,637]
	UFR: UH-1N Safety Enhancements .....			0	8,500
60	H-60 .....	0	75,989	[0]	[8,500]
61	RQ-4 MODS .....	0	43,968	0	39,600
	UFR: Replace RQ-4 TFT Antennas .....			0	[39,600]
62	HC/MC-130 MODIFICATIONS .....	0	67,674	0	67,674
63	OTHER AIRCRAFT .....	0	59,068	0	59,068
65	MQ-9 MODS .....	0	264,740	0	264,740
66	CV-22 MODS .....	0	60,990	0	60,990
	AIRCRAFT SPARES AND REPAIR PARTS .....				
67	INITIAL SPARES/REPAIR PARTS .....	0	1,041,569	0	1,041,569
	COMMON SUPPORT EQUIPMENT .....				
68	AIRCRAFT REPLACEMENT SUPPORT EQUIP .....	0	75,846	0	75,846
69	OTHER PRODUCTION CHARGES .....	0	8,524	0	8,524
71	T-53A TRAINER .....	0	501	0	501
	POST PRODUCTION SUPPORT .....				
72	B-2A .....	0	447	0	447
73	B-2A .....	0	38,509	0	38,509
74	B-52 .....	0	199	0	199
75	C-17A .....	0	12,028	0	12,028
78	RC-135 .....	0	29,700	0	29,700
79	F-15 .....	0	20,000	0	20,000
80	F-15 .....	0	2,524	0	2,524
81	F-16 .....	0	18,051	0	18,051
82	F-22A .....	0	119,566	0	119,566
83	OTHER AIRCRAFT .....	0	85,000	0	85,000
85	RQ-4 POST PRODUCTION CHARGES .....	0	86,695	0	86,695

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
86	CV-22 MODS .....	0	4,500			0	4,500
	INDUSTRIAL PREPAREDNESS						
87	INDUSTRIAL RESPONSIVENESS .....	0	14,739			0	14,739
88	C-130J .....	0	102,000	0	-102,100	0	-100
	Technical adjustments .....			[0]	[-102,000]		
	WAR CONSUMABLES						
89	WAR CONSUMABLES .....	0	37,647			0	37,647
	OTHER PRODUCTION CHARGES						
90	OTHER PRODUCTION CHARGES .....	0	1,339,160			0	1,339,160
92	OTHER AIRCRAFT .....	0	600			0	600
	CLASSIFIED PROGRAMS						
93	CLASSIFIED PROGRAMS .....	0	53,212			0	53,212
	TOTAL AIRCRAFT PROCUREMENT, AIR FORCE .....	188	15,430,849	39	5,139,437	227	20,570,286
	MISSILE PROCUREMENT, AIR FORCE						
	MISSILE REPLACEMENT EQUIPMENT—BALLISTIC						
1	MISSILE REPLACEMENT EQ-BALLISTIC .....	0	99,098	0	20,000	0	119,098
	UFR: (NUC) TE Replacement Disconnect .....			[0]	[20,000]		
	TACTICAL						
2	JOINT AIR-SURFACE STANDOFF MISSILE .....	360	441,367			360	441,367
3	LRASMO .....	15	44,728	0	17,000	15	61,728
	UFR: Long Range Anti-Ship Missile (LRASM) .....			[0]	[17,000]		
4	SIDEWINDER (AIM-9X) .....	310	125,350			310	125,350
5	AMRAAM .....	205	304,327			205	304,327
6	PREDATOR HELLFIRE MISSILE .....	399	34,867			399	34,867
7	SMALL DIAMETER BOMB .....	5,039	266,030			5,039	266,030

<b>INDUSTRIAL FACILITIES</b>					
8	INDUSTRIAL PREPAREDNESS/POL PREVENTION .....	0	926	0	926
<b>CLASS IV</b>					
9	ICBM FUZE MOD .....	0	6,334	0	6,334
10	MM III MODIFICATIONS .....	0	80,109	0	91,109
	UFR: (NUC) Upgrade Minimum Essential Emergency Communications Network (MEECN) (MMPU) .....			[11,000]	
11	AGM-65D MAVERICK .....	0	289	0	289
13	AIR LAUNCH CRUISE MISSILE (ALCM) .....	0	36,425	0	36,425
14	SMALL DIAMETER BOMB .....	0	14,086	0	14,086
<b>MISSILE SPARES AND REPAIR PARTS</b>					
15	INITIAL SPARES/REPAIR PARTS .....	0	101,153	0	101,153
<b>SPECIAL PROGRAMS</b>					
20	SPECIAL UPDATE PROGRAMS .....	0	32,917	0	32,917
<b>CLASSIFIED PROGRAMS</b>					
21	CLASSIFIED PROGRAMS .....	0	708,176	0	708,176
	<b>TOTAL MISSILE PROCUREMENT, AIR FORCE</b> .....	<b>6,328</b>	<b>2,296,182</b>	<b>0</b>	<b>2,344,182</b>
<b>SPACE PROCUREMENT, AIR FORCE</b>					
<b>SPACE PROGRAMS</b>					
1	ADVANCED EHF .....	0	56,974	0	56,974
2	AF SATELLITE COMM SYSTEM .....	0	57,516	0	57,516
3	COUNTERSPACE SYSTEMS .....	0	28,798	0	28,798
4	FAMILY OF BEYOND LINE-OF-SIGHT TERMINALS .....	0	146,972	0	159,500
	UFR: Family of Advance Beyond Line of Sight-Terminals .....			[0]	
5	WIDEBAND GAPIILLER SATELLITES(SPACE) .....	0	80,849	0	80,849
6	GPS III SPACE SEGMENT .....	0	85,894	0	85,894
7	GLOBAL POSITIONING (SPACE) .....	0	2,198	0	2,198
8	SPACEBORNE EQUIP (COMSEC) .....	0	25,048	0	25,048
10	MILSATCOM .....	0	33,033	0	33,033
11	EVOLVED EXPENDABLE LAUNCH CAPABILITY .....	0	957,420	0	957,420
12	EVOLVED EXPENDABLE LAUNCH VEH(SPACE) .....	3	606,488	3	606,488
					417

**SEC. 4101. PROCUREMENT**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
13	SBIR HIGH (SPACE) .....	0	981,009	0	73,800	0	1,054,809
	UFR: SBIRS equipment .....			[0]	[73,800]		
14	SBIR HIGH (SPACE) (AP) .....	0	132,420			0	132,420
15	NUDET DETECTION SYSTEM .....	0	6,370			0	6,370
16	SPACE MODS .....	0	37,203	0	21,000	0	58,203
	UFR: Fix Enterprise Space Battle Management Command & Control (BMC2)			[0]	[21,000]		
17	SPACELIFT RANGE SYSTEM SPACE .....	0	113,874			0	113,874
	<b>SPARES</b>						
18	INITIAL SPARES/REPAIR PARTS .....	0	18,709			0	18,709
	<b>TOTAL SPACE PROCUREMENT, AIR FORCE</b> .....	<b>3</b>	<b>3,370,775</b>	<b>0</b>	<b>107,328</b>	<b>3</b>	<b>3,478,103</b>
	<b>PROCUREMENT OF AMMUNITION, AIR FORCE</b>						
	<b>ROCKETS</b>						
1	ROCKETS .....	0	147,454			0	147,454
	<b>CARTRIDGES</b>						
2	CARTRIDGES .....	0	161,744			0	161,744
	<b>BOMBS</b>						
3	PRACTICE BOMBS .....	0	28,509			0	28,509
4	GENERAL PURPOSE BOMBS .....	0	329,501			0	329,501
5	MASSIVE ORDNANCE PENETRATOR (MOP) .....	0	38,382			0	38,382
6	JOINT DIRECT ATTACK MUNITION .....	10,330	319,525			10,330	319,525
7	B61 .....	30	77,068			30	77,068
8	B61 (AP) .....	0	11,239			0	11,239
	<b>OTHER ITEMS</b>						
9	CAD/PAD .....	0	53,469			0	53,469
10	EXPLOSIVE ORDNANCE DISPOSAL (EOD) .....	0	5,921			0	5,921

11	SPARES AND REPAIR PARTS .....	0	678	0	678	
12	MODIFICATIONS .....	0	1,409	0	1,409	
13	ITEMS LESS THAN \$5 MILLION .....	0	5,047	0	5,047	
	<b>FLARES</b> .....					
15	FLARES .....	0	143,983	0	143,983	
	<b>FUZES</b> .....					
16	FUZES .....	0	24,062	0	24,062	
	<b>SMALL ARMS</b> .....					
17	SMALL ARMS .....	0	28,611	0	28,611	
	<b>TOTAL PROCUREMENT OF AMMUNITION, AIR FORCE</b> .....	<b>10,360</b>	<b>1,376,602</b>	<b>0</b>	<b>0</b>	<b>10,360</b>
	<b>OTHER PROCUREMENT, AIR FORCE</b> .....					
	<b>PASSENGER CARRYING VEHICLES</b> .....					
1	PASSENGER CARRYING VEHICLES .....	0	15,651	0	1,100	16,751
	UFR: Set the Theater initiative, PACOM .....			[0]	[1,100]	
	<b>CARGO AND UTILITY VEHICLES</b> .....					
2	MEDIUM TACTICAL VEHICLE .....	0	54,607	0		54,607
3	CAP VEHICLES .....	0	1,011	0		1,011
4	CARGO AND UTILITY VEHICLES .....	0	28,670	0		28,670
	<b>SPECIAL PURPOSE VEHICLES</b> .....					
5	SECURITY AND TACTICAL VEHICLES .....	0	59,398	0	10,610	70,008
	UFR: Set the Theater initiative, PACOM .....			[0]	[10,610]	
6	SPECIAL PURPOSE VEHICLES .....	0	19,784	0		19,784
	<b>FIRE FIGHTING EQUIPMENT</b> .....					
7	FIRE FIGHTING/CRASH RESCUE VEHICLES .....	0	14,768	0		14,768
	<b>MATERIALS HANDLING EQUIPMENT</b> .....					
8	MATERIALS HANDLING VEHICLES .....	0	13,561	0	4,200	17,761
	UFR: Set the Theater (STT) PACOM .....			[0]	[4,200]	
	<b>BASE MAINTENANCE SUPPORT</b> .....					
9	RUNWAY SNOW REMOV & CLEANING EQUIP .....	0	3,429	0	13,230	16,659
	UFR: Set the Theater (STT) PACOM .....			[0]	[13,230]	
10	BASE MAINTENANCE SUPPORT VEHICLES .....	0	60,075	0	449	60,524

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	UFR: Set the Theater (ST) PACOM .....			[0]	[449]		
	COMM SECURITY EQUIPMENT(COMSEC)						
11	COMSEC EQUIPMENT .....	0	115,000	0	8,000	0	123,000
	UFR: Cyber Squadron Initiative .....			[0]	[8,000]		
	INTELLIGENCE PROGRAMS						
13	INTERNATIONAL INTEL TECH & ARCHITECTURES .....	0	22,335			0	22,335
14	INTELLIGENCE TRAINING EQUIPMENT .....	0	5,892			0	5,892
15	INTELLIGENCE COMM EQUIPMENT .....	0	34,072			0	34,072
	ELECTRONICS PROGRAMS						
16	AIR TRAFFIC CONTROL & LANDING SYS .....	0	66,143	0	57,200	0	123,343
	UFR: Cyber Squadron Initiative (WSCR) .....			[0]	[8,000]		
	UFR: Deployable Radar Approach Control .....			[0]	[33,000]		
	UFR: D-ILS Procurement .....			[0]	[16,200]		
17	NATIONAL AIRSPACE SYSTEM .....	0	12,641			0	12,641
18	BATTLE CONTROL SYSTEM—FIXED .....	0	6,415	0	1,400	0	7,815
	UFR: Battle Control System (BCS) Tech Refresh .....			[0]	[1,400]		
19	THEATER AIR CONTROL SYS IMPROVEMENTS .....	0	23,233			0	23,233
20	WEATHER OBSERVATION FORECAST .....	0	40,116	0	30,000	0	70,116
	UFR: Installation and Notification Warning System (INWS) (ANG) .....			[0]	[30,000]		
21	STRATEGIC COMMAND AND CONTROL .....	0	72,810			0	72,810
22	CHEYENNE MOUNTAIN COMPLEX .....	0	9,864			0	9,864
23	MISSION PLANNING SYSTEMS .....	0	15,486			0	15,486
25	INTEGRATED STRAT PLAN & ANALY NETWORK (ISPAN) .....	0	9,187			0	9,187
	SPCL COMM-ELECTRONICS PROJECTS						
26	GENERAL INFORMATION TECHNOLOGY .....	0	51,826	0	6,300	0	58,126
	UFR: AFSPC Cyber Request for CMF Initial Skills Training (IST) Pipeline .....			[0]	[6,300]		



27	AF GLOBAL COMMAND & CONTROL SYS .....	0	3,634	0	3,634
28	MOBILITY COMMAND AND CONTROL .....	0	10,083	0	10,083
29	AIR FORCE PHYSICAL SECURITY SYSTEM .....	0	201,866	0	201,866
30	COMBAT TRAINING RANGES .....	0	115,198	0	115,198
31	MINIMUM ESSENTIAL EMERGENCY COMM N .....	0	292	0	292
32	WIDE AREA SURVEILLANCE (WAS) .....	0	62,087	0	62,087
33	C3 COUNTERMEASURES .....	0	37,764	0	37,764
34	GCSS-AF FOS .....	0	2,826	0	2,826
35	DEFENSE ENTERPRISE ACCOUNTING AND MGMT SYSTEM .....	0	1,514	0	1,514
36	THEATER BATTLE MGT C2 SYSTEM .....	0	9,646	0	9,646
37	AIR & SPACE OPERATIONS CTR-WPN SYS .....	0	25,533	0	25,533
	<b>AIR FORCE COMMUNICATIONS</b>				
40	BASE INFORMATION TRANSPRT INFRAST (BITI) WIRED .....	0	28,159	0	28,159
41	AFNET .....	0	160,820	0	356,420
	UFR: ARAD Enterprise Software .....			0	195,600
	UFR: Inst Processing Nodes in FY18 .....			[0]	[26,000]
42	JOINT COMMUNICATIONS SUPPORT ELEMENT (JCSE) .....	0	5,135	0	5,135
43	USCENTCOM .....	0	18,719	0	18,719
	<b>ORGANIZATION AND BASE</b>				
44	TACTICAL C-E EQUIPMENT .....	0	123,206	0	123,206
45	COMBAT SURVIVOR EVADER LOCATER .....	0	3,004	0	3,004
46	RADIO EQUIPMENT .....	0	15,736	0	15,736
47	CCTV/AUDIOVISUAL EQUIPMENT .....	0	5,480	0	5,480
48	BASE COMM INFRASTRUCTURE .....	0	130,539	0	130,539
	<b>MODIFICATIONS</b>				
49	COMM ELECT MODS .....	0	70,798	0	70,798
	<b>PERSONAL SAFETY &amp; RESCUE EQUIP</b>				
51	ITEMS LESS THAN \$5 MILLION .....	0	52,964	0	137,664
	UFR: Battlefield Airman Combat Equipment .....			0	84,700
	UFR: Procure Parachute Phantom Oxygen System .....			[0]	[83,700]
	<b>DEPOT PLANT+MITRLS HANDLING EQ</b>			[0]	[1,000]
52	MECHANIZED MATERIAL HANDLING EQUIP .....	0	10,381	0	10,381

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
BASE SUPPORT EQUIPMENT							
53	BASE PROCURED EQUIPMENT .....	0	15,038			0	15,038
54	ENGINEERING AND EOD EQUIPMENT .....	0	26,287			0	26,287
55	MOBILITY EQUIPMENT .....	0	8,470	0	36,680	0	45,150
	UFR: Basic Expeditionary Airfield Resources spare requirements in support of the Set the Theater, PACOM .....			[0]	[36,680]		
56	ITEMS LESS THAN \$5 MILLION .....	0	28,768			0	28,768
SPECIAL SUPPORT PROJECTS							
58	DARP RC135 .....	0	25,985			0	25,985
59	DCGS-AF .....	0	178,423			0	178,423
61	SPECIAL UPDATE PROGRAM .....	0	840,980			0	840,980
CLASSIFIED PROGRAMS							
62	CLASSIFIED PROGRAMS .....	0	16,601,513			0	16,601,513
SPARES AND REPAIR PARTS							
64	SPARES AND REPAIR PARTS .....	0	26,675	0	2,930	0	29,605
	UFR: Basic Expeditionary Airfield Resources spare requirements in support of the Set the Theater, PACOM .....			[0]	[2,930]		
TOTAL OTHER PROCUREMENT, AIR FORCE .....		0	19,603,497	0	452,399	0	20,055,896
PROCUREMENT, DEFENSE-WIDE							
MAJOR EQUIPMENT, OSD							
42	MAJOR EQUIPMENT, OSD .....	20	36,999			20	36,999
MAJOR EQUIPMENT, NSA							
41	INFORMATION SYSTEMS SECURITY PROGRAM (ISSP) .....	0	5,938			0	5,938
MAJOR EQUIPMENT, WHS							
45	MAJOR EQUIPMENT, WHS .....	0	10,529			0	10,529

<b>MAJOR EQUIPMENT, DISA</b>					
7	INFORMATION SYSTEMS SECURITY .....	0	24,805	0	24,805
8	TELEPORT PROGRAM .....	0	46,638	0	46,638
9	ITEMS LESS THAN \$5 MILLION .....	0	15,541	0	15,541
10	NET CENTRIC ENTERPRISE SERVICES (NCES) .....	0	1,161	0	1,161
11	DEFENSE INFORMATION SYSTEM NETWORK .....	0	126,345	0	126,345
12	CYBER SECURITY INITIATIVE .....	0	1,817	0	1,817
13	WHITE HOUSE COMMUNICATION AGENCY .....	0	45,243	0	45,243
14	SENIOR LEADERSHIP ENTERPRISE .....	0	294,139	0	294,139
16	JOINT REGIONAL SECURITY STACKS (JRSS) .....	0	188,483	0	188,483
17	JOINT SERVICE PROVIDER .....	0	100,783	0	100,783
<b>MAJOR EQUIPMENT, DLA</b>					
19	MAJOR EQUIPMENT .....	0	2,951	0	2,951
<b>MAJOR EQUIPMENT, DSS</b>					
23	MAJOR EQUIPMENT .....	0	1,073	0	1,073
<b>MAJOR EQUIPMENT, DCAA</b>					
1	ITEMS LESS THAN \$5 MILLION .....	0	1,475	0	1,475
<b>MAJOR EQUIPMENT, TJS</b>					
43	MAJOR EQUIPMENT, TJS .....	0	9,341	0	9,341
44	MAJOR EQUIPMENT, TJS—CE2T2 .....	0	903	0	903
<b>MAJOR EQUIPMENT, MISSILE DEFENSE AGENCY</b>					
27	THAAD .....	34	451,592	24 [24]	319,400 [319,400]
UFR: Procures additional THAAD interceptors .....					
28	AEGIS BMD .....	34	425,018	34	425,018
29	AEGIS BMD (AP) .....	0	38,738	0	38,738
30	BMDs AN/TPY-2 RADARS .....	0	947	0	947
33	AEGIS ASHORE PHASE III .....	0	59,739	0	59,739
34	IRON DOME .....	1	42,000	0 [0]	50,000 [50,000]
Increase for Co-production of Iron Dome Tamir interceptors .....					
35	AEGIS BMD HARDWARE AND SOFTWARE .....	21	160,330	21	160,330
78	DAVID'S SLING .....	0	0	0 [0]	120,000 [120,000]
Increase to DSWs Co-production .....					

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
79	ARROW UPPER TIER .....	0	0	0	120,000	0	120,000
	Increase Arrow 3 Co-production .....			[0]	[120,000]		
3	MAJOR EQUIPMENT, DHRA .....	0	14,588			0	14,588
	MAJOR EQUIPMENT, DEFENSE THREAT REDUCTION AGENCY .....						
25	VEHICLES .....	0	204			0	204
26	OTHER MAJOR EQUIPMENT .....	0	12,363			0	12,363
	MAJOR EQUIPMENT, DODEA .....						
21	AUTOMATION/EDUCATIONAL SUPPORT & LOGISTICS .....	0	1,910			0	1,910
	MAJOR EQUIPMENT, DCMA .....						
2	MAJOR EQUIPMENT .....	0	4,347			0	4,347
	MAJOR EQUIPMENT, DMACT .....						
20	MAJOR EQUIPMENT .....	3	13,464			3	13,464
	CLASSIFIED PROGRAMS .....						
46	CLASSIFIED PROGRAMS .....	0	657,759			0	657,759
	AVIATION PROGRAMS .....						
49	ROTARY WING UPGRADES AND SUSTAINMENT .....	0	158,988	0	-13,500	0	145,488
	SOCOM requested transfer .....			[0]	[-13,500]		
50	UNMANNED ISR .....	0	13,295			0	13,295
51	NON-STANDARD AVIATION .....	0	4,892			0	4,892
52	U-28 .....	0	5,769	1	14,800	1	20,569
	UFR: Aircraft loss replacement .....			[1]	[14,800]		
53	MH-47 CHINOOK .....	0	87,345			0	87,345
55	CV-22 MODIFICATION .....	0	42,178			0	42,178
57	MQ-9 UNMANNED AERIAL VEHICLE .....	0	21,660			0	21,660
59	PRECISION STRIKE PACKAGE .....	0	229,728			0	229,728

60	AC/MC-130J .....	0	179,934		0	179,934
61	C-130 MODIFICATIONS .....	0	28,059		0	28,059
	<b>SHIPBUILDING</b>					
62	UNDERWATER SYSTEMS .....	0	92,606	0	-12,800	79,806
	SOCOM requested transfer .....			[0]	[-12,800]	
	<b>AMMUNITION PROGRAMS</b>					
63	ORDNANCE ITEMS <\$5M .....	0	112,331		0	112,331
	<b>OTHER PROCUREMENT PROGRAMS</b>					
64	INTELLIGENCE SYSTEMS .....	0	82,538		0	82,538
65	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS .....	0	11,042		0	11,042
66	OTHER ITEMS <\$5M .....	0	54,592		0	54,592
67	COMBATANT CRAFT SYSTEMS .....	0	23,272		0	23,272
68	SPECIAL PROGRAMS .....	0	16,053		0	16,053
69	TACTICAL VEHICLES .....	0	63,304		0	63,304
70	WARRIOR SYSTEMS <\$5M .....	0	252,070		0	252,070
71	COMBAT MISSION REQUIREMENTS .....	0	19,570		0	19,570
72	GLOBAL VIDEO SURVEILLANCE ACTIVITIES .....	0	3,589		0	3,589
73	OPERATIONAL ENHANCEMENTS INTELLIGENCE .....	0	17,953		0	17,953
75	OPERATIONAL ENHANCEMENTS .....	0	241,429	26	13,250	254,679
	UFR: Medium Precision Strike munitions .....			[26]	[13,250]	
	<b>CBDP</b>					
76	CHEMICAL BIOLOGICAL SITUATIONAL AWARENESS .....	0	135,031		0	135,031
77	CB PROTECTION & HAZARD MITIGATION .....	0	141,027		0	141,027
	<b>TOTAL PROCUREMENT, DEFENSE-WIDE</b> .....	113	4,835,418	51	611,150	5,446,568
	<b>JOINT URGENT OPERATIONAL NEEDS FUND</b>					
	<b>JOINT URGENT OPERATIONAL NEEDS FUND</b>					
1	JOINT URGENT OPERATIONAL NEEDS FUND .....	0	99,795		0	99,795
	<b>TOTAL JOINT URGENT OPERATIONAL NEEDS FUND</b> .....	0	99,795	0	0	99,795
	<b>UNDISTRIBUTED</b>					
	<b>UNDISTRIBUTED</b>					

SEC. 4101. PROCUREMENT (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
1	UNDISTRIBUTED .....	0	0	0	1,870,600	0	1,870,600
	ERI costs transfer from OCO .....			[0]	[1,870,600]		
	TOTAL UNDISTRIBUTED .....	0	0	0	1,870,600	0	1,870,600
	TOTAL PROCUREMENT .....	35,463	113,983,713	3,563	26,333,524	39,026	140,317,237

**SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS.**

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
AIRCRAFT PROCUREMENT, ARMY							
FIXED WING							
4	MQ-1 UAV .....	9	87,300			9	87,300
ROTARY							
6	AH-64 APACHE BLOCK IIA REMAN .....	4	39,040			4	39,040
MODIFICATION OF AIRCRAFT							
15	MQ-1 PAYLOAD (MIP) .....	0	41,400			0	41,400
18	MULTI SENSOR ABN RECON (MIP) .....	0	33,475			0	33,475
23	EMARSS SEMA MODS (MIP) .....	0	36,000			0	36,000
27	COMMS, NAV SURVEILLANCE .....	0	4,289			0	4,289
GROUND SUPPORT AVIONICS							
33	CMWS .....	0	139,742			0	139,742
34	COMMON INFRARED COUNTERMEASURES (CIRCM) .....	0	43,440			0	43,440
	TOTAL AIRCRAFT PROCUREMENT, ARMY .....	13	424,686	0	0	13	424,686
MISSILE PROCUREMENT, ARMY							
AIR-TO-SURFACE MISSILE SYSTEM							
5	HELLFIRE SYS SUMMARY .....	2,927	278,073			2,927	278,073
ANTI-TANK/ASSAULT MISSILE SYS							
8	JAVELIN (AAWS-M) SYSTEM SUMMARY .....	47	8,112			47	8,112
9	TOW 2 SYSTEM SUMMARY .....	49	3,907			49	3,907
11	GUIDED MLRS ROCKET (GMLRS) .....	1,542	191,522			1,542	191,522
13	HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS) .....	0	41,000			0	41,000
14	LETHAL MINIATURE AERIAL MISSILE SYSTEM (LMAMS) .....	120	8,669			120	8,669

**SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
MODIFICATIONS							
18	STINGER MODS .....	0	28,000			0	28,000
	TOTAL MISSILE PROCUREMENT, ARMY .....	4,685	559,283	0	0	4,685	559,283
PROCUREMENT OF W&TCV, ARMY							
TRACKED COMBAT VEHICLES							
1	BRADLEY PROGRAM .....	60	200,000			60	200,000
2	ARMORED MULTI PURPOSE VEHICLE (AMPV) .....	65	253,903			65	253,903
MODIFICATION OF TRACKED COMBAT VEHICLES							
6	BRADLEY PROGRAM (MOD) .....	0	30,000			0	30,000
8	PALADIN INTEGRATED MANAGEMENT (PIM) .....	12	125,736			12	125,736
14	M1 ABRAMS TANK (MOD) .....	0	138,700			0	138,700
15	ABRAMS UPGRADE PROGRAM .....	36	442,800			36	442,800
	TOTAL PROCUREMENT OF W&TCV, ARMY .....	173	1,191,139	0	0	173	1,191,139
PROCUREMENT OF AMMUNITION, ARMY							
SMALL/MEDIUM CAL AMMUNITION							
3	CTG, HANDGUN, ALL TYPES .....	0	5			0	5
4	CTG, .50 CAL, ALL TYPES .....	0	121			0	121
5	CTG, 20MM, ALL TYPES .....	0	1,605			0	1,605
7	CTG, 30MM, ALL TYPES .....	0	35,000			0	35,000
ARTILLERY AMMUNITION							
15	PROJ 155MM EXTENDED RANGE M982 .....	266	23,234			266	23,234
16	ARTILLERY PROPELLANTS, FUZES AND PRIMERS, ALL .....	0	20,023			0	20,023
MINES							
17	MINES & CLEARING CHARGES, ALL TYPES .....	0	11,615			0	11,615



<b>ROCKETS</b>					
19	SHOULDER LAUNCHED MUNITIONS, ALL TYPES .....	0	25,000	0	25,000
20	ROCKET, HYDRA 70, ALL TYPES .....	0	75,820	0	75,820
<b>OTHER AMMUNITION</b>					
24	SIGNALS, ALL TYPES .....	0	1,013	0	1,013
	<b>TOTAL PROCUREMENT OF AMMUNITION, ARMY .....</b>	<b>266</b>	<b>193,436</b>	<b>0</b>	<b>193,436</b>
<b>OTHER PROCUREMENT, ARMY</b>					
<b>TACTICAL VEHICLES</b>					
10	FAMILY OF HEAVY TACTICAL VEHICLES (FHTV) .....	0	25,874	0	25,874
12	HVV EXPANDED MOBILE TACTICAL TRUCK EXT SERV .....	0	38,628	0	38,628
14	MODIFICATION OF IN SVC EQUIP .....	0	64,647	0	64,647
15	MINE-RESISTANT AMBUSH-PROTECTED (MRAP) MODS .....	0	17,508	0	17,508
<b>COMM—JOINT COMMUNICATIONS</b>					
20	SIGNAL MODERNIZATION PROGRAM .....	0	4,900	0	4,900
<b>COMM—COMBAT COMMUNICATIONS</b>					
41	TRACTOR RIDE .....	0	1,000	0	1,000
<b>COMM—BASE COMMUNICATIONS</b>					
62	INSTALLATION INFO INFRASTRUCTURE MOD PROGRAM .....	0	2,500	0	2,500
<b>ELECT EQUIP—TACT INT REL ACT (TIARA)</b>					
68	DCGS-A (MIP) .....	0	39,515	0	39,515
70	TROJAN (MIP) .....	0	21,310	0	21,310
71	MOD OF IN-SVC EQUIP (INTEL SPT) (MIP) .....	0	2,300	0	2,300
72	CI HUMINT AUTO REPRING AND COLL(CHARGS) .....	0	14,460	0	14,460
75	BIOMETRIC TACTICAL COLLECTION DEVICES (MIP) .....	0	5,180	0	5,180
<b>ELECT EQUIP—ELECTRONIC WARFARE (EW)</b>					
80	FAMILY OF PERSISTENT SURVEILLANCE CAPABILITY .....	0	16,935	0	16,935
81	COUNTERINTELLIGENCE/SECURITY COUNTERMEASURES .....	0	18,874	0	18,874
<b>ELECT EQUIP—TACTICAL SURV. (TAC SURV)</b>					
84	NIGHT VISION DEVICES .....	0	377	0	377
85	SMALL TACTICAL OPTICAL RIFLE MOUNTED MILRF .....	0	60	0	60
87	INDIRECT FIRE PROTECTION FAMILY OF SYSTEMS .....	0	57,500	0	57,500

**SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
93	MOD OF IN-SVC EQUIP (LLDR) .....	0	3,974			0	3,974
95	MORTAR FIRE CONTROL SYSTEM .....	0	2,947			0	2,947
	<b>ELECT EQUIP—TACTICAL C2 SYSTEMS</b>						
98	AIR & MSL DEFENSE PLANNING & CONTROL SYS .....	0	9,100			0	9,100
	<b>CHEMICAL DEFENSIVE EQUIPMENT</b>						
119	BASE DEFENSE SYSTEMS (BDS) .....	0	3,726			0	3,726
	<b>COMBAT SERVICE SUPPORT EQUIPMENT</b>						
136	HEATERS AND ECU'S .....	0	270			0	270
142	FIELD FEEDING EQUIPMENT .....	0	145			0	145
143	CARGO AERIAL DEL & PERSONNEL PARACHUTE SYSTEM .....	0	1,980			0	1,980
	<b>MEDICAL EQUIPMENT</b>						
148	COMBAT SUPPORT MEDICAL .....	0	25,690			0	25,690
	<b>MAINTENANCE EQUIPMENT</b>						
149	MOBILE MAINTENANCE EQUIPMENT SYSTEMS .....	0	1,124			0	1,124
	<b>CONSTRUCTION EQUIPMENT</b>						
153	HYDRAULIC EXCAVATOR .....	0	3,850			0	3,850
157	HIGH MOBILITY ENGINEER EXCAVATOR (HME) .....	0	1,932			0	1,932
	<b>GENERATORS</b>						
164	GENERATORS AND ASSOCIATED EQUIP .....	0	569			0	569
	<b>TRAINING EQUIPMENT</b>						
168	TRAINING DEVICES, NONSYSTEM .....	0	2,700			0	2,700
	<b>TEST MEASURE AND DIG EQUIPMENT (TMD)</b>						
173	INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE) .....	0	7,500			0	7,500
	<b>OTHER SUPPORT EQUIPMENT</b>						
176	RAPID EQUIPPING SOLDIER SUPPORT EQUIPMENT .....	0	8,500			0	8,500
	<b>TOTAL OTHER PROCUREMENT, ARMY</b> .....	<b>0</b>	<b>405,575</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>405,575</b>

<b>JOINT IMPROVISED-THREAT DEFEAT FUND</b>					
<b>NETWORK ATTACK</b>					
1	RAPID ACQUISITION AND THREAT RESPONSE .....	0	483,058	0	483,058
	<b>TOTAL JOINT IMPROVISED-THREAT DEFEAT FUND .....</b>	<b>0</b>	<b>483,058</b>	<b>0</b>	<b>483,058</b>
<b>AIRCRAFT PROCUREMENT, NAVY</b>					
<b>OTHER AIRCRAFT</b>					
27	STUASLO UAV .....	0	3,900	0	3,900
<b>MODIFICATION OF AIRCRAFT</b>					
34	H-53 SERIES .....	0	950	0	950
35	SH-60 SERIES .....	0	15,382	0	15,382
37	EP-3 SERIES .....	0	7,220	0	7,220
47	SPECIAL PROJECT AIRCRAFT .....	0	19,855	0	19,855
51	COMMON ECM EQUIPMENT .....	0	75,530	0	75,530
62	QRC .....	0	15,150	0	15,150
<b>AIRCRAFT SPARES AND REPAIR PARTS</b>					
64	SPARES AND REPAIR PARTS .....	0	18,850	0	18,850
<b>AIRCRAFT SUPPORT EQUIP &amp; FACILITIES</b>					
66	AIRCRAFT INDUSTRIAL FACILITIES .....	0	463	0	463
	<b>TOTAL AIRCRAFT PROCUREMENT, NAVY .....</b>	<b>0</b>	<b>157,300</b>	<b>0</b>	<b>157,300</b>
<b>WEAPONS PROCUREMENT, NAVY</b>					
<b>STRATEGIC MISSILES</b>					
3	TOMAHAWK .....	66	100,086	66	100,086
<b>TACTICAL MISSILES</b>					
7	STANDARD MISSILE .....	8	35,208	8	35,208
11	HELLFIRE .....	110	8,771	110	8,771
12	LASER MAVERICK .....	0	5,040	0	5,040
<b>MODIFICATION OF MISSILES</b>					
17	ESSM .....	1	1,768	1	1,768
<b>GUNS AND GUN MOUNTS</b>					

**SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
35	SMALL ARMS AND WEAPONS .....	0	1,500			0	1,500
	<b>TOTAL WEAPONS PROCUREMENT, NAVY .....</b>	<b>185</b>	<b>152,373</b>	<b>0</b>	<b>0</b>	<b>185</b>	<b>152,373</b>
	<b>PROCUREMENT OF AMMO, NAVY &amp; MC</b>						
	<b>NAVY AMMUNITION</b>						
1	GENERAL PURPOSE BOMBS .....	0	74,021			0	74,021
2	JDM .....	4,717	106,941			4,717	106,941
3	AIRBORNE ROCKETS, ALL TYPES .....	0	1,184			0	1,184
7	AIR EXPENDABLE COUNTERMEASURES .....	0	15,700			0	15,700
8	JATOS .....	0	540			0	540
12	OTHER SHIP GUN AMMUNITION .....	0	13,789			0	13,789
13	SMALL ARMS & LANDING PARTY AMMO .....	0	1,963			0	1,963
14	PYROTECHNIC AND DEMOLITION .....	0	765			0	765
16	AMMUNITION LESS THAN \$5 MILLION .....	0	866			0	866
	<b>MARINE CORPS AMMUNITION</b>						
20	MORTARS .....	0	1,290			0	1,290
23	DIRECT SUPPORT MUNITIONS .....	0	1,355			0	1,355
24	INFANTRY WEAPONS AMMUNITION .....	0	1,854			0	1,854
33	ARTILLERY MUNITIONS .....	0	5,319			0	5,319
	<b>TOTAL PROCUREMENT OF AMMO, NAVY &amp; MC .....</b>	<b>4,717</b>	<b>225,587</b>	<b>0</b>	<b>0</b>	<b>4,717</b>	<b>225,587</b>
	<b>OTHER PROCUREMENT, NAVY</b>						
	<b>OTHER SHIPBOARD EQUIPMENT</b>						
25	UNDERWATER EOD PROGRAMS .....	0	12,348			0	12,348
	<b>SMALL BOATS</b>						
32	STANDARD BOATS .....	0	18,000			0	18,000

46	<b>SHIP SONARS</b>					
	SSN ACOUSTIC EQUIPMENT .....	0	43,500	0	0	43,500
	<b>AVIATION ELECTRONIC EQUIPMENT</b>					
78	NAVAL MISSION PLANNING SYSTEMS .....	0	2,550	0	0	2,550
	<b>OTHER SHORE ELECTRONIC EQUIPMENT</b>					
80	TACTICAL/MOBILE C4I SYSTEMS .....	0	7,900	0	0	7,900
81	DCGS-N .....	0	6,392	0	0	6,392
	<b>CRYPTOLOGIC EQUIPMENT</b>					
101	CRYPTOLOGIC COMMUNICATIONS EQUIP .....	0	2,280	0	0	2,280
	<b>AIRCRAFT SUPPORT EQUIPMENT</b>					
119	AVIATION SUPPORT EQUIPMENT .....	0	29,245	0	0	29,245
	<b>SHIP MISSILE SYSTEMS EQUIPMENT</b>					
121	SHIP MISSILE SUPPORT EQUIPMENT .....	0	2,436	0	0	2,436
	<b>OTHER ORDNANCE SUPPORT EQUIPMENT</b>					
126	EXPLOSIVE ORDNANCE DISPOSAL EQUIP .....	0	31,970	0	0	31,970
	<b>CIVIL ENGINEERING SUPPORT EQUIPMENT</b>					
132	GENERAL PURPOSE TRUCKS .....	0	496	0	0	496
134	FIRE FIGHTING EQUIPMENT .....	0	2,304	0	0	2,304
135	TACTICAL VEHICLES .....	0	2,336	0	0	2,336
	<b>SUPPLY SUPPORT EQUIPMENT</b>					
141	SUPPLY EQUIPMENT .....	0	164	0	0	164
143	FIRST DESTINATION TRANSPORTATION .....	0	420	0	0	420
	<b>COMMAND SUPPORT EQUIPMENT</b>					
147	COMMAND SUPPORT EQUIPMENT .....	0	21,650	0	0	21,650
152	OPERATING FORCES SUPPORT EQUIPMENT .....	0	15,800	0	0	15,800
154	ENVIRONMENTAL SUPPORT EQUIPMENT .....	0	1,000	0	0	1,000
155	PHYSICAL SECURITY EQUIPMENT .....	0	15,890	0	0	15,890
	CLASSIFIED PROGRAMS .....	0	2,200	0	0	2,200
	<b>CLASSIFIED PROGRAMS</b>					
	<b>SPARES AND REPAIR PARTS</b>					
161	SPARES AND REPAIR PARTS .....	0	1,178	0	0	1,178
	<b>TOTAL OTHER PROCUREMENT, NAVY</b>	<b>0</b>	<b>220,059</b>	<b>0</b>	<b>0</b>	<b>220,059</b>

SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)							
Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
PROCUREMENT, MARINE CORPS							
ARTILLERY AND OTHER WEAPONS							
6	HIGH MOBILITY ARTILLERY ROCKET SYSTEM .....	0	5,360			0	5,360
GUIDED MISSILES							
11	JAVELIN .....	11	2,833			11	2,833
12	FOLLOW ON TO SMAR .....	0	49			0	49
13	ANTI-ARMOR WEAPONS SYSTEM-HEAVY (AAWS-H) .....	0	5,024			0	5,024
REPAIR AND TEST EQUIPMENT							
17	REPAIR AND TEST EQUIPMENT .....	0	8,241			0	8,241
OTHER SUPPORT (TEL)							
19	MODIFICATION KITS .....	0	750			0	750
COMMAND AND CONTROL SYSTEM (NON-TEL)							
20	ITEMS UNDER \$5 MILLION (COMM & ELEC) .....	0	200			0	200
RADAR + EQUIPMENT (NON-TEL)							
24	RQ-21 UAS .....	0	8,400			0	8,400
INTELL/COMM EQUIPMENT (NON-TEL)							
26	FIRE SUPPORT SYSTEM .....	0	50			0	50
27	INTELLIGENCE SUPPORT EQUIPMENT .....	0	3,000			0	3,000
OTHER SUPPORT (NON-TEL)							
37	COMMAND POST SYSTEMS .....	0	5,777			0	5,777
38	RADIO SYSTEMS .....	0	4,590			0	4,590
ENGINEER AND OTHER EQUIPMENT							
53	EOD SYSTEMS .....	0	21,000			0	21,000
TOTAL PROCUREMENT, MARINE CORPS .....		11	65,274	0	0	11	65,274

AIRCRAFT PROCUREMENT, AIR FORCE					
OTHER AIRCRAFT					
17	MQ-9 .....	32	271,080	32	271,080
AIRLIFT AIRCRAFT					
33	C-17A .....	0	26,850	0	26,850
OTHER AIRCRAFT					
48	C-130J MODS .....	0	8,400	0	8,400
51	COMPASS CALL MODS .....	0	56,720	0	56,720
56	E-8 .....	0	3,000	0	3,000
62	HC/MC-130 MODIFICATIONS .....	0	153,080	0	153,080
63	OTHER AIRCRAFT .....	0	10,381	0	10,381
65	MQ-9 MODS .....	0	56,400	0	56,400
AIRCRAFT SPARES AND REPAIR PARTS					
67	INITIAL SPARES/REPAIR PARTS .....	0	129,450	0	129,450
COMMON SUPPORT EQUIPMENT					
68	AIRCRAFT REPLACEMENT SUPPORT EQUIP .....	0	25,417	0	25,417
TOTAL AIRCRAFT PROCUREMENT, AIR FORCE .....		32	740,778	0	740,778
MISSILE PROCUREMENT, AIR FORCE					
TACTICAL					
6	PREDATOR HELLFIRE MISSILE .....	3,230	294,480	3,230	294,480
7	SMALL DIAMETER BOMB .....	2,273	90,920	2,273	90,920
CLASS IV					
11	AGM-65D MAVERICK .....	0	10,000	0	10,000
TOTAL MISSILE PROCUREMENT, AIR FORCE .....		5,503	395,400	0	395,400
SPACE PROCUREMENT, AIR FORCE					
SPACE PROGRAMS					
10	MILSATCOM .....	0	2,256	0	2,256
TOTAL SPACE PROCUREMENT, AIR FORCE .....		0	2,256	0	2,256
PROCUREMENT OF AMMUNITION, AIR FORCE					

**SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	<b>ROCKETS</b>						
1	ROCKETS .....	0	49,050			0	49,050
	<b>CARTRIDGES</b>						
2	CARTRIDGES .....	0	11,384			0	11,384
	<b>BOMBS</b>						
6	JOINT DIRECT ATTACK MUNITION .....	16,990	390,577			16,990	390,577
	<b>FLARES</b>						
15	FLARES .....	0	3,498			0	3,498
	<b>FUZES</b>						
16	FUZES .....	0	47,000			0	47,000
	<b>TOTAL PROCUREMENT OF AMMUNITION, AIR FORCE</b> .....	<b>16,990</b>	<b>501,509</b>	<b>0</b>	<b>0</b>	<b>16,990</b>	<b>501,509</b>
	<b>OTHER PROCUREMENT, AIR FORCE</b>						
	<b>PASSENGER CARRYING VEHICLES</b>						
1	PASSENGER CARRYING VEHICLES .....	0	3,855			0	3,855
	<b>CARGO AND UTILITY VEHICLES</b>						
4	CARGO AND UTILITY VEHICLES .....	0	1,882			0	1,882
	<b>SPECIAL PURPOSE VEHICLES</b>						
5	SECURITY AND TACTICAL VEHICLES .....	0	1,100			0	1,100
6	SPECIAL PURPOSE VEHICLES .....	0	32,479			0	32,479
	<b>FIRE FIGHTING EQUIPMENT</b>						
7	FIRE FIGHTING/CRASH RESCUE VEHICLES .....	0	22,583			0	22,583
	<b>MATERIALS HANDLING EQUIPMENT</b>						
8	MATERIALS HANDLING VEHICLES .....	0	5,353			0	5,353
	<b>BASE MAINTENANCE SUPPORT</b>						
9	RUNWAY SNOW REMOV & CLEANING EQUIP .....	0	11,315			0	11,315



10	BASE MAINTENANCE SUPPORT VEHICLES .....	0	40,451	0	40,451
	<b>INTELLIGENCE PROGRAMS</b>				
13	INTERNATIONAL INTEL TECH & ARCHITECTURES .....	0	8,873	0	8,873
15	INTELLIGENCE COMM EQUIPMENT .....	0	2,000	0	2,000
	<b>ELECTRONICS PROGRAMS</b>				
16	AIR TRAFFIC CONTROL & LANDING SYS .....	0	56,500	0	56,500
19	THEATER AIR CONTROL SYS IMPROVEMENTS .....	0	4,970	0	4,970
	<b>SPCL COMM-ELECTRONICS PROJECTS</b>				
29	AIR FORCE PHYSICAL SECURITY SYSTEM .....	0	3,000	0	3,000
	<b>ORGANIZATION AND BASE</b>				
48	BASE COMM INFRASTRUCTURE .....	0	55,000	0	55,000
	<b>PERSONAL SAFETY &amp; RESCUE EQUIP</b>				
51	ITEMS LESS THAN \$5 MILLION .....	0	8,469	0	8,469
	<b>BASE SUPPORT EQUIPMENT</b>				
53	BASE PROCURED EQUIPMENT .....	0	7,500	0	7,500
54	ENGINEERING AND EOD EQUIPMENT .....	0	80,427	0	80,427
56	ITEMS LESS THAN \$5 MILLION .....	0	110,405	0	110,405
	<b>SPECIAL SUPPORT PROJECTS</b>				
58	DARP RC135 .....	0	700	0	700
59	DCGS-AF .....	0	9,200	0	9,200
	CLASSIFIED PROGRAMS .....	0	3,542,825	0	3,542,825
	<b>CLASSIFIED PROGRAMS</b>				
	<b>TOTAL OTHER PROCUREMENT, AIR FORCE .....</b>	<b>0</b>	<b>4,008,887</b>	<b>0</b>	<b>4,008,887</b>
	<b>PROCUREMENT, DEFENSE-WIDE</b>				
	<b>MAJOR EQUIPMENT, DISA</b>				
8	TELEPORT PROGRAM .....	0	1,979	0	1,979
18	DEFENSE INFORMATION SYSTEMS NETWORK .....	0	12,000	0	12,000
	CLASSIFIED PROGRAMS .....	0	43,653	0	43,653
	<b>CLASSIFIED PROGRAMS</b>				
	<b>AVIATION PROGRAMS</b>				
46	MANNED ISR .....	0	15,900	0	15,900

**SEC. 4102. PROCUREMENT FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
47	MC-12 .....	0	20,000			0	20,000
50	UNMANNED ISR .....	0	38,933			0	38,933
51	NON-STANDARD AVIATION .....	0	9,600			0	9,600
52	U-28 .....	0	8,100			0	8,100
53	MH-47 CHINOOK .....	0	10,270			0	10,270
57	MQ-9 UNMANNED AERIAL VEHICLE .....	0	19,780			0	19,780
61	C-130 MODIFICATIONS .....	0	3,750			0	3,750
	<b>AMMUNITION PROGRAMS</b>						
63	ORDNANCE ITEMS <\$5M .....	0	62,643			0	62,643
	<b>OTHER PROCUREMENT PROGRAMS</b>						
64	INTELLIGENCE SYSTEMS .....	0	12,000			0	12,000
69	TACTICAL VEHICLES .....	0	38,527			0	38,527
70	WARRIOR SYSTEMS <\$5M .....	0	20,215			0	20,215
73	OPERATIONAL ENHANCEMENTS INTELLIGENCE .....	0	7,134			0	7,134
75	OPERATIONAL ENHANCEMENTS .....	0	193,542	0	15,900	0	209,442
	UFR: Joint Task Force Platform Expansion .....			[0]	[15,900]		
	<b>TOTAL PROCUREMENT, DEFENSE-WIDE</b> .....	<b>0</b>	<b>518,026</b>	<b>0</b>	<b>15,900</b>	<b>0</b>	<b>533,926</b>
	<b>UNDISTRIBUTED</b>						
1	UNDISTRIBUTED .....	0		0	-1,870,600	0	-1,870,600
	ERI costs transfer from OCO to base .....			[0]	[-1,870,600]		
	<b>TOTAL UNDISTRIBUTED</b> .....	<b>0</b>	<b>0</b>	<b>0</b>	<b>-1,870,600</b>	<b>0</b>	<b>0</b>
	<b>UNDISTRIBUTED</b>						
	<b>TOTAL PROCUREMENT</b> .....	<b>32,575</b>	<b>10,244,626</b>	<b>0</b>	<b>-1,854,700</b>	<b>32,575</b>	<b>8,389,926</b>

**TITLE XLII—RESEARCH, DEVELOPMENT, TEST,  
AND EVALUATION**

# TITLE XLII—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

## SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION.

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (In Thousands of Dollars)					
Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
RESEARCH, DEVELOPMENT, TEST & EVAL, ARMY					
BASIC RESEARCH					
1	0601101A	IN-HOUSE LABORATORY INDEPENDENT RESEARCH .....	12,010		12,010
2	0601102A	DEFENSE RESEARCH SCIENCES .....	263,590	10,000	273,590
		Basic research program increase .....		[10,000]	
3	0601103A	UNIVERSITY RESEARCH INITIATIVES .....	67,027		67,027
4	0601104A	UNIVERSITY AND INDUSTRY RESEARCH CENTERS .....	87,395	5,000	92,395
		Basic research program increase .....		[5,000]	
235	111111	UNDISTRIBUTED BASIC RESEARCH .....	0	10,000	10,000
		Modernizing Army capabilities and Third Offset .....		[10,000]	
		<b>SUBTOTAL BASIC RESEARCH</b> .....	<b>430,022</b>	<b>25,000</b>	<b>455,022</b>
APPLIED RESEARCH					
5	0602105A	MATERIALS TECHNOLOGY .....	29,640	10,000	39,640
		Strategic materials .....		[10,000]	
6	0602120A	SENSORS AND ELECTRONIC SURVIVABILITY .....	35,730		35,730
7	0602122A	TRACTOR HIP .....	8,627		8,627
8	0602211A	AVIATION TECHNOLOGY .....	66,086	–5,000	61,086
		General program reduction .....		[–5,000]	

9	0602270A	ELECTRONIC WARFARE TECHNOLOGY .....	27,144		27,144
10	0602303A	MISSILE TECHNOLOGY .....	43,742		43,742
11	0602307A	ADVANCED WEAPONS TECHNOLOGY .....	22,785		22,785
12	0602308A	ADVANCED CONCEPTS AND SIMULATION .....	28,650		28,650
13	0602601A	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY .....	67,232		67,232
14	0602618A	BALLISTICS TECHNOLOGY .....	85,309		85,309
15	0602622A	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY .....	4,004		4,004
16	0602623A	JOINT SERVICE SMALL ARMS PROGRAM .....	5,615		5,615
17	0602624A	WEAPONS AND MUNITIONS TECHNOLOGY .....	41,455		41,455
18	0602705A	ELECTRONICS AND ELECTRONIC DEVICES .....	58,352		58,352
19	0602709A	NIGHT VISION TECHNOLOGY .....	34,723		34,723
20	0602712A	COUNTERMINE SYSTEMS .....	26,190		26,190
21	0602716A	HUMAN FACTORS ENGINEERING TECHNOLOGY .....	24,127		24,127
22	0602720A	ENVIRONMENTAL QUALITY TECHNOLOGY .....	21,678		21,678
23	0602782A	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY .....	33,123	5,000	38,123
		Position, navigation, and timing technologies .....		[5,000]	
24	0602783A	COMPUTER AND SOFTWARE TECHNOLOGY .....	14,041		14,041
25	0602784A	MILITARY ENGINEERING TECHNOLOGY .....	67,720		67,720
26	0602785A	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY .....	20,216		20,216
27	0602786A	WARFIGHTER TECHNOLOGY .....	39,559		39,559
28	0602787A	MEDICAL TECHNOLOGY .....	83,434		83,434
236	222222	UNDISTRIBUTED APPLIED RESEARCH .....	0	15,000	15,000
		Modernizing Army capabilities and Third Offset .....		[15,000]	
		<b>SUBTOTAL APPLIED RESEARCH .....</b>	<b>889,182</b>	<b>25,000</b>	<b>914,182</b>
<b>ADVANCED TECHNOLOGY DEVELOPMENT</b>					
29	0603001A	WARFIGHTER ADVANCED TECHNOLOGY .....	44,863		44,863
30	0603002A	MEDICAL ADVANCED TECHNOLOGY .....	67,780		67,780
31	0603003A	AVIATION ADVANCED TECHNOLOGY .....	160,746	-20,000	140,746
		Platform design & structure systems .....		[-20,000]	
32	0603004A	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY .....	84,079		84,079
33	0603005A	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY .....	125,537		125,537

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
34	0603006A	SPACE APPLICATION ADVANCED TECHNOLOGY .....	12,231		12,231
35	0603007A	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY .....	6,466		6,466
36	0603009A	TRACTOR HIKE .....	28,552		28,552
37	0603015A	NEXT GENERATION TRAINING & SIMULATION SYSTEMS .....	16,434		16,434
39	0603125A	COMBATING TERRORISM—TECHNOLOGY DEVELOPMENT .....	26,903		26,903
40	0603130A	TRACTOR NAIL .....	4,880		4,880
41	0603131A	TRACTOR EGGS .....	4,326		4,326
42	0603270A	ELECTRONIC WARFARE TECHNOLOGY .....	31,296		31,296
43	0603313A	MISSILE AND ROCKET ADVANCED TECHNOLOGY .....	62,850		62,850
44	0603322A	TRACTOR CAGE .....	12,323		12,323
45	0603461A	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM .....	182,331	40,000	222,331
		Program increase .....		[40,000]	
46	0603606A	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY .....	17,948		17,948
47	0603607A	JOINT SERVICE SMALL ARMS PROGRAM .....	5,796		5,796
48	0603710A	NIGHT VISION ADVANCED TECHNOLOGY .....	47,135		47,135
49	0603728A	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS .....	10,421		10,421
50	0603734A	MILITARY ENGINEERING ADVANCED TECHNOLOGY .....	32,448	-5,000	27,448
		Combat engineering system .....		[-5,000]	
51	0603772A	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY .....	52,206		52,206
52	0603794A	C3 ADVANCED TECHNOLOGY .....	33,426		33,426
237	333333	UNDISTRIBUTED ADVANCED TECHNOLOGY DEVELOPMENT .....	0	20,000	20,000
		Modernizing Army capabilities and Third Offset .....		[20,000]	
		<b>SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT .....</b>	<b>1,070,977</b>	<b>35,000</b>	<b>1,105,977</b>
		<b>ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES</b>			
53	0603305A	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION .....	9,634		9,634
55	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING .....	33,949		33,949

56	0603619A	LANDMINE WARFARE AND BARRIER—ADV DEV .....	72,909		72,909
57	0603627A	SMOKE, OBSCURANT AND TARGET DEFEATING SYS—ADV DEV .....	7,135		7,135
58	0603639A	TANK AND MEDIUM CALIBER AMMUNITION .....	41,452	24,450	65,902
		UFR: Munitions and CM development .....		[24,450]	
59	0603645A	ARMORED SYSTEM MODERNIZATION—ADV DEV .....	32,739	70,000	102,739
		UFR: Supports development of critical ground combat vehicle technologies .....		[70,000]	
60	0603747A	SOLDIER SUPPORT AND SURVIVABILITY .....	10,157	1,620	10,157
61	0603766A	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM—ADV DEV .....	27,733	1,620	29,353
		UFR: Funds of the Advanced Miniaturized Data Acquisition System-Next .....		[1,620]	
62	0603774A	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT .....	12,347		12,347
63	0603779A	ENVIRONMENTAL QUALITY TECHNOLOGY—DEMOVAL .....	10,456		10,456
64	0603790A	NATO RESEARCH AND DEVELOPMENT .....	2,588		2,588
65	0603801A	AVIATION—ADV DEV .....	14,055		14,055
66	0603804A	LOGISTICS AND ENGINEER EQUIPMENT—ADV DEV .....	35,333		35,333
67	0603807A	MEDICAL SYSTEMS—ADV DEV .....	33,491		33,491
68	0603827A	SOLDIER SYSTEMS—ADVANCED DEVELOPMENT .....	20,239		20,239
69	0604017A	ROBOTICS DEVELOPMENT .....	39,608	5,000	44,608
		UFR: Accelerate armed Robotic Wingman development .....		[5,000]	
70	0604100A	ANALYSIS OF ALTERNATIVES .....	9,921		9,921
71	0604114A	LOWER TIER AIR MISSILE DEFENSE (LTAMD) SENSOR .....	76,728		76,728
72	0604115A	TECHNOLOGY MATURATION INITIATIVES .....	115,221		115,221
73	0604117A	MANEUVER—SHORT RANGE AIR DEFENSE (M-SHORAD) .....	20,000		20,000
74	0604118A	TRACTOR BEAM .....	10,400		10,400
75	0604120A	ASSURED POSITIONING, NAVIGATION AND TIMING (PNT) .....	164,967	126	165,093
		UFR: Fully funds Anti-Jam Antenna development and testing .....		[126]	
76	0604121A	SYNTHETIC TRAINING ENVIRONMENT REFINEMENT & PROTOTYPING .....	1,600		1,600
77	0604319A	INDIRECT FIRE PROTECTION CAPABILITY INCREMENT 2—INTERCEPT (IFPC2) .....	11,303		11,303
78	0305251A	CYBERSPACE OPERATIONS FORCES AND FORCE SUPPORT .....	56,492		56,492
79	1206308A	ARMY SPACE SYSTEMS INTEGRATION .....	20,432		20,432
		<b>SUBTOTAL ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES .....</b>	<b>890,889</b>	<b>101,196</b>	<b>992,085</b>

#### SYSTEM DEVELOPMENT & DEMONSTRATION

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
80	0604201A	AIRCRAFT AVIONICS .....	30,153	12,000	42,153
		UFR: Funds implementation of Assured Position, Navigation, and Timing (A-PNT) .....		[12,000]	
81	0604270A	ELECTRONIC WARFARE DEVELOPMENT .....	71,671		71,671
83	0604290A	MID-TIER NETWORKING VEHICULAR RADIO (MNVIR) .....	10,589		10,589
84	0604321A	ALL SOURCE ANALYSIS SYSTEM .....	4,774		4,774
85	0604328A	TRACTOR CAGE .....	17,252	13,000	30,252
		UFR: Provides the Army's Cyber Mission Force (CMF) with classified cyber tools .....		[13,000]	
86	0604601A	INFANTRY SUPPORT WEAPONS .....	87,643	6,000	93,643
		UFR: Acceleration of qualification of XM914 and XM913 .....		[6,000]	
87	0604604A	MEDIUM TACTICAL VEHICLES .....	6,039		6,039
88	0604611A	JAVELIN .....	21,095		21,095
89	0604622A	FAMILY OF HEAVY TACTICAL VEHICLES .....	10,507		10,507
90	0604633A	AIR TRAFFIC CONTROL .....	3,536		3,536
92	0604642A	LIGHT TACTICAL WHEELED VEHICLES .....	7,000		7,000
93	0604645A	ARMORED SYSTEMS MODERNIZATION (ASM)—ENG DEV .....	36,242		36,242
94	0604710A	NIGHT VISION SYSTEMS—ENG DEV .....	108,504	17,500	126,004
		UFR: Develop Thermal Weapon Sights .....		[17,500]	
95	0604713A	COMBAT FEEDING, CLOTHING, AND EQUIPMENT .....	3,702		3,702
96	0604715A	NON-SYSTEM TRAINING DEVICES—ENG DEV .....	43,575		43,575
97	0604741A	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE—ENG DEV .....	28,726		28,726
98	0604742A	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT .....	18,562		18,562
99	0604746A	AUTOMATIC TEST EQUIPMENT DEVELOPMENT .....	8,344		8,344
100	0604760A	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS)—ENG DEV .....	11,270		11,270
101	0604768A	BRILLIANT ANTI-ARMOR SUBMUNITION (BAT) .....	10,000		10,000
102	0604780A	COMBINED ARMS TACTICAL TRAINER (CATT) CORE .....	18,566		18,566
103	0604798A	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION .....	145,360		145,360
104	0604802A	WEAPONS AND MUNITIONS—ENG DEV .....	145,232	16,178	161,410



105	0604804A	UFR: 105mm Anti-Personnel / Wall Breach Ammunition .....			[8,000]	90,965
106	0604805A	UFR: Devops the 40mm Low Velocity M320 Door Breaching cartridge .....			[4,178]	9,910
107	0604807A	UFR: Testing for the Anti-Tank Confined Space Tandem Warhead .....			[4,000]	39,238
108	0604808A	LOGISTICS AND ENGINEER EQUIPMENT—ENG DEV .....				34,684
109	0604818A	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS—ENG DEV .....				164,409
110	0604820A	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT—ENG DEV .....				32,968
111	0604822A	LANDMINE WARFARE/BARRIER—ENG DEV .....				49,554
112	0604823A	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE .....				45,605
113	0604827A	RADAR DEVELOPMENT .....				16,127
114	0604852A	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS) .....			35,000	133,600
		FIREFINDER .....			[25,000]	
		SOLDIER SYSTEMS—WARRIOR DEMVAL .....			[10,000]	
		SUITE OF SURVIVABILITY ENHANCEMENT SYSTEMS—EMD .....			2,000	
		UFR: Expands installation of Active Protection Systems .....			[2,000]	
		UFR: Modular Active Protection System .....				1,972
115	0604854A	ARTILLERY SYSTEMS—EMD .....				81,776
		UFR: Funds research for 55 cal tube .....				172,361
116	0605013A	INFORMATION TECHNOLOGY DEVELOPMENT .....				199,778
117	0605018A	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (PPS-A) .....				4,418
118	0605028A	ARMORED MULTI-PURPOSE VEHICLE (AMPV) .....				15,877
119	0605029A	INTEGRATED GROUND SECURITY SURVEILLANCE RESPONSE CAPABILITY (IGSSR-C) .....				44,150
120	0605030A	JOINT TACTICAL NETWORK CENTER (JTNC) .....				34,670
121	0605031A	JOINT TACTICAL NETWORK (JTN) .....				
122	0605032A	TRACTOR TIRE .....			78,900	113,570
		UFR: Develops Offensive Cyber Operations capabilities .....			[78,900]	
123	0605033A	GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM—EXPEDITIONARY (GBOSS-E) .....				5,207
124	0605034A	TACTICAL SECURITY SYSTEM (TSS) .....				4,727
125	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCIM) .....				105,778
126	0605036A	COMBATING WEAPONS OF MASS DESTRUCTION (CWMD) .....				6,927
127	0605037A	EVIDENCE COLLECTION AND DETAINEE PROCESSING .....				214
128	0605038A	NUCLEAR BIOLOGICAL CHEMICAL RECONNAISSANCE VEHICLE (NBCRV) SENSOR SUITE .....				16,125
129	0605041A	DEFENSIVE CYBER TOOL DEVELOPMENT .....				55,165

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
130	0605042A	TACTICAL NETWORK RADIO SYSTEMS (LOW-TIER) .....	20,076		20,076
131	0605047A	CONTRACT WRITING SYSTEM .....	20,322	-20,300	22
		Consolidate requirements .....		[-20,300]	
132	0605049A	MISSILE WARNING SYSTEM MODERNIZATION (MWSM) .....	55,810	155,000	210,810
		UFR: Supports Directed Requirement for Limited Interim Missile Warning System to de- tect Enemy (MANPADS) .....		[155,000]	
133	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT .....	30,879		30,879
134	0605052A	INDIRECT FIRE PROTECTION CAPABILITY INC 2—BLOCK 1 .....	175,069		175,069
135	0605053A	GROUND ROBOTICS .....	70,760		70,760
137	0605380A	AMF JOINT TACTICAL RADIO SYSTEM (JTRS) .....	8,965		8,965
138	0605450A	JOINT AIR-TO-GROUND MISSILE (JAGM) .....	34,626		34,626
140	0605457A	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD) .....	336,420	-200,000	136,420
		Early to need .....		[-200,000]	
143	0605766A	NATIONAL CAPABILITIES INTEGRATION (MIP) .....	6,882	2,500	9,382
		UFR: Funds development for Remote Ground Terminal .....		[2,500]	
144	0605812A	JOINT LIGHT TACTICAL VEHICLE (JLV) ENGINEERING AND MANUFACTURING DEVELOPMENT PH ..	23,467		23,467
145	0605830A	AVIATION GROUND SUPPORT EQUIPMENT .....	6,930		6,930
146	0210609A	PALADIN INTEGRATED MANAGEMENT (PIM) .....	6,112		6,112
147	0303032A	TROJAN—RH12 .....	4,431		4,431
150	0304270A	ELECTRONIC WARFARE DEVELOPMENT .....	14,616		14,616
151	1205117A	TRACTOR BEARS .....	17,928		17,928
		<b>SUBTOTAL SYSTEM DEVELOPMENT &amp; DEMONSTRATION .....</b>	<b>3,012,840</b>	<b>117,778</b>	<b>3,130,618</b>
<b>RD&amp;E MANAGEMENT SUPPORT</b>					
152	0604256A	THREAT SIMULATOR DEVELOPMENT .....	22,862		22,862
153	0604258A	TARGET SYSTEMS DEVELOPMENT .....	13,902		13,902
154	0604759A	MAJOR T&E INVESTMENT .....	102,901		102,901

155	0605103A	RAND ARROYO CENTER .....	20,140	20,140
156	0605301A	ARMY KWAJALEIN ATOLL .....	4,362	251,025
		UFR: Increases funding for facilities sustainment from 75% to 83% .....	[4,362]	
157	0605326A	CONCEPTS EXPERIMENTATION PROGRAM .....	29,820	29,820
159	0605601A	ARMY TEST RANGES AND FACILITIES .....	307,588	307,588
160	0605602A	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS .....	49,242	49,242
161	0605604A	SURVIVABILITY/LETHALITY ANALYSIS .....	41,843	41,843
162	0605606A	AIRCRAFT CERTIFICATION .....	4,804	4,804
163	0605702A	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES .....	7,238	7,238
164	0605706A	MATERIEL SYSTEMS ANALYSIS .....	21,890	21,890
165	0605709A	EXPLOITATION OF FOREIGN ITEMS .....	12,684	12,684
166	0605712A	SUPPORT OF OPERATIONAL TESTING .....	51,040	51,040
167	0605716A	ARMY EVALUATION CENTER .....	56,246	56,246
168	0605718A	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG .....	1,829	1,829
169	0605801A	PROGRAMWIDE ACTIVITIES .....	55,060	55,060
170	0605803A	TECHNICAL INFORMATION ACTIVITIES .....	33,934	33,934
171	0605805A	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY .....	43,444	43,444
172	0605857A	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT .....	5,087	5,087
173	0605898A	ARMY DIRECT REPORT HEADQUARTERS—R&D—MHA .....	54,679	54,679
174	0606001A	MILITARY GROUND-BASED CREW TECHNOLOGY .....	7,916	7,916
175	0606002A	RONALD REAGAN BALLISTIC MISSILE DEFENSE TEST SITE .....	61,254	61,254
176	0303260A	DEFENSE MILITARY DECEPTION INITIATIVE .....	1,779	1,779
		<b>SUBTOTAL RDT&amp;E MANAGEMENT SUPPORT .....</b>	<b>4,362</b>	<b>1,258,207</b>
<b>OPERATIONAL SYSTEMS DEVELOPMENT</b>				
178	0603778A	MLRS PRODUCT IMPROVEMENT PROGRAM .....	8,929	8,929
179	0603813A	TRACTOR PULL .....	4,014	4,014
180	0605024A	ANTI-TAMPER TECHNOLOGY SUPPORT .....	4,094	4,094
181	0607131A	WEAPONS AND MUNITIONS PRODUCT IMPROVEMENT PROGRAMS .....	15,738	15,738
182	0607133A	TRACTOR SMOKE .....	4,513	4,513
183	0607134A	LONG RANGE PRECISION FIRES (LRPF) .....	42,731	144,745
		UFR: Accelerates LRPF procurement from FY25 .....	[42,731]	

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
184	0607135A	APACHE PRODUCT IMPROVEMENT PROGRAM .....	59,977		59,977
185	0607136A	BLACKHAWK PRODUCT IMPROVEMENT PROGRAM .....	34,416		34,416
186	0607137A	CHINOOK PRODUCT IMPROVEMENT PROGRAM .....	194,567		194,567
187	0607138A	FIXED WING PRODUCT IMPROVEMENT PROGRAM .....	9,981		9,981
188	0607139A	IMPROVED TURBINE ENGINE PROGRAM .....	204,304		204,304
189	0607140A	EMERGING TECHNOLOGIES FROM NIE .....	1,023		1,023
190	0607141A	LOGISTICS AUTOMATION .....	1,504		1,504
191	0607142A	AVIATION ROCKET SYSTEM PRODUCT IMPROVEMENT AND DEVELOPMENT .....	10,064	8,000	18,064
		UFR: Qualifies M282 for use by AH-64 aircraft .....		[8,000]	
192	0607143A	UNMANNED AIRCRAFT SYSTEM UNIVERSAL PRODUCTS .....	38,463		38,463
193	0607665A	FAMILY OF BIOMETRICS .....	6,159		6,159
194	0607865A	PATRIOT PRODUCT IMPROVEMENT .....	90,217	90,000	180,217
		UFR: Funds Terminal High Altitude Area Defense (THAAD)/Missile Segment Enhanced (MSE) integration.		[90,000]	
195	0202429A	AEROSTAT JOINT PROJECT—COCOM EXERCISE .....	6,749		6,749
196	0203728A	JOINT AUTOMATED DEEP OPERATION COORDINATION SYSTEM (JADOCs) .....	33,520		33,520
197	0203735A	COMBAT VEHICLE IMPROVEMENT PROGRAMS .....	343,175	8,000	351,175
		Laser warning sensor suite .....		[4,000]	
		UFR: Accelerate the development of the M88A2E1 .....		[4,000]	
198	0203740A	MANEUVER CONTROL SYSTEM .....	6,639		6,639
199	0203743A	155MM SELF-PROPELLED HOWITZER IMPROVEMENTS .....	40,784		40,784
200	0203744A	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS .....	39,358		39,358
201	0203752A	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM .....	145		145
202	0203758A	DIGITIZATION .....	4,803		4,803
203	0203801A	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM .....	2,723	26,000	28,723
		UFR: Supports research for the Stinger Product Improvement Program (PIP) .....		[26,000]	
204	0203802A	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS .....	5,000		5,000

205	02030808A	TRACTOR CARD .....	37,883	37,883
207	0205410A	MATERIALS HANDLING EQUIPMENT .....	1,582	1,582
208	0205412A	ENVIRONMENTAL QUALITY TECHNOLOGY—OPERATIONAL SYSTEM DEV .....	195	195
209	0205456A	LOWER TIER AIR AND MISSILE DEFENSE (AMD) SYSTEM .....	78,926	78,926
210	0205778A	GUIDED MULTIPLE-LAUNCH ROCKET SYSTEM (GMLRS) .....	102,807	102,807
213	0303028A	SECURITY AND INTELLIGENCE ACTIVITIES .....	13,807	13,807
		UFR: Funds Offensive Cyber capabilities development .....	21,845	21,845
		INFORMATION SYSTEMS SECURITY PROGRAM .....	[21,845]	[21,845]
214	0303140A	GLOBAL COMBAT SUPPORT SYSTEM .....	132,438	132,438
215	0303141A	WMCCS/GLOBAL COMMAND AND CONTROL SYSTEM .....	64,370	64,370
217	0303150A	COMBINED ADVANCED APPLICATIONS .....	10,475	10,475
220	0305172A	TACTICAL UNMANNED AERIAL VEHICLES .....	1,100	1,100
222	0305204A	AIRBORNE RECONNAISSANCE SYSTEMS .....	9,433	9,433
223	0305206A	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS .....	5,080	5,080
224	0305208A	Change in tactical requirements .....	24,700	24,700
		MQ-1C GRAY EAGLE UAS .....	9,574	9,574
225	0305219A	RQ-11 UAV .....	2,191	2,191
226	0305232A	RQ-7 UAV .....	12,773	12,773
227	0305233A	BIOMETRICS ENABLED INTELLIGENCE .....	2,537	2,537
228	0307665A	WIN-T INCREMENT 2—INITIAL NETWORKING .....	4,723	4,723
229	0310349A	Change in tactical requirements .....	60,877	60,877
230	0708045A	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES .....	11,959	11,959
231	1203142A	SATCOM GROUND ENVIRONMENT (SPACE) .....	10,228	10,228
232	1208053A	JOINT TACTICAL GROUND SYSTEM .....	7,154	7,154
234	9999999999	CLASSIFIED PROGRAMS .....	1,877,685	1,877,685
		<b>SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT .....</b>	<b>172,576</b>	<b>2,050,261</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, ARMY .....</b>	<b>480,912</b>	<b>9,906,352</b>
		<b>RESEARCH, DEVELOPMENT, TEST &amp; EVAL, NAVY</b>		
		<b>BASIC RESEARCH</b>		

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
1	0601103N	UNIVERSITY RESEARCH INITIATIVES .....	118,130	5,000	123,130
		Program increase .....		[5,000]	
2	0601152N	IN-HOUSE LABORATORY INDEPENDENT RESEARCH .....	19,438		19,438
3	0601153N	DEFENSE RESEARCH SCIENCES .....	458,333		458,333
		<b>SUBTOTAL BASIC RESEARCH</b> .....	<b>595,901</b>	<b>5,000</b>	<b>600,901</b>
		<b>APPLIED RESEARCH</b>			
4	0602114N	POWER PROJECTION APPLIED RESEARCH .....	13,553		13,553
5	0602123N	FORCE PROTECTION APPLIED RESEARCH .....	125,557		125,557
6	0602131M	MARINE CORPS LANDING FORCE TECHNOLOGY .....	53,936		53,936
7	0602235N	COMMON PICTURE APPLIED RESEARCH .....	36,450		36,450
8	0602236N	WARFIGHTER SUSTAINMENT APPLIED RESEARCH .....	48,649		48,649
9	0602271N	ELECTROMAGNETIC SYSTEMS APPLIED RESEARCH .....	79,598		79,598
10	0602435N	OCEAN WARFIGHTING ENVIRONMENT APPLIED RESEARCH .....	42,411	15,000	57,411
		Research vessel refit .....		[15,000]	
11	0602651M	JOINT NON-LETHAL WEAPONS APPLIED RESEARCH .....	6,425		6,425
12	0602747N	UNDERSEA WARFARE APPLIED RESEARCH .....	56,094	25,000	81,094
		Program increase .....		[25,000]	
13	0602750N	FUTURE NAVAL CAPABILITIES APPLIED RESEARCH .....	156,805		156,805
14	0602782N	MINE AND EXPEDITIONARY WARFARE APPLIED RESEARCH .....	32,733		32,733
15	0602792N	INNOVATIVE NAVAL PROTOTYPES (INP) APPLIED RESEARCH .....	171,146	-10,000	161,146
		General decrease .....		[-10,000]	
16	0602861N	SCIENCE AND TECHNOLOGY MANAGEMENT—ONR FIELD ACTIVITIES .....	62,722		62,722
		<b>SUBTOTAL APPLIED RESEARCH</b> .....	<b>886,079</b>	<b>30,000</b>	<b>916,079</b>
		<b>ADVANCED TECHNOLOGY DEVELOPMENT</b>			
19	0603123N	FORCE PROTECTION ADVANCED TECHNOLOGY .....	26,342		26,342

20	0603271N	ELECTROMAGNETIC SYSTEMS ADVANCED TECHNOLOGY .....	9,360		9,360
21	0603640M	USMC ADVANCED TECHNOLOGY DEMONSTRATION (ATD) .....	154,407	-5,000	149,407
		Futures directorate .....		[-5,000]	
22	0603651M	JOINT NON-LETHAL WEAPONS TECHNOLOGY DEVELOPMENT .....	13,448		13,448
23	0603673N	FUTURE NAVAL CAPABILITIES ADVANCED TECHNOLOGY DEVELOPMENT .....	231,772	-5,000	226,772
		Capable manpower, enterprise and platform enablers .....		[-5,000]	
24	0603680N	MANUFACTURING TECHNOLOGY PROGRAM .....	57,797		57,797
25	0603729N	WARFIGHTER PROTECTION ADVANCED TECHNOLOGY .....	4,878		4,878
27	0603758N	NAVY WARFIGHTING EXPERIMENTS AND DEMONSTRATIONS .....	64,889		64,889
28	0603782N	MINE AND EXPEDITIONARY WARFARE ADVANCED TECHNOLOGY .....	15,164	15,000	30,164
		Maritime intelligence, surveillance, and reconnaissance technology .....		[15,000]	
29	0603801N	INNOVATIVE NAVAL PROTOTYPES (INP) ADVANCED TECHNOLOGY DEVELOPMENT .....	108,285	15,000	123,285
		Underwater unmanned vehicle prototypes .....		[15,000]	
		<b>SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT .....</b>	<b>686,342</b>	<b>20,000</b>	<b>706,342</b>
		<b>ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES</b>			
30	0603207N	AIR/OCEAN TACTICAL APPLICATIONS .....	48,365		48,365
31	0603216N	AVIATION SURVIVABILITY .....	5,566		5,566
33	0603251N	AIRCRAFT SYSTEMS .....	695		695
34	0603254N	ASW SYSTEMS DEVELOPMENT .....	7,661		7,661
35	0603261N	TACTICAL AIRBORNE RECONNAISSANCE .....	3,707		3,707
36	0603382N	ADVANCED COMBAT SYSTEMS TECHNOLOGY .....	61,381		61,381
37	0603502N	SURFACE AND SHALLOW WATER MINE COUNTERMEASURES .....	154,117	-26,000	128,117
		PLUS experimentation .....		[10,000]	
		Reduce Barracuda .....		[-16,000]	
		Reduce Snakehead .....		[-20,000]	
38	0603506N	SURFACE SHIP TORPEDO DEFENSE .....	14,974		14,974
39	0603512N	CARRIER SYSTEMS DEVELOPMENT .....	9,296		9,296
40	0603525N	PILOT FISH .....	132,083		132,083
41	0603527N	RETRACT LARCH .....	15,407		15,407
42	0603536N	RETRACT JUNIPER .....	122,413		122,413
43	0603542N	RADIOLOGICAL CONTROL .....	745		745

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44	0603553N	SURFACE ASW .....	1,136		1,136
45	0603561N	ADVANCED SUBMARINE SYSTEM DEVELOPMENT .....	100,955		100,955
46	0603562N	SUBMARINE TACTICAL WARFARE SYSTEMS .....	13,834		13,834
47	0603563N	SHIP CONCEPT ADVANCED DESIGN .....	36,891		36,891
48	0603564N	SHIP PRELIMINARY DESIGN & FEASIBILITY STUDIES .....	12,012	30,000	42,012
		Aircraft carrier preliminary design .....		[30,000]	
49	0603570N	ADVANCED NUCLEAR POWER SYSTEMS .....	329,500		329,500
50	0603573N	ADVANCED SURFACE MACHINERY SYSTEMS .....	29,953		29,953
51	0603576N	CHALK EAGLE .....	191,610		191,610
52	0603581N	LITTORAL COMBAT SHIP (LCS) .....	40,991	-7,000	33,991
		Excess program support .....		[-7,000]	
53	0603582N	COMBAT SYSTEM INTEGRATION .....	24,674		24,674
54	0603595N	OHIO REPLACEMENT .....	776,158		776,158
55	0603596N	LCS MISSION MODULES .....	116,871		116,871
56	0603597N	AUTOMATED TEST AND ANALYSIS .....	8,052		8,052
57	0603599N	FRIGATE DEVELOPMENT .....	143,450		143,450
58	0603609N	CONVENTIONAL MUNITIONS .....	8,909		8,909
60	0603635M	MARINE CORPS GROUND COMBAT/SUPPORT SYSTEM .....	1,428		1,428
61	0603654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT .....	53,367		53,367
63	0603713N	OCEAN ENGINEERING TECHNOLOGY DEVELOPMENT .....	8,212		8,212
64	0603721N	ENVIRONMENTAL PROTECTION .....	20,214		20,214
65	0603724N	NAVY ENERGY PROGRAM .....	50,623		50,623
66	0603725N	FACILITIES IMPROVEMENT .....	2,837		2,837
67	0603734N	CHALK CORAL .....	245,143		245,143
68	0603739N	NAVY LOGISTIC PRODUCTIVITY .....	2,995		2,995
69	0603746N	RETRACT MAPLE .....	306,101		306,101
70	0603748N	LINK PLUMERIA .....	253,675		253,675



71	0603751N	RETRACT ELM .....	55,691		55,691
72	0603764N	LINK EVERGREEN .....	48,982		48,982
74	0603790N	NATO RESEARCH AND DEVELOPMENT .....	9,099		9,099
75	0603795N	LAND ATTACK TECHNOLOGY .....	33,568		33,568
76	0603851M	JOINT NON-LETHAL WEAPONS TESTING .....	29,873		29,873
77	0603860N	JOINT PRECISION APPROACH AND LANDING SYSTEMS—DEM/VAL .....	106,391		106,391
78	0603925N	DIRECTED ENERGY AND ELECTRIC WEAPON SYSTEMS .....	107,310		107,310
79	0604112N	GERALD R. FORD CLASS NUCLEAR AIRCRAFT CARRIER (CVN 78—80) .....	83,935		83,935
81	0604272N	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TADIRCM) .....	46,844		46,844
83	0604286M	MARINE CORPS ADDITIVE MANUFACTURING TECHNOLOGY DEVELOPMENT .....	6,200		6,200
85	0604320M	RAPID TECHNOLOGY CAPABILITY PROTOTYPE .....	7,055		7,055
		Increase rapid acquisition capability for Marine Corps Warfighting Lab .....	10,000		10,000
86	0604454N	LX (R) .....		[10,000]	
87	0604536N	ADVANCED UNDERSEA PROTOTYPING .....	9,578		9,578
		Funding early to need .....	66,543		66,543
89	0604659N	PRECISION STRIKE WEAPONS DEVELOPMENT PROGRAM .....	31,315		31,315
90	0604707N	SPACE AND ELECTRONIC WARFARE (SEW) ARCHITECTURE/ENGINEERING SUPPORT .....	42,851		42,851
91	0604786N	OFFENSIVE ANTI-SURFACE WARFARE WEAPON DEVELOPMENT .....	160,694		160,694
93	0303354N	ASW SYSTEMS DEVELOPMENT—MIP .....	8,278		8,278
94	0304240M	ADVANCED TACTICAL UNMANNED AIRCRAFT SYSTEM .....	7,979		7,979
95	0304270N	ELECTRONIC WARFARE DEVELOPMENT—MIP .....	527		527
		<b>SUBTOTAL ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES .....</b>	<b>4,218,714</b>	<b>—45,900</b>	<b>4,172,814</b>
		<b>SYSTEM DEVELOPMENT &amp; DEMONSTRATION</b>			
96	0603208N	TRAINING SYSTEM AIRCRAFT .....	16,945		16,945
97	0604212N	OTHER HELO DEVELOPMENT .....	26,786		26,786
98	0604214N	AV—8B AIRCRAFT—ENG DEV .....	48,780		48,780
99	0604215N	STANDARDS DEVELOPMENT .....	2,722		2,722
100	0604216N	MULTI-MISSION HELICOPTER UPGRADE DEVELOPMENT .....	5,371		5,371
101	0604218N	AIR/OCEAN EQUIPMENT ENGINEERING .....	782		782
102	0604221N	P-3 MODERNIZATION PROGRAM .....	1,361		1,361
103	0604230N	WARFARE SUPPORT SYSTEM .....	14,167		14,167

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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
104	0604231N	TACTICAL COMMAND SYSTEM .....	55,695		55,695
105	0604234N	ADVANCED HAWKEYE .....	292,535		292,535
106	0604245N	H-1 UPGRADES .....	61,288		61,288
107	0604261N	ACOUSTIC SEARCH SENSORS .....	37,167		37,167
108	0604262N	V-22A .....	171,386	15,000	186,386
		UFR: MV-22 Common Configuration CC-RAM Improvements .....		[15,000]	
109	0604264N	AIR CREW SYSTEMS DEVELOPMENT .....	13,235	20,000	33,235
		Physiological Episode prize competition .....		[10,000]	
		Physiological episodes .....		[10,000]	
110	0604269N	EA-18 .....	173,488		173,488
111	0604270N	ELECTRONIC WARFARE DEVELOPMENT .....	54,055	3,000	57,055
		UFR: Intrepid Tiger UH-1Y Jettison Capability .....		[3,000]	
112	0604273N	EXECUTIVE HELO DEVELOPMENT .....	451,938		451,938
113	0604274N	NEXT GENERATION JAMMER (NGJ) .....	632,936		632,936
114	0604280N	JOINT TACTICAL RADIO SYSTEM—NAVY (JTRS-NAVY) .....	4,310		4,310
115	0604282N	NEXT GENERATION JAMMER (NGJ) INCREMENT II .....	66,686		66,686
116	0604307N	SURFACE COMBATANT COMBAT SYSTEM ENGINEERING .....	390,238		390,238
117	0604311N	LPD-17 CLASS SYSTEMS INTEGRATION .....	689		689
118	0604329N	SMALL DIAMETER BOMB (SDB) .....	112,846		112,846
119	0604366N	STANDARD MISSILE IMPROVEMENTS .....	158,578		158,578
120	0604373N	AIRBORNE MCM .....	15,734		15,734
122	0604378N	NAVAL INTEGRATED FIRE CONTROL—COUNTER AIR SYSTEMS ENGINEERING .....	25,445		25,445
124	0604501N	ADVANCED ABOVE WATER SENSORS .....	87,233		87,233
125	0604503N	SSN-688 AND TRIDENT MODERNIZATION .....	130,981		130,981
126	0604504N	AIR CONTROL .....	75,186		75,186
127	0604512N	SHIPBOARD AVIATION SYSTEMS .....	177,926		177,926
128	0604518N	COMBAT INFORMATION CENTER CONVERSION .....	8,062		8,062

129	0604522N	AIR AND MISSILE DEFENSE RADAR (AMDR) SYSTEM .....	32,090	32,090
130	0604558N	NEW DESIGN SSN .....	120,087	120,087
131	0604562N	SUBMARINE TACTICAL WARFARE SYSTEM .....	50,850	50,850
132	0604567N	SHIP CONTRACT DESIGN/ LIVE FIRE T&E .....	67,166	67,166
133	0604574N	NAVY TACTICAL COMPUTER RESOURCES .....	4,817	4,817
134	0604580N	VIRGINIA PAYLOAD MODULE (VPM) .....	72,861	72,861
135	0604601N	MINE DEVELOPMENT .....	25,635	25,635
136	0604610N	LIGHTWEIGHT TORPEDO DEVELOPMENT .....	28,076	28,076
137	0604654N	JOINT SERVICE EXPLOSIVE ORDNANCE DEVELOPMENT .....	7,561	7,561
138	0604703N	PERSONNEL TRAINING, SIMULATION, AND HUMAN FACTORS .....	40,828	40,828
139	0604727N	JOINT STANDOFF WEAPON SYSTEMS .....	435	435
140	0604755N	SHIP SELF DEFENSE (DETECT & CONTROL) .....	161,713	161,713
		UFR: Ship C2 Systems for Amphibs .....	3,000	3,000
141	0604756N	SHIP SELF DEFENSE (ENGAGE: HARD KILL) .....	212,412	212,412
142	0604757N	SHIP SELF DEFENSE (ENGAGE: SOFT KILL/EW) .....	103,391	103,391
143	0604761N	INTELLIGENCE ENGINEERING .....	34,855	34,855
144	0604771N	MEDICAL DEVELOPMENT .....	9,353	9,353
145	0604777N	NAVIGATION/ID SYSTEM .....	92,546	92,546
146	0604800M	JOINT STRIKE FIGHTER (JSF)—EMD .....	152,934	152,934
		SDD plus up .....	91,200	91,200
147	0604800N	JOINT STRIKE FIGHTER (JSF)—EMD .....	[91,200]	[91,200]
		SDD plus up .....	66,700	66,700
		SDD plus up .....	[66,700]	[66,700]
148	0604810M	JOINT STRIKE FIGHTER FOLLOW ON MODERNIZATION (FOM)—MARINE CORPS .....	144,958	144,958
149	0604810N	JOINT STRIKE FIGHTER FOLLOW ON MODERNIZATION (FOM)—NAVY .....	143,855	143,855
150	0605013M	INFORMATION TECHNOLOGY DEVELOPMENT .....	14,865	14,865
151	0605013N	INFORMATION TECHNOLOGY DEVELOPMENT .....	152,977	152,977
		Navy ePS consolidate requirements .....	—35,045	—35,045
		NSIPS consolidate requirements .....	[—11,200]	[—11,200]
		NSIPS consolidate requirements .....	[—23,845]	[—23,845]
152	0605024N	ANTI-TAMPER TECHNOLOGY SUPPORT .....	3,410	3,410
153	0605212N	CH—53K ROTE .....	340,758	340,758
154	0605215N	MISSION PLANNING .....	33,430	33,430
155	0605217N	COMMON AVIONICS .....	58,163	58,163

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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
156	0605220N	SHIP TO SHORE CONNECTOR (SSC) .....	22,410		22,410
157	0605327N	T-AO 205 CLASS .....	1,961		1,961
158	0605414N	UNMANNED CARRIER AVIATION (UCA) .....	222,208		222,208
159	0605450N	JOINT AIR-TO-GROUND MISSILE (JAGM) .....	15,473		15,473
160	0605500N	MULTI-MISSION MARITIME AIRCRAFT (MMA) .....	11,795		11,795
161	0605504N	MULTI-MISSION MARITIME (MMA) INCREMENT III .....	181,731		181,731
162	0605611M	MARINE CORPS ASSAULT VEHICLES SYSTEM DEVELOPMENT & DEMONSTRATION .....	178,993		178,993
163	0605813M	JOINT LIGHT TACTICAL VEHICLE (ULTV) SYSTEM DEVELOPMENT & DEMONSTRATION .....	20,710		20,710
164	0204202N	DDG-1000 .....	140,500	-50,000	90,500
		Unjustified cost growth .....		[-50,000]	
168	0304785N	TACTICAL CRYPTOLOGIC SYSTEMS .....	28,311		28,311
170	0306250M	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT .....	4,502		4,502
		<b>SUBTOTAL SYSTEM DEVELOPMENT &amp; DEMONSTRATION .....</b>	<b>6,362,102</b>	<b>113,855</b>	<b>6,475,957</b>
		<b>MANAGEMENT SUPPORT</b>			
171	0604256N	THREAT SIMULATOR DEVELOPMENT .....	91,819		91,819
172	0604258N	TARGET SYSTEMS DEVELOPMENT .....	23,053		23,053
173	0604759N	MAJOR T&E INVESTMENT .....	52,634	13,000	65,634
		UFR: Critical infrastructure investments for major range and test facilities .....		[13,000]	
174	0605126N	JOINT THEATER AIR AND MISSILE DEFENSE ORGANIZATION .....	141		141
175	0605152N	STUDIES AND ANALYSIS SUPPORT—NAVY .....	3,917		3,917
176	0605154N	CENTER FOR NAVAL ANALYSES .....	50,432		50,432
179	0605804N	TECHNICAL INFORMATION SERVICES .....	782		782
180	0605853N	MANAGEMENT, TECHNICAL & INTERNATIONAL SUPPORT .....	94,562	-5,500	89,062
		Unjustified cost growth .....		[-5,500]	
181	0605856N	STRATEGIC TECHNICAL SUPPORT .....	4,313		4,313
182	0605861N	RDT&E SCIENCE AND TECHNOLOGY MANAGEMENT .....	1,104		1,104

183	0605863N	RD&E SHIP AND AIRCRAFT SUPPORT .....	105,666		105,666
184	0605864N	TEST AND EVALUATION SUPPORT .....	373,667		373,667
185	0605865N	OPERATIONAL TEST AND EVALUATION CAPABILITY .....	20,298		20,298
186	0605866N	NAVY SPACE AND ELECTRONIC WARFARE (SEW) SUPPORT .....	17,341		17,341
188	0605873M	MARINE CORPS PROGRAM WIDE SUPPORT .....	21,751		21,751
189	0605898N	MANAGEMENT HQ—R&D .....	44,279		44,279
190	0606355N	WARFARE INNOVATION MANAGEMENT .....	28,841		28,841
191	0902498N	MANAGEMENT HEADQUARTERS (DEPARTMENTAL SUPPORT ACTIVITIES) .....	1,749		1,749
194	1206867N	SEW SURVEILLANCE/RECONNAISSANCE SUPPORT .....	9,408		9,408
		<b>SUBTOTAL MANAGEMENT SUPPORT .....</b>	<b>945,757</b>	<b>7,500</b>	<b>953,257</b>
<b>OPERATIONAL SYSTEMS DEVELOPMENT</b>					
196	0607658N	COOPERATIVE ENGAGEMENT CAPABILITY (CEC) .....	92,571	29,000	121,571
		UFR: Accelerate Tactical Data Distribution Initiative .....		[18,000]	
		UFR: IFF Mode 5 acceleration .....		[11,000]	
197	0607700N	DEPLOYABLE JOINT COMMAND AND CONTROL .....	3,137		3,137
198	0101221N	STRATEGIC SUB & WEAPONS SYSTEM SUPPORT .....	135,219		135,219
199	0101224N	SSBN SECURITY TECHNOLOGY PROGRAM .....	36,242		36,242
200	0101226N	SUBMARINE ACOUSTIC WARFARE DEVELOPMENT .....	12,053		12,053
201	0101402N	NAVY STRATEGIC COMMUNICATIONS .....	18,221		18,221
203	0204136N	F/A-18 SQUADRONS .....	224,470		224,470
204	0204163N	FLEET TELECOMMUNICATIONS (TACTICAL) .....	33,525		33,525
205	0204228N	SURFACE SUPPORT .....	24,829		24,829
206	0204229N	TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMPC) .....	133,617		133,617
207	0204311N	INTEGRATED SURVEILLANCE SYSTEM .....	38,972		38,972
208	0204413N	AMPHIBIOUS TACTICAL SUPPORT UNITS (DISPLACEMENT CRAFT) .....	3,940		3,940
209	0204460M	GROUND/AIR TASK ORIENTED RADAR (GATOR) .....	54,645		54,645
210	0204571N	CONSOLIDATED TRAINING SYSTEMS DEVELOPMENT .....	66,518		66,518
211	0204574N	CRYPTOLOGIC DIRECT SUPPORT .....	1,155		1,155
212	0204575N	ELECTRONIC WARFARE (EW) READINESS SUPPORT .....	51,040		51,040
213	0205601N	HARM IMPROVEMENT .....	87,989	10,000	97,989
		UFR: Weapons Improvement .....		[10,000]	

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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
214	0205604N	TACTICAL DATA LINKS .....	89,852		89,852
215	0205620N	SURFACE ASW COMBAT SYSTEM INTEGRATION .....	29,351		29,351
216	0205632N	MK-48 ADCAP .....	68,553		68,553
217	0205633N	AVIATION IMPROVEMENTS .....	119,099		119,099
218	0205675N	OPERATIONAL NUCLEAR POWER SYSTEMS .....	127,445		127,445
219	0206313M	MARINE CORPS COMMUNICATIONS SYSTEMS .....	123,825		123,825
220	0206335M	COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S) .....	7,343		7,343
221	0206623M	MARINE CORPS GROUND COMBAT/SUPPORTING ARMS SYSTEMS .....	66,009		66,009
222	0206624M	MARINE CORPS COMBAT SERVICES SUPPORT .....	25,258		25,258
223	0206625M	USMC INTELLIGENCE/ELECTRONIC WARFARE SYSTEMS (MIP) .....	30,886		30,886
224	0206629M	AMPHIBIOUS ASSAULT VEHICLE .....	58,728		58,728
225	0207161N	TACTICAL AIM MISSILES .....	42,884	9,000	51,884
		UFR: Weapons Improvement .....		[9,000]	
226	0207163N	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM) .....	25,364		25,364
232	0303138N	CONSOLIDATED AFLOAT NETWORK ENTERPRISE SERVICES (CANES) .....	24,271		24,271
233	0303140N	INFORMATION SYSTEMS SECURITY PROGRAM .....	50,269		50,269
236	0305192N	MILITARY INTELLIGENCE PROGRAM (MIP) ACTIVITIES .....	6,352		6,352
237	0305204N	TACTICAL UNMANNED AERIAL VEHICLES .....	7,770		7,770
238	0305205N	UAS INTEGRATION AND INTEROPERABILITY .....	39,736		39,736
239	0305208M	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS .....	12,867		12,867
240	0305208N	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS .....	46,150		46,150
241	0305220N	MQ-4C TRITON .....	84,115		84,115
242	0305231N	MQ-8 UAV .....	62,656		62,656
243	0305232M	RQ-11 UAV .....	2,022		2,022
245	0305234N	SMALL (LEVEL 0) TACTICAL UAS (STUASLO) .....	4,835		4,835
246	0305239M	RQ-21A .....	8,899		8,899
247	0305241N	MULTI-INTELLIGENCE SENSOR DEVELOPMENT .....	99,020		99,020

248	0305242M	UNMANNED AERIAL SYSTEMS (UAS) PAYLOADS (MIP) .....	18,578	18,578
249	0305421N	RQ-4 MODERNIZATION .....	229,404	229,404
250	0308601N	MODELING AND SIMULATION SUPPORT .....	5,238	5,238
251	0702207N	DEPOT MAINTENANCE (NON-IF) .....	38,227	38,227
252	0708730N	MARITIME TECHNOLOGY (MARITECH) .....	4,808	4,808
253	1203109N	SATELLITE COMMUNICATIONS (SPACE) .....	37,836	37,836
255	9999999999	CLASSIFIED PROGRAMS .....	200,000	1,564,347
		Classified project 0428 .....	[200,000]	
		<b>SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT .....</b>	<b>3,980,140</b>	<b>4,228,140</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, NAVY .....</b>	<b>17,675,035</b>	<b>18,053,490</b>
<b>RESEARCH, DEVELOPMENT, TEST &amp; EVAL, AF</b>				
		<b>BASIC RESEARCH</b>		
1	0601102F	DEFENSE RESEARCH SCIENCES .....	342,919	342,919
2	0601103F	UNIVERSITY RESEARCH INITIATIVES .....	147,923	147,923
3	0601108F	HIGH ENERGY LASER RESEARCH INITIATIVES .....	14,417	14,417
		<b>SUBTOTAL BASIC RESEARCH .....</b>	<b>505,259</b>	<b>505,259</b>
		<b>APPLIED RESEARCH</b>		
4	0602102F	MATERIALS .....	124,264	124,264
5	0602201F	AEROSPACE VEHICLE TECHNOLOGIES .....	124,678	129,678
		Hypersonic wind tunnels .....	5,000	
			[5,000]	
6	0602202F	HUMAN EFFECTIVENESS APPLIED RESEARCH .....	108,784	133,784
		Advanced training environments .....	25,000	
			[25,000]	
7	0602203F	AEROSPACE PROPULSION .....	192,695	200,695
		Program increase .....	8,000	
			[5,500]	
		UFR: S&T TOA to 1.9% .....	[2,500]	
8	0602204F	AEROSPACE SENSORS .....	152,782	152,782
9	0602298F	SCIENCE AND TECHNOLOGY MANAGEMENT— MAJOR HEADQUARTERS ACTIVITIES .....	8,353	8,353
10	0602601F	SPACE TECHNOLOGY .....	116,503	116,503

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11	0602602F	CONVENTIONAL MUNITIONS .....	112,195		112,195
12	0602605F	DIRECTED ENERGY TECHNOLOGY .....	132,993	8,300	141,293
		UFR: S&T TOA to 1.9% .....		[8,300]	
13	0602788F	DOMINANT INFORMATION SCIENCES AND METHODS .....	167,818		167,818
14	0602890F	HIGH ENERGY LASER RESEARCH .....	43,049		43,049
		<b>SUBTOTAL APPLIED RESEARCH .....</b>	<b>1,284,114</b>	<b>46,300</b>	<b>1,330,414</b>
		<b>ADVANCED TECHNOLOGY DEVELOPMENT</b>			
15	0603112F	ADVANCED MATERIALS FOR WEAPON SYSTEMS .....	37,856		37,856
16	0603199F	SUSTAINMENT SCIENCE AND TECHNOLOGY (S&T) .....	22,811		22,811
17	0603203F	ADVANCED AEROSPACE SENSORS .....	40,978		40,978
18	0603211F	AEROSPACE TECHNOLOGY DEV/DEMO .....	115,966	5,700	121,666
		UFR: S&T TOA to 1.9% .....		[5,700]	
19	0603216F	AEROSPACE PROPULSION AND POWER TECHNOLOGY .....	104,499	13,500	117,999
		UFR: S&T TOA to 1.9% .....		[13,500]	
20	0603270F	ELECTRONIC COMBAT TECHNOLOGY .....	60,551	5,000	65,551
		Software engineering capabilities .....		[5,000]	
21	0603401F	ADVANCED SPACECRAFT TECHNOLOGY .....	58,910	15,000	73,910
		UFR: Commercial SSA consortia/testbed .....		[15,000]	
22	0603444F	MAUI SPACE SURVEILLANCE SYSTEM (MSSS) .....	10,433		10,433
23	0603456F	HUMAN EFFECTIVENESS ADVANCED TECHNOLOGY DEVELOPMENT .....	33,635		33,635
24	0603601F	CONVENTIONAL WEAPONS TECHNOLOGY .....	167,415		167,415
25	0603605F	ADVANCED WEAPONS TECHNOLOGY .....	45,502		45,502
26	0603680F	MANUFACTURING TECHNOLOGY PROGRAM .....	46,450		46,450
27	0603788F	BATTLESPACE KNOWLEDGE DEVELOPMENT AND DEMONSTRATION .....	49,011		49,011
		<b>SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT .....</b>	<b>794,017</b>	<b>39,200</b>	<b>833,217</b>



		<b>ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES</b>	
28	0603260F	INTELLIGENCE ADVANCED DEVELOPMENT .....	5,652
30	0603742F	COMBAT IDENTIFICATION TECHNOLOGY .....	24,397
31	0603790F	NATO RESEARCH AND DEVELOPMENT .....	3,851
33	0603851F	INTERCONTINENTAL BALLISTIC MISSILE—DEW/VAL .....	10,736
34	0603859F	POLLUTION PREVENTION—DEW/VAL .....	2
35	0604015F	LONG RANGE STRIKE—BOMBER .....	2,003,580
36	0604201F	INTEGRATED AVIONICS PLANNING AND DEVELOPMENT .....	100,858
		UFR: GPS Receiver Development .....	35,400
		ADVANCED TECHNOLOGY AND SENSORS .....	[35,400]
37	0604257F	UFR: Hyperspectral Chip Development .....	14,700
		NATIONAL AIRBORNE OPS CENTER (NAOC) RECAP .....	[14,700]
38	0604288F	TECHNOLOGY TRANSFER .....	7,850
39	0604317F	HARD AND DEEPLY BURIED TARGET DEFEAT SYSTEM (HDBTDS) PROGRAM .....	3,295
40	0604327F	CYBER RESILIENCY OF WEAPON SYSTEMS-ACS .....	17,365
41	0604414F	UFR: Cyber Security & Resiliency for Weapon Systems .....	32,253
		DEPLOYMENT & DISTRIBUTION ENTERPRISE R&D .....	10,200
44	0604776F	TECH TRANSITION PROGRAM .....	[10,200]
46	0604858F	UFR: Directed Energy Prototyping .....	26,222
		UFR: Hypersonics Prototyping .....	95,000
		UFR: Long-Endurance Aerial Platform Ahead Prototyping .....	[70,000]
47	0605230F	GROUND BASED STRATEGIC DETERRENT .....	[10,000]
49	0207110F	NEXT GENERATION AIR DOMINANCE .....	[15,000]
		UFR: Penetrating Counter air (PCA) Risk Reduction .....	215,721
50	0207455F	THREE DIMENSIONAL LONG-RANGE RADAR (3DELRR) .....	441,746
52	0305236F	COMMON DATA LINK EXECUTIVE AGENT (CDL EA) .....	10,645
53	0306250F	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT .....	41,509
54	0306415F	ENABLED CYBER ACTIVITIES .....	226,287
55	0408011F	SPECIAL TACTICS / COMBAT CONTROL .....	16,687
56	0901410F	CONTRACTING INFORMATION TECHNOLOGY SYSTEM .....	4,500
		Consolidate requirements .....	-15,867
		NAVSTAR GLOBAL POSITIONING SYSTEM (USER EQUIPMENT) (SPACE) .....	[15,867]
57	1203164F		98,500
			352,439

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
		UFR: Military GPS User Equipment INC2 .....		[98,500]	
58	1203710F	EO/IR WEATHER SYSTEMS .....	10,000		10,000
59	1206422F	WEATHER SYSTEM FOLLOW-ON .....	112,088		112,088
60	1206425F	SPACE SITUATION AWARENESS SYSTEMS .....	34,764		34,764
61	1206434F	MIDTERM POLAR MILSATCOM SYSTEM .....	63,092		63,092
62	1206438F	SPACE CONTROL TECHNOLOGY .....	7,842	120,800	128,642
		UFR: Space Defense Force Packaging .....		[113,800]	
		UFR: Space Enterprise Defense Implementation .....		[7,000]	
63	1206730F	SPACE SECURITY AND DEFENSE PROGRAM .....	41,385		41,385
64	1206760F	PROTECTED TACTICAL ENTERPRISE SERVICE (PTES) .....	18,150		18,150
65	1206761F	PROTECTED TACTICAL SERVICE (PTS) .....	24,201		24,201
66	1206855F	PROTECTED SATCOM SERVICES (PSCS)—AGGREGATED .....	16,000		16,000
67	1206857F	OPERATIONALLY RESPONSIVE SPACE .....	87,577		87,577
		<b>SUBTOTAL ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES .....</b>	<b>4,605,030</b>	<b>505,733</b>	<b>5,110,763</b>
		<b>SYSTEM DEVELOPMENT &amp; DEMONSTRATION</b>			
68	0604200F	FUTURE ADVANCED WEAPON ANALYSIS & PROGRAMS .....	5,100		5,100
69	0604201F	INTEGRATED AVIONICS PLANNING AND DEVELOPMENT .....	101,203		101,203
70	0604222F	NUCLEAR WEAPONS SUPPORT .....	3,009		3,009
71	0604270F	ELECTRONIC WARFARE DEVELOPMENT .....	2,241		2,241
72	0604281F	TACTICAL DATA NETWORKS ENTERPRISE .....	38,250		38,250
73	0604287F	PHYSICAL SECURITY EQUIPMENT .....	19,739		19,739
74	0604329F	SMALL DIAMETER BOMB (SDB)—EMD .....	38,979		38,979
78	0604429F	AIRBORNE ELECTRONIC ATTACK .....	7,091		7,091
80	0604602F	ARMAMENT/ORDNANCE DEVELOPMENT .....	46,540		46,540
81	0604604F	SUBMUNITIONS .....	2,705		2,705
82	0604617F	AGILE COMBAT SUPPORT .....	31,240		31,240

84	0604706F	LIFE SUPPORT SYSTEMS .....	9,060	9,060
85	0604735F	COMBAT TRAINING RANGES .....	87,350	87,350
86	0604800F	F-35—EMD .....	292,947	172,000
		SDD plus up .....		[172,000]
88	0604932F	LONG RANGE STANDOFF WEAPON .....	451,290	451,290
89	0604933F	ICBM FUZE MODERNIZATION .....	178,991	178,991
90	0605030F	JOINT TACTICAL NETWORK CENTER (JTNC) .....	12,736	12,736
91	0605031F	JOINT TACTICAL NETWORK (JTN) .....	9,319	9,319
92	0605213F	F-22 MODERNIZATION INCREMENT 3.2B .....	13,600	13,600
94	0605221F	KC-46 .....	93,845	93,845
95	0605223F	ADVANCED PILOT TRAINING .....	105,999	105,999
96	0605229F	COMBAT RESCUE HELICOPTER .....	354,485	354,485
100	0605458F	AIR & SPACE OPS CENTER 10.2 RDT&E .....	119,745	-104,800
		Restructure of program .....		[-104,800]
101	0605931F	B-2 DEFENSIVE MANAGEMENT SYSTEM .....	194,570	194,570
102	0101125F	NUCLEAR WEAPONS MODERNIZATION .....	91,237	91,237
103	0207171F	F-15 EPAWSS .....	209,847	209,847
104	0207328F	STAND IN ATTACK WEAPON .....	3,400	3,400
105	0207701F	FULL COMBAT MISSION TRAINING .....	16,727	16,727
109	0307581F	JSTARS RECAP .....	417,201	417,201
110	0401310F	C-32 EXECUTIVE TRANSPORT RECAPITALIZATION .....	6,017	6,017
111	0401319F	PRESIDENTIAL AIRCRAFT RECAPITALIZATION (PAR) .....	434,069	434,069
112	0701212F	AUTOMATED TEST SYSTEMS .....	18,528	18,528
113	1203176F	COMBAT SURVIVOR EVADER LOCATOR .....	24,967	24,967
114	1203940F	SPACE SITUATION AWARENESS OPERATIONS .....	10,029	10,029
115	1206421F	COUNTERSPACE SYSTEMS .....	66,370	66,370
116	1206425F	SPACE SITUATION AWARENESS SYSTEMS .....	48,448	48,448
117	1206426F	SPACE FENCE .....	35,937	26,900
		UFR: Space Fence Site 1 & Ground Based Operational Surveillance System .....		[26,900]
118	1206431F	ADVANCED EHF MILSATCOM (SPACE) .....	145,610	145,610
119	1206432F	POLAR MILSATCOM (SPACE) .....	33,644	33,644
120	1206433F	WIDEBAND GLOBAL SATCOM (SPACE) .....	14,263	37,000

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (In Thousands of Dollars)					
Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
121	1206441F	UFR: Fix wideband Ka Anti-jam Enhancement (KAIE) .....		[37,000]	
		SPACE BASED INFRARED SYSTEM (SBIRS) HIGH EMD .....	311,844	12,800	324,644
		UFR: Fix upgrades Space Based Infrared System .....		[12,800]	
122	1206442F	EVOLVED SBIRS .....	71,018		71,018
123	1206863F	EVOLVED EXPENDABLE LAUNCH VEHICLE PROGRAM (SPACE)—EMD .....	297,572		297,572
		<b>SUBTOTAL SYSTEM DEVELOPMENT &amp; DEMONSTRATION .....</b>	<b>4,476,762</b>	<b>143,900</b>	<b>4,620,662</b>
		<b>MANAGEMENT SUPPORT</b>			
124	0604256F	THREAT SIMULATOR DEVELOPMENT .....	35,405		35,405
125	0604759F	MAJOR T&E INVESTMENT .....	82,874	20,000	102,874
		Advanced weapons system testing capabilities .....		[15,000]	
		UFR: Weapon System Cyber Resiliency-TE .....		[5,000]	
126	0605101F	RAND PROJECT AIR FORCE .....	34,346		34,346
128	0605712F	INITIAL OPERATIONAL TEST & EVALUATION .....	15,523		15,523
129	0605807F	TEST AND EVALUATION SUPPORT .....	678,289	27,400	705,689
		UFR: 4th Gen Mods .....		[23,000]	
		UFR: Weapon System Cyber Resiliency-TE .....		[4,400]	
130	0605826F	ACQ WORKFORCE- GLOBAL POWER .....	219,809		219,809
131	0605827F	ACQ WORKFORCE- GLOBAL VIG & COMBAT SYS .....	223,179		223,179
132	0605828F	ACQ WORKFORCE- GLOBAL REACH .....	138,556		138,556
133	0605829F	ACQ WORKFORCE- CYBER, NETWORK, & BUS SYS .....	221,393		221,393
134	0605830F	ACQ WORKFORCE- GLOBAL BATTLE MGMT .....	152,577		152,577
135	0605831F	ACQ WORKFORCE- CAPABILITY INTEGRATION .....	196,561		196,561
136	0605832F	ACQ WORKFORCE- ADVANCED PRGM TECHNOLOGY .....	28,322		28,322
137	0605833F	ACQ WORKFORCE- NUCLEAR SYSTEMS .....	126,611		126,611
140	0605898F	MANAGEMENT HQ—R&D .....	9,154		9,154
141	0605976F	FACILITIES RESTORATION AND MODERNIZATION—TEST AND EVALUATION SUPPORT .....	135,507		135,507

142	0605978F	FACILITIES SUSTAINMENT—TEST AND EVALUATION SUPPORT .....	28,720		28,720
143	0606017F	REQUIREMENTS ANALYSIS AND MATURATION .....	35,453	100,000	135,453
		UFR: Modeling and Simulation Joint Simulation Environment .....		[70,000]	
		UFR:AS2030 Planning for Development .....		[30,000]	
146	0308602F	ENTERPRISE INFORMATION SERVICES (EIS) .....	29,049		29,049
147	0702806F	ACQUISITION AND MANAGEMENT SUPPORT .....	14,980		14,980
148	0804731F	GENERAL SKILL TRAINING .....	1,434		1,434
150	1001004F	INTERNATIONAL ACTIVITIES .....	4,569		4,569
151	1206116F	SPACE TEST AND TRAINING RANGE DEVELOPMENT .....	25,773		25,773
152	1206392F	SPACE AND MISSILE CENTER (SMC) CIVILIAN WORKFORCE .....	169,887		169,887
153	1206398F	SPACE & MISSILE SYSTEMS CENTER—MHA .....	9,531		9,531
154	1206860F	ROCKET SYSTEMS LAUNCH PROGRAM (SPACE) .....	20,975	13,300	34,275
		UFR: Rocket System Launch Program (RSLP) .....		[13,300]	
155	1206864F	SPACE TEST PROGRAM (STP) .....	25,398		25,398
		<b>SUBTOTAL MANAGEMENT SUPPORT .....</b>	<b>2,663,875</b>	<b>160,700</b>	<b>2,824,575</b>
<b>OPERATIONAL SYSTEMS DEVELOPMENT</b>					
157	0604222F	NUCLEAR WEAPONS SUPPORT .....	27,579		27,579
158	0604233F	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING .....	5,776		5,776
159	0604445F	WIDE AREA SURVEILLANCE .....	16,247		16,247
161	0605018F	AF INTEGRATED PERSONNEL AND PAY SYSTEM (AF-IPPS) .....	21,915	-21,915	
		Consolidate requirements .....		[-21,915]	
162	0605024F	ANTI-TAMPER TECHNOLOGY EXECUTIVE AGENCY .....	33,150		33,150
163	0605117F	FOREIGN MATERIEL ACQUISITION AND EXPLOITATION .....	66,653		66,653
164	0605278F	HC/MC—130 RECAP RDT&E .....	38,579		38,579
165	0606018F	NC3 INTEGRATION .....	12,636		12,636
166	0101113F	B-52 SQUADRONS .....	111,910		111,910
167	0101122F	AIR-LAUNCHED CRUISE MISSILE (ALCM) .....	463		463
168	0101126F	B-1B SQUADRONS .....	62,471		62,471
169	0101127F	B-2 SQUADRONS .....	193,108		193,108
170	0101213F	MINUTEMAN SQUADRONS .....	210,845		210,845
		Requested transfer: Ground and Comms Equipment .....		[-20,000]	

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
171	0101313F	Requested transfer: ICBM Cryptography Upgrade II .....		[20,000]	
173	0101316F	INTEGRATED STRATEGIC PLANNING AND ANALYSIS NETWORK (ISPAN)—USSTRATCOM .....	25,736		25,736
		WORLDWIDE JOINT STRATEGIC COMMUNICATIONS .....	6,272	4,000	10,272
		UFR: NC3—Global Assured Communications CBA Execution .....		[4,000]	
174	0101324F	INTEGRATED STRATEGIC PLANNING & ANALYSIS NETWORK .....	11,032		11,032
176	0102110F	UH—IN REPLACEMENT PROGRAM .....	108,617		108,617
177	0102326F	REGION/SECTOR OPERATION CONTROL CENTER MODERNIZATION PROGRAM .....	3,347		3,347
179	0205219F	MQ-9 UAV .....	201,394		201,394
182	0207131F	A-10 SQUADRONS .....	17,459		17,459
183	0207133F	F-16 SQUADRONS .....	246,578	25,000	271,578
		UFR: F-16 MIDS-JTRS .....		[25,000]	
184	0207134F	F-15E SQUADRONS .....	320,271		320,271
185	0207136F	MANNED DESTRUCTIVE SUPPRESSION .....	15,106		15,106
186	0207138F	F-22A SQUADRONS .....	610,942		610,942
187	0207142F	F-35 SQUADRONS .....	334,530		334,530
188	0207161F	TACTICAL AIM MISSILES .....	34,952	20,000	54,952
		Pulsed rocket motor technologies .....		[20,000]	
189	0207163F	ADVANCED MEDIUM RANGE AIR-TO-AIR MISSILE (AMRAAM) .....	61,322		61,322
191	0207227F	COMBAT RESCUE—PARARESCUE .....	693		693
193	0207249F	PRECISION ATTACK SYSTEMS PROCUREMENT .....	1,714		1,714
194	0207253F	COMPASS CALL .....	14,040	20,200	34,240
		UFR: Baseline 3 (BL3) Advanced Radar Countermeasure System .....		[20,200]	
195	0207268F	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM .....	109,243		109,243
197	0207325F	JOINT AIR-TO-SURFACE STANDOFF MISSILE (JASSM) .....	29,932		29,932
198	0207410F	AIR & SPACE OPERATIONS CENTER (AOC) .....	26,956		26,956
199	0207412F	CONTROL AND REPORTING CENTER (CRC) .....	2,450		2,450
200	0207417F	AIRBORNE WARNING AND CONTROL SYSTEM (AWACS) .....	151,726		151,726



**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
250	0305146F	DEFENSE JOINT COUNTERINTELLIGENCE ACTIVITIES .....	3,867		3,867
257	0305202F	DRAGON U-2 .....	34,486		34,486
259	0305206F	AIRBORNE RECONNAISSANCE SYSTEMS .....	4,450		4,450
260	0305207F	MANNED RECONNAISSANCE SYSTEMS .....	14,269		14,269
261	0305208F	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS .....	27,501		27,501
262	0305220F	RQ-4 UAV .....	214,849		214,849
263	0305221F	NETWORK-CENTRIC COLLABORATIVE TARGETING .....	18,842		18,842
265	0305238F	NATO AGS .....	44,729		44,729
266	0305240F	SUPPORT TO DCGS ENTERPRISE .....	26,349		26,349
269	0305600F	INTERNATIONAL INTELLIGENCE TECHNOLOGY AND ARCHITECTURES .....	3,491		3,491
271	0305881F	RAPID CYBER ACQUISITION .....	4,899		4,899
275	0305984F	PERSONNEL RECOVERY COMMAND & CTRL (PRC2) .....	2,445		2,445
276	0307577F	INTELLIGENCE MISSION DATA (IMD) .....	8,684		8,684
278	0401115F	C-130 AIRLIFT SQUADRON .....	10,219		10,219
279	0401119F	C-5 AIRLIFT SQUADRONS (IF) .....	22,758		22,758
280	0401130F	C-17 AIRCRAFT (IF) .....	34,287		34,287
281	0401132F	C-130J PROGRAM .....	26,821	-6,400	20,421
		Available prior year funds .....		[-6,400]	
282	0401134F	LARGE AIRCRAFT IR COUNTERMEASURES (LAIRCW) .....	5,283		5,283
283	0401218F	KC-135S .....	9,942		9,942
284	0401219F	KC-10S .....	7,933		7,933
285	0401314F	OPERATIONAL SUPPORT AIRLIFT .....	6,681		6,681
286	0401318F	CV-22 .....	22,519	14,000	36,519
		UFR: CV-22 Aircraft Survivability and Availability .....		[7,000]	
		UFR: CV-22 Integrated Modula Avionics .....		[7,000]	
287	0401840F	AMC COMMAND AND CONTROL SYSTEM .....	3,510		3,510
288	0408011F	SPECIAL TACTICS / COMBAT CONTROL .....	8,090		8,090



289	0702207F	DEPOT MAINTENANCE (NON-IF) .....	1,528	1,528
290	0708055F	MAINTENANCE, REPAIR & OVERHAUL SYSTEM .....	31,677	31,677
291	0708610F	LOGISTICS INFORMATION TECHNOLOGY (LOGIT) .....	33,344	33,344
292	0708611F	SUPPORT SYSTEMS DEVELOPMENT .....	9,362	9,362
293	0804743F	OTHER FLIGHT TRAINING .....	2,074	2,074
294	0808716F	OTHER PERSONNEL ACTIVITIES .....	107	107
295	0901202F	JOINT PERSONNEL RECOVERY AGENCY .....	2,006	2,006
296	0901218F	CIVILIAN COMPENSATION PROGRAM .....	3,780	3,780
297	0901220F	PERSONNEL ADMINISTRATION .....	7,472	7,472
298	0901226F	AIR FORCE STUDIES AND ANALYSIS AGENCY .....	1,563	1,563
299	0901538F	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT .....	91,211	91,211
300	1201921F	SERVICE SUPPORT TO STRATCOM—SPACE ACTIVITIES .....	14,255	14,255
301	1202247F	AF TENCAP .....	31,914	31,914
302	1203001F	FAMILY OF ADVANCED BLOS TERMINALS (FAB-T) .....	32,426	32,426
303	1203110F	SATELLITE CONTROL NETWORK (SPACE) .....	18,808	18,808
305	1203165F	NAVSTAR GLOBAL POSITIONING SYSTEM (SPACE AND CONTROL SEGMENTS) .....	10,029	10,029
306	1203173F	SPACE AND MISSILE TEST AND EVALUATION CENTER .....	25,051	25,051
		UFR: Space Enterprise Defense Implementation .....	40,000	40,000
			[40,000]	[40,000]
307	1203174F	SPACE INNOVATION, INTEGRATION AND RAPID TECHNOLOGY DEVELOPMENT .....	11,390	11,390
308	1203179F	INTEGRATED BROADCAST SERVICE (IBS) .....	8,747	8,747
309	1203182F	SPACELIFT RANGE SYSTEM (SPACE) .....	10,549	10,549
310	1203265F	GPS III SPACE SEGMENT .....	243,435	243,435
		UFR: GPS satellite simulator (GSS) .....	40,300	40,300
			[40,300]	[40,300]
311	1203400F	SPACE SUPERIORITY INTELLIGENCE .....	12,691	12,691
312	1203614F	JSPOC MISSION SYSTEM .....	99,455	99,455
		UFR: Space Enterprise Defense Implementation .....	48,500	48,500
			[48,500]	[48,500]
313	1203620F	NATIONAL SPACE DEFENSE CENTER .....	18,052	18,052
		UFR: Fix Enterprise Space BMC2 .....	68,000	68,000
			[68,000]	[68,000]
314	1203699F	SHARED EARLY WARNING (SEW) .....	1,373	1,373
315	1203906F	NCMC—TWAA SYSTEM .....	5,000	5,000
316	1203913F	NUDET DETECTION SYSTEM (SPACE) .....	31,508	31,508
317	1203940F	SPACE SITUATION AWARENESS OPERATIONS .....	99,984	99,984
			40,800	40,800

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (In Thousands of Dollars)					
Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
318	1206423F	UFR, Space Fence Site 1 & Ground Based Operational Surveillance System .....	510,938	[40,800]	510,938
320	9999999999	GLOBAL POSITIONING SYSTEM III—OPERATIONAL CONTROL SEGMENT .....	14,938,002	36,000	14,974,002
		CLASSIFIED PROGRAMS .....		[36,000]	
		Program increase .....			
		<b>SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT .....</b>	<b>20,585,302</b>	<b>328,485</b>	<b>20,913,787</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, AF .....</b>	<b>34,914,359</b>	<b>1,224,318</b>	<b>36,138,677</b>
<b>RESEARCH, DEVELOPMENT, TEST &amp; EVAL, DW</b>					
		<b>BASIC RESEARCH</b>			
1	0601000BR	DTRA BASIC RESEARCH .....	37,201		37,201
2	0601101E	DEFENSE RESEARCH SCIENCES .....	432,347		432,347
3	0601110D8Z	BASIC RESEARCH INITIATIVES .....	40,612		40,612
4	0601117E	BASIC OPERATIONAL MEDICAL RESEARCH SCIENCE .....	43,126		43,126
5	0601120D8Z	NATIONAL DEFENSE EDUCATION PROGRAM .....	74,298	25,000	99,298
		Evidence based military child STEM education .....		[5,000]	
		Manufacturing Engineering Education Program .....		[20,000]	
6	0601228D8Z	HISTORICALLY BLACK COLLEGES AND UNIVERSITIES/MINORITY INSTITUTIONS .....	25,865	2,000	27,865
		STEM support for minority women .....		[2,000]	
7	0601384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM .....	43,898		43,898
		<b>SUBTOTAL BASIC RESEARCH .....</b>	<b>697,347</b>	<b>27,000</b>	<b>724,347</b>
		<b>APPLIED RESEARCH</b>			
8	0602000D8Z	JOINT MUNITIONS TECHNOLOGY .....	19,111		19,111
9	0602115E	BIOMEDICAL TECHNOLOGY .....	109,360		109,360
11	0602234D8Z	LINCOLN LABORATORY RESEARCH PROGRAM .....	49,748		49,748

12	0602251D8Z	APPLIED RESEARCH FOR THE ADVANCEMENT OF S&T PRIORITIES .....	49,226	49,226
13	0602303E	INFORMATION & COMMUNICATIONS TECHNOLOGY .....	392,784	392,784
14	0602383E	BIOLOGICAL WARFARE DEFENSE .....	13,014	13,014
15	0602384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM .....	201,053	201,053
16	0602668D8Z	CYBER SECURITY RESEARCH .....	14,775	14,775
17	0602702E	TACTICAL TECHNOLOGY .....	343,776	328,776
		General decrease .....		-15,000
18	0602715E	MATERIALS AND BIOLOGICAL TECHNOLOGY .....	224,440	224,440
19	0602716E	ELECTRONICS TECHNOLOGY .....	295,447	285,447
		Unjustified growth .....		-10,000
20	0602718BR	COUNTER WEAPONS OF MASS DESTRUCTION APPLIED RESEARCH .....	157,908	157,908
21	0602751D8Z	SOFTWARE ENGINEERING INSTITUTE (SEI) APPLIED RESEARCH .....	8,955	8,955
22	1160401BB	SOF TECHNOLOGY DEVELOPMENT .....	34,493	34,493
		<b>SUBTOTAL APPLIED RESEARCH .....</b>	<b>1,914,090</b>	<b>1,889,090</b>
				<b>-25,000</b>

[illegible]

**SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION**  
(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
42	0603375D&Z	TECHNOLOGY INNOVATION .....	59,863		59,863
43	0603384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—ADVANCED DEVELOPMENT .....	145,359		145,359
44	0603527D&Z	RETRACT LARCH .....	171,120		171,120
45	0603618D&Z	JOINT ELECTRONIC ADVANCED TECHNOLOGY .....	14,389		14,389
46	0603648D&Z	JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS .....	105,871		105,871
47	0603662D&Z	NETWORKED COMMUNICATIONS CAPABILITIES .....	12,661		12,661
48	0603680D&Z	DEFENSE-WIDE MANUFACTURING SCIENCE AND TECHNOLOGY PROGRAM .....	136,159		191,159
		Improve productivity of defense industrial base .....		55,000	
		Partnership between MEP centers and Manufacturing USA Institutes .....		[20,000]	
		Manufacturing USA institutes .....		[15,000]	
49	0603680S	MANUFACTURING TECHNOLOGY PROGRAM .....	40,511		40,511
50	0603699D&Z	EMERGING CAPABILITIES TECHNOLOGY DEVELOPMENT .....	57,876		57,876
51	0603712S	GENERIC LOGISTICS R&D TECHNOLOGY DEMONSTRATIONS .....	10,611		10,611
53	0603716D&Z	STRATEGIC ENVIRONMENTAL RESEARCH PROGRAM .....	71,832		81,832
		Readiness increase .....		10,000	
54	0603720S	MICROELECTRONICS TECHNOLOGY DEVELOPMENT AND SUPPORT .....	219,803		299,803
		Supply chain assurance .....		80,000	
55	0603727D&Z	JOINT WARFIGHTING PROGRAM .....	6,349		6,349
56	0603739E	ADVANCED ELECTRONICS TECHNOLOGIES .....	79,173		79,173
57	0603760E	COMMAND, CONTROL AND COMMUNICATIONS SYSTEMS .....	106,787		106,787
58	0603766E	NETWORK-CENTRIC WARFARE TECHNOLOGY .....	439,386		439,386
59	0603767E	SENSOR TECHNOLOGY .....	210,123		210,123
60	0603769D&Z	DISTRIBUTED LEARNING ADVANCED TECHNOLOGY DEVELOPMENT .....	11,211		11,211
62	0603781D&Z	SOFTWARE ENGINEERING INSTITUTE .....	15,047		15,047
63	0603826D&Z	QUICK REACTION SPECIAL PROJECTS .....	69,203		69,203
64	0603833D&Z	ENGINEERING SCIENCE & TECHNOLOGY .....	25,395		25,395
65	0603941D&Z	TEST & EVALUATION SCIENCE & TECHNOLOGY .....	89,586		89,586

66	0604055D8Z	OPERATIONAL ENERGY CAPABILITY IMPROVEMENT .....	38,403	10,000	48,403
		Readiness increase .....		[10,000]	
67	0303310D8Z	CWMD SYSTEMS .....	33,382		33,382
68	1160402B8	SOF ADVANCED TECHNOLOGY DEVELOPMENT .....	72,605		72,605
		<b>SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT .....</b>	<b>3,445,847</b>	<b>150,000</b>	<b>3,595,847</b>
<b>ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES</b>					
69	0603161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT RDT&E ADC&P .....	32,937		32,937
70	0603600D8Z	WALKOFF .....	101,714		101,714
72	0603821D8Z	ACQUISITION ENTERPRISE DATA & INFORMATION SERVICES .....	2,198		2,198
73	0603851D8Z	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PROGRAM .....	54,583		54,583
		Readiness increase .....		10,000	
				[10,000]	
74	0603881C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT .....	230,162		230,162
75	0603882C	BALLISTIC MISSILE DEFENSE MIDCOURSE DEFENSE SEGMENT .....	828,097	21,996	850,093
		UFR: Discrimination .....		[21,996]	
76	0603884BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—DEM/VAL .....	148,518		148,518
77	0603884C	BALLISTIC MISSILE DEFENSE SENSORS .....	247,345	57,862	305,207
		UFR: Discrimination .....		[57,862]	
78	0603890C	BMD ENABLING PROGRAMS .....	449,442	29,444	478,886
		UFR: Discrimination .....		[23,342]	
		UFR: High Fidelity Modeling and Simulation .....		[6,102]	
79	0603891C	SPECIAL PROGRAMS—MDA .....	320,190		320,190
80	0603892C	AEGIS BMD .....	852,052		852,052
83	0603896C	BALLISTIC MISSILE DEFENSE COMMAND AND CONTROL, BATTLE MANAGEMENT AND COMMUNICATI. ....	430,115		430,115
84	0603898C	BALLISTIC MISSILE DEFENSE JOINT WARFIGHTER SUPPORT .....	48,954		48,954
85	0603904C	MISSILE DEFENSE INTEGRATION & OPERATIONS CENTER (MDIOC) .....	53,265		53,265
86	0603906C	REGARDING TRENCH .....	9,113		9,113
87	0603907C	SEA BASED X-BAND RADAR (SBX) .....	130,695		130,695
88	0603913C	ISRAELI COOPERATIVE PROGRAMS .....	105,354		373,804
		Arrow .....		268,450	
		Arrow Upper Tier flight test .....		[71,460]	
				[105,000]	

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(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
		Arrow-Upper Tier .....		[28,140]	
		David's Sling .....		[63,850]	
89	0603914C	BALLISTIC MISSILE DEFENSE TEST .....	305,791		305,791
90	0603915C	BALLISTIC MISSILE DEFENSE TARGETS .....	410,425		410,425
91	0603920D8Z	HUMANITARIAN DEMINING .....	10,837		10,837
92	0603923D8Z	COALITION WARFARE .....	10,740		10,740
93	0604016D8Z	DEPARTMENT OF DEFENSE CORROSION PROGRAM .....	3,837	10,000	13,837
		DOD Corrosion Program .....		[10,000]	
94	0604115C	TECHNOLOGY MATURATION INITIATIVES .....	128,406		128,406
95	0604132D8Z	MISSILE DEFEAT PROJECT .....	98,369		98,369
96	0604181C	HYPERSONIC DEFENSE .....	75,300		75,300
97	0604250D8Z	ADVANCED INNOVATIVE TECHNOLOGIES .....	1,175,832		1,175,832
98	0604294D8Z	TRUSTED & ASSURED MICROELECTRONICS .....	83,626		83,626
99	0604331D8Z	RAPID PROTOTYPING PROGRAM .....	100,000		100,000
100	0604342D8Z	DEFENSE TECHNOLOGY OFFSET .....	0	200,000	200,000
		Directed energy .....		[200,000]	
101	0604400D8Z	DEPARTMENT OF DEFENSE (DOD) UNMANNED SYSTEM COMMON DEVELOPMENT .....	3,967		3,967
102	0604682D8Z	WARGAMING AND SUPPORT FOR STRATEGIC ANALYSIS (SSA) .....	3,833		3,833
104	0604826J	JOINT C5 CAPABILITY DEVELOPMENT, INTEGRATION AND INTEROPERABILITY ASSESSMENTS .....	23,638		23,638
105	0604873C	LONG RANGE DISCRIMINATION RADAR (LRDR) .....	357,659		357,659
106	0604874C	IMPROVED HOMELAND DEFENSE INTERCEPTORS .....	465,530	80,000	545,530
		UFR: C3 Booster Development .....		[80,000]	
107	0604876C	BALLISTIC MISSILE DEFENSE TERMINAL DEFENSE SEGMENT TEST .....	36,239		36,239
108	0604878C	AEGIS BMD TEST .....	134,468	26,351	160,819
		UFR: Anti-Air Warfare Capability .....		[26,351]	
109	0604879C	BALLISTIC MISSILE DEFENSE SENSOR TEST .....	84,239		84,239
110	0604880C	LAND-BASED SM-3 (LSBM3) .....	30,486	67,275	97,761

111	0604881C	UFR: Anti-Air Warfare Capability .....	9,739	[67,275]	9,739
112	0604887C	AEGIS SM-3 BLOCK IIA CO-DEVELOPMENT .....	76,757		76,757
113	0604894C	BALLISTIC MISSILE DEFENSE MIDCOURSE SEGMENT TEST .....	6,500		6,500
114	0303191D8Z	MULTI-OBJECT KILL VEHICLE .....	2,902		2,902
115	0305103C	JOINT ELECTROMAGNETIC TECHNOLOGY (JET) PROGRAM .....	986		986
116	1206893C	CYBER SECURITY INITIATIVE .....	34,907		34,907
117	1206895C	SPACE TRACKING & SURVEILLANCE SYSTEM .....	16,994		16,994
		BALLISTIC MISSILE DEFENSE SYSTEM SPACE PROGRAMS .....		27,500	
		UFR: Space Based Sensor .....		[27,500]	
262	888888	GROUND-LAUNCHED INTERMEDIATE RANGE MISSILE .....	0	65,000	65,000
		Ground-Launched Intermediate Range Missile .....		[65,000]	
		<b>SUBTOTAL ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPES .....</b>	<b>7,736,741</b>	<b>863,878</b>	<b>8,600,619</b>
<b>SYSTEM DEVELOPMENT AND DEMONSTRATION</b>					
118	0604161D8Z	NUCLEAR AND CONVENTIONAL PHYSICAL SECURITY EQUIPMENT RDT&E SDD .....	12,536		12,536
119	0604165D8Z	PROMPT GLOBAL STRIKE CAPABILITY DEVELOPMENT .....	201,749		201,749
120	0604384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM—EMD .....	406,789		406,789
122	0604771D8Z	JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS) .....	15,358		15,358
123	0605000BR	COUNTER WEAPONS OF MASS DESTRUCTION SYSTEMS DEVELOPMENT .....	6,241		6,241
124	0605013BL	INFORMATION TECHNOLOGY DEVELOPMENT .....	12,322		12,322
125	0605021SE	HOMELAND PERSONNEL SECURITY INITIATIVE .....	4,893		4,893
126	0605022D8Z	DEFENSE EXPORTABILITY PROGRAM .....	3,162		3,162
127	0605027D8Z	OUSD(C) IT DEVELOPMENT INITIATIVES .....	21,353	–2,000	19,353
		Find COTS solution .....		[–2,000]	
128	0605070S	DOD ENTERPRISE SYSTEMS DEVELOPMENT AND DEMONSTRATION .....	6,266		6,266
129	0605075D8Z	DCMO POLICY AND INTEGRATION .....	2,810		2,810
130	0605080S	DEFENSE AGENCY INITIATIVES (DAI)—FINANCIAL SYSTEM .....	24,436		24,436
131	0605090S	DEFENSE RETIRED AND ANNUITANT PAY SYSTEM (DRAS) .....	13,475		13,475
133	0605210D8Z	DEFENSE-WIDE ELECTRONIC PROCUREMENT CAPABILITIES .....	11,870	–11,870	
		Consolidate requirements .....		[–11,870]	
134	0605294D8Z	TRUSTED & ASSURED MICROELECTRONICS .....	61,084		61,084
135	0303141K	GLOBAL COMBAT SUPPORT SYSTEM .....	2,576		2,576

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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
136	0305304D8Z	DOD ENTERPRISE ENERGY INFORMATION MANAGEMENT (E2IM) .....	3,669		3,669
137	0305310D8Z	CWMD SYSTEMS: SYSTEM DEVELOPMENT AND DEMONSTRATION .....	8,230		8,230
		<b>SUBTOTAL SYSTEM DEVELOPMENT AND DEMONSTRATION .....</b>	<b>818,819</b>	<b>-13,870</b>	<b>804,949</b>
		<b>MANAGEMENT SUPPORT</b>			
138	0604774D8Z	DEFENSE READINESS REPORTING SYSTEM (DRRS) .....	6,941		6,941
139	0604875D8Z	JOINT SYSTEMS ARCHITECTURE DEVELOPMENT .....	4,851		4,851
140	0604940D8Z	CENTRAL TEST AND EVALUATION INVESTMENT DEVELOPMENT (CTEIP) .....	211,325		211,325
141	0604942D8Z	ASSESSMENTS AND EVALUATIONS .....	30,144	100,000	130,144
		Classified assessment .....		[100,000]	
142	0605001E	MISSION SUPPORT .....	63,769		63,769
143	0605100D8Z	JOINT MISSION ENVIRONMENT TEST CAPABILITY (JMETC) .....	91,057		91,057
144	0605104D8Z	TECHNICAL STUDIES, SUPPORT AND ANALYSIS .....	22,386		22,386
145	0605126J	JOINT INTEGRATED AIR AND MISSILE DEFENSE ORGANIZATION (JIAMDO) .....	36,581		36,581
147	0605142D8Z	SYSTEMS ENGINEERING .....	37,622		37,622
148	0605151D8Z	STUDIES AND ANALYSIS SUPPORT—OSD .....	5,200		5,200
149	0605161D8Z	NUCLEAR MATTERS—PHYSICAL SECURITY .....	5,232		5,232
150	0605170D8Z	SUPPORT TO NETWORKS AND INFORMATION INTEGRATION .....	12,583		12,583
151	0605200D8Z	GENERAL SUPPORT TO USD (INTELLIGENCE) .....	31,451		31,451
152	0605384BP	CHEMICAL AND BIOLOGICAL DEFENSE PROGRAM .....	104,348		104,348
161	0605790D8Z	SMALL BUSINESS INNOVATION RESEARCH (SBIR)/ SMALL BUSINESS TECHNOLOGY TRANSFER .....	2,372		2,372
162	0605798D8Z	DEFENSE TECHNOLOGY ANALYSIS .....	24,365		24,365
163	0605801KA	DEFENSE TECHNICAL INFORMATION CENTER (DTIC) .....	54,145		54,145
164	0605803SE	R&D IN SUPPORT OF DOD ENLISTMENT, TESTING AND EVALUATION .....	30,356		30,356
165	0605804D8Z	DEVELOPMENT TEST AND EVALUATION .....	20,571	5,000	25,571
		Software testing capabilities .....		[5,000]	
166	0605898E	MANAGEMENT HQ—R&D .....	14,017		14,017



167	0605998KA	MANAGEMENT HQ—DEFENSE TECHNICAL INFORMATION CENTER (DTIC) .....	4,187	4,187
168	0606100D8Z	BUDGET AND PROGRAM ASSESSMENTS .....	3,992	3,992
169	060625D8Z	ODNA TECHNOLOGY AND RESOURCE ANALYSIS .....	1,000	1,000
170	0203345D8Z	DEFENSE OPERATIONS SECURITY INITIATIVE (DOSI) .....	2,551	2,551
171	0204571J	JOINT STAFF ANALYTICAL SUPPORT .....	7,712	7,712
174	0303166J	SUPPORT TO INFORMATION OPERATIONS (IO) CAPABILITIES .....	673	673
175	0303260D8Z	DEFENSE MILITARY DECEPTION PROGRAM OFFICE (DMDPO) .....	1,006	1,006
177	0305172K	COMBINED ADVANCED APPLICATIONS .....	16,998	16,998
180	0305245D8Z	INTELLIGENCE CAPABILITIES AND INNOVATION INVESTMENTS .....	18,992	18,992
181	0306310D8Z	CWMD SYSTEMS: RDT&E MANAGEMENT SUPPORT .....	1,231	1,231
183	0804767J	COCOM EXERCISE ENGAGEMENT AND TRAINING TRANSFORMATION (CE2T2)—MHA .....	44,500	44,500
184	0901598C	MANAGEMENT HQ—MDA .....	29,947	29,947
186	9999999999	CLASSIFIED PROGRAMS .....	63,312	63,312
187	0903235K	JOINT SERVICE PROVIDER (JSP) .....	5,113	5,113
		<b>SUBTOTAL MANAGEMENT SUPPORT .....</b>	<b>105,000</b>	<b>1,115,530</b>

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188	0604130V	<b>OPERATIONAL SYSTEM DEVELOPMENT</b>	4,565	4,565
189	0605127T	ENTERPRISE SECURITY SYSTEM (ESS) .....	1,871	1,871
190	0605147T	REGIONAL INTERNATIONAL OUTREACH (RIO) AND PARTNERSHIP FOR PEACE INFORMATION MANA .....	298	298
191	0607210D8Z	OVERSEAS HUMANITARIAN ASSISTANCE SHARED INFORMATION SYSTEM (OHASIS) .....	10,882	10,882
192	0607310D8Z	INDUSTRIAL BASE ANALYSIS AND SUSTAINMENT SUPPORT .....	7,222	7,222
193	0607327T	CWMD SYSTEMS: OPERATIONAL SYSTEMS DEVELOPMENT .....	14,450	14,450
194	0607384BP	GLOBAL THEATER SECURITY COOPERATION MANAGEMENT INFORMATION SYSTEMS (G-TSCMIS) ..	45,677	45,677
195	0208043J	CHEMICAL AND BIOLOGICAL DEFENSE (OPERATIONAL SYSTEMS DEVELOPMENT) .....	3,037	3,037
196	0208045K	PLANNING AND DECISION AID SYSTEM (PDAS) .....	59,490	59,490
198	0301144K	C4I INTEROPERABILITY .....	6,104	6,104
202	0302016K	JOINT/ALLIED COALITION INFORMATION SHARING .....	1,863	1,863
203	0302019K	NATIONAL MILITARY COMMAND SYSTEM-WIDE SUPPORT .....	21,564	21,564
204	0303126K	DEFENSE INFO INFRASTRUCTURE ENGINEERING AND INTEGRATION .....	15,428	15,428
205	0303131K	LONG-HAUL COMMUNICATIONS—DCS .....	15,855	15,855
206	0303135G	MINIMUM ESSENTIAL EMERGENCY COMMUNICATIONS NETWORK (MEECN) .....	4,811	4,811
		PUBLIC KEY INFRASTRUCTURE (PKI) .....		

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Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
207	0303136G	KEY MANAGEMENT INFRASTRUCTURE (KMI) .....	33,746		33,746
208	0303140D8Z	INFORMATION SYSTEMS SECURITY PROGRAM .....	9,415		9,415
209	0303140G	INFORMATION SYSTEMS SECURITY PROGRAM .....	227,652		227,652
210	0303150K	GLOBAL COMMAND AND CONTROL SYSTEM .....	42,687		42,687
211	0303153K	DEFENSE SPECTRUM ORGANIZATION .....	8,750		8,750
214	0303228K	JOINT INFORMATION ENVIRONMENT (JIE) .....	4,689		4,689
216	0303430K	FEDERAL INVESTIGATIVE SERVICES INFORMATION TECHNOLOGY .....	50,000		50,000
222	0305103K	CYBER SECURITY INITIATIVE .....	1,686		1,686
227	0305186D8Z	POLICY R&D PROGRAMS .....	6,526		6,526
228	0305199D8Z	NET CENTRICITY .....	18,455		18,455
230	0305208BB	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS .....	5,496		5,496
233	0305208K	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS .....	3,049		3,049
236	0305327V	INSIDER THREAT .....	5,365		5,365
237	0305387D8Z	HOMELAND DEFENSE TECHNOLOGY TRANSFER PROGRAM .....	2,071		2,071
243	0307577D8Z	INTELLIGENCE MISSION DATA (IMD) .....	13,111		13,111
245	0708012S	PACIFIC DISASTER CENTERS .....	1,770		1,770
246	0708047S	DEFENSE PROPERTY ACCOUNTABILITY SYSTEM .....	2,924		2,924
248	1105219BB	MQ-9 UAV .....	37,863	13,000	50,863
		MQ-9 Capability Enhancement .....		[13,000]	
251	1160403BB	AVIATION SYSTEMS .....	259,886	13,500	273,386
		SOCOM requested transfer .....		[13,500]	
252	1160405BB	INTELLIGENCE SYSTEMS DEVELOPMENT .....	8,245		8,245
253	1160408BB	OPERATIONAL ENHANCEMENTS .....	79,455	16,000	95,455
		UFR: Enhanced Precision Strike .....		[16,000]	
254	1160431BB	WARRIOR SYSTEMS .....	45,935		45,935
255	1160432BB	SPECIAL PROGRAMS .....	1,978		1,978
256	1160434BB	UNMANNED ISR .....	31,766		31,766

257	1160480BB	SOF TACTICAL VEHICLES .....	2,578		2,578
258	1160483BB	MARITIME SYSTEMS .....	42,315	18,100	60,415
		SOCOM requested transfer .....		[12,800]	
		UFR: Develop Dry Combat Submersible .....		[5,300]	
259	1160489BB	GLOBAL VIDEO SURVEILLANCE ACTIVITIES .....	4,661		4,661
260	1160490BB	OPERATIONAL ENHANCEMENTS INTELLIGENCE .....	12,049		12,049
261	1203610K	TELEPORT PROGRAM .....	642		642
262	99999999999	CLASSIFIED PROGRAMS .....	3,689,646		3,689,646
		<b>SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT .....</b>	<b>4,867,528</b>	<b>60,600</b>	<b>4,928,128</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, DW .....</b>	<b>20,490,902</b>	<b>1,167,608</b>	<b>21,658,510</b>
<b>OPERATIONAL TEST &amp; EVAL, DEFENSE</b>					
		<b>MANAGEMENT SUPPORT</b>			
1	06051180TE	OPERATIONAL TEST AND EVALUATION .....	83,503		83,503
2	06051310TE	LIVE FIRE TEST AND EVALUATION .....	59,500		59,500
3	06058140TE	OPERATIONAL TEST ACTIVITIES AND ANALYSES .....	67,897		67,897
		<b>SUBTOTAL MANAGEMENT SUPPORT .....</b>	<b>210,900</b>	<b>0</b>	<b>210,900</b>
		<b>TOTAL OPERATIONAL TEST &amp; EVAL, DEFENSE .....</b>	<b>210,900</b>		<b>210,900</b>
<b>UNDISTRIBUTED</b>					
		<b>UNDISTRIBUTED</b>			
999	999999	UNDISTRIBUTED .....	0	64,100	64,100
		ERI costs transfer from OCO to base .....		[64,100]	
		<b>SUBTOTAL UNDISTRIBUTED .....</b>	<b>0</b>	<b>64,100</b>	<b>64,100</b>
		<b>TOTAL UNDISTRIBUTED .....</b>	<b>0</b>	<b>64,100</b>	<b>64,100</b>

SEC. 4201. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION (In Thousands of Dollars)				
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				Authorized
		TOTAL RDT&E .....	82,716,636	3,315,393
				86,032,029

**SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS.**

SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)					
Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
<b>RESEARCH, DEVELOPMENT, TEST &amp; EVAL, ARMY</b>					
<b>ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES</b>					
55	0603327A	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING .....	15,000		15,000
60	0603747A	SOLDIER SUPPORT AND SURVIVABILITY .....	3,000		3,000
		<b>SUBTOTAL ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES .....</b>	<b>18,000</b>	<b>0</b>	<b>18,000</b>
<b>SYSTEM DEVELOPMENT &amp; DEMONSTRATION</b>					
122	0605032A	TRACTOR TIRE .....	5,000		5,000
125	0605035A	COMMON INFRARED COUNTERMEASURES (CIRCW) .....	21,540		21,540
133	0605051A	AIRCRAFT SURVIVABILITY DEVELOPMENT .....	30,100		30,100
147	0303032A	TROJAN—RH12 .....	1,200		1,200
		<b>SUBTOTAL SYSTEM DEVELOPMENT &amp; DEMONSTRATION .....</b>	<b>57,840</b>	<b>0</b>	<b>57,840</b>
<b>OPERATIONAL SYSTEMS DEVELOPMENT</b>					
203	0203801A	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM .....	15,000		15,000
222	0305204A	TACTICAL UNMANNED AERIAL VEHICLES .....	7,492		7,492
223	0305206A	AIRBORNE RECONNAISSANCE SYSTEMS .....	15,000		15,000
228	0307665A	BIOMETRICS ENABLED INTELLIGENCE .....	6,036		6,036
		<b>SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT .....</b>	<b>43,528</b>	<b>0</b>	<b>43,528</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, ARMY .....</b>	<b>119,368</b>	<b>0</b>	<b>119,368</b>
<b>RESEARCH, DEVELOPMENT, TEST &amp; EVAL, NAVY</b>					
<b>ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES</b>					

**SEC. 4202. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Program Element	Item	FY 2018 Request	Senate Change	Senate Authorized
41	0603527N	RETRACT LARCH .....	22,000		22,000
81	0604272N	TACTICAL AIR DIRECTIONAL INFRARED COUNTERMEASURES (TADIRCM) .....	5,710		5,710
		<b>SUBTOTAL ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES .....</b>	<b>27,710</b>	<b>0</b>	<b>27,710</b>
	9999999999	CLASSIFIED PROGRAMS .....	89,855		89,855
		<b>OPERATIONAL SYSTEMS DEVELOPMENT</b>			
207	0204311N	INTEGRATED SURVEILLANCE SYSTEM .....	11,600		11,600
211	0204574N	CRYPTOLOGIC DIRECT SUPPORT .....	1,200		1,200
		<b>SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT .....</b>	<b>102,655</b>	<b>0</b>	<b>102,655</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, NAVY .....</b>	<b>130,365</b>	<b>0</b>	<b>130,365</b>
		<b>RESEARCH, DEVELOPMENT, TEST &amp; EVAL, AF</b>			
		<b>ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES</b>			
29	0603438F	SPACE CONTROL TECHNOLOGY .....	7,800		7,800
53	0306250F	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT .....	5,400		5,400
		<b>SUBTOTAL ADVANCED COMPONENT DEVELOPMENT &amp; PROTOTYPES .....</b>	<b>13,200</b>	<b>0</b>	<b>13,200</b>
	9999999999	CLASSIFIED PROGRAMS .....	112,408		112,408
		<b>OPERATIONAL SYSTEMS DEVELOPMENT</b>			
196	0207277F	ISR INNOVATIONS .....	5,750		5,750
214	0208087F	AF OFFENSIVE CYBERSPACE OPERATIONS .....	4,000		4,000
		<b>SUBTOTAL OPERATIONAL SYSTEMS DEVELOPMENT .....</b>	<b>122,158</b>	<b>0</b>	<b>122,158</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, AF .....</b>	<b>135,358</b>	<b>0</b>	<b>135,358</b>
		<b>RESEARCH, DEVELOPMENT, TEST &amp; EVAL, DW</b>			

24	0603122D&Z	<b>ADVANCED TECHNOLOGY DEVELOPMENT</b>			
		COMBATING TERRORISM TECHNOLOGY SUPPORT .....	25,000		25,000
		<b>SUBTOTAL ADVANCED TECHNOLOGY DEVELOPMENT .....</b>	<b>25,000</b>	<b>0</b>	<b>25,000</b>
	99999999999	CLASSIFIED PROGRAMS .....	196,176		196,176
		<b>OPERATIONAL SYSTEM DEVELOPMENT</b>			
253	1160408BB	OPERATIONAL ENHANCEMENTS .....	1,920		1,920
256	1160434BB	UNMANNED ISR .....	3,000		3,000
		<b>SUBTOTAL OPERATIONAL SYSTEM DEVELOPMENT .....</b>	<b>201,096</b>	<b>0</b>	<b>201,096</b>
		<b>TOTAL RESEARCH, DEVELOPMENT, TEST &amp; EVAL, DW .....</b>	<b>226,096</b>	<b>0</b>	<b>226,096</b>
		<b>UNDISTRIBUTED</b>			
		<b>UNDISTRIBUTED</b>			
999	999999	UNDISTRIBUTED .....		-64,100	-64,100
		ERI costs transfer from OCO to base .....		[-64,100]	
		<b>SUBTOTAL UNDISTRIBUTED .....</b>		<b>-64,100</b>	<b>-64,100</b>
		<b>TOTAL UNDISTRIBUTED .....</b>		<b>-64,100</b>	<b>-64,100</b>
		<b>TOTAL RDT&amp;E .....</b>	<b>611,187</b>	<b>-64,100</b>	<b>547,087</b>





## **TITLE XLIII—OPERATION AND MAINTENANCE**

# TITLE XLIII—OPERATION AND MAINTENANCE

## SEC. 4301. OPERATION AND MAINTENANCE.

SEC. 4301. OPERATION AND MAINTENANCE (In Thousands of Dollars)					
Line	Item	FY 2018 Request	Senate Change	Senate Authorized	
<b>OPERATION &amp; MAINTENANCE, ARMY</b>					
<b>OPERATING FORCES</b>					
010	MANEUVER UNITS .....	1,455,366	112,179	1,567,545	
	UFR: Convert IBCT to ABCT .....		[27,000]		
	UFR: Readiness to execute NMS .....		[44,179]		
	UFR: Stryker Vehicle training .....		[20,000]		
	UFR: Support 16th ABCT .....		[21,000]		
020	MODULAR SUPPORT BRIGADES .....	105,147	12,873	118,020	
	UFR: Readiness to execute NMS .....		[12,873]		
030	ECHELONS ABOVE BRIGADE .....	604,117	147,218	751,335	
	UFR: NETCOM HQ .....		[13]		
	UFR: Readiness to execute NMS .....		[147,205]		
040	THEATER LEVEL ASSETS .....	793,217	43,005	836,222	
	UFR: 3% increase to Decisive Action training .....		[5,244]		
	UFR: Readiness to execute NMS .....		[28,327]		
	UFR: Support Equipment .....		[9,434]		
050	LAND FORCES OPERATIONS SUPPORT .....	1,169,478		1,169,478	
060	AVIATION ASSETS .....	1,496,503		1,496,503	
070	FORCE READINESS OPERATIONS SUPPORT .....	3,675,901	49,500	3,725,401	
	UFR: Funding to support 6k additional endstrength .....		[680]		
	UFR: Organizational Clothing & Indiv. Equipment maintenance .....		[44,215]		

080	UFR: Support Equipment .....		[4,605]	
	LAND FORCES SYSTEMS READINESS .....	466,720	4,872	471,592
	UFR: Medical equipment .....		[4,872]	
090	LAND FORCES DEPOT MAINTENANCE .....	1,443,516	77,669	1,521,185
	UFR: Depot Maintenance .....		[77,669]	
100	BASE OPERATIONS SUPPORT .....	8,080,357	90,719	8,171,076
	UFR: Engineering Services .....		[36,949]	
	UFR: IT Services NEC C4IM .....		[22,000]	
	UFR: Support 6k additional endstrength .....		[31,770]	
110	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	3,401,155	601,817	4,002,972
	UFR: Address facility restoration backlog .....		[70,427]	
	UFR: FSRM increases .....		[481,210]	
	UFR: Support 6k additional endstrength .....		[50,180]	
120	MANAGEMENT AND OPERATIONAL HEADQUARTERS .....	443,790		443,790
180	US AFRICA COMMAND .....	225,382		225,382
190	US EUROPEAN COMMAND .....	141,352		141,352
200	US SOUTHERN COMMAND .....	190,811		190,811
210	US FORCES KOREA .....	59,578		59,578
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>23,752,390</b>	<b>1,139,852</b>	<b>24,892,242</b>
<b>MOBILIZATION</b>				
220	STRATEGIC MOBILITY .....	346,667	1,124	347,791
	UFR: Readiness increase .....		[1,124]	
230	ARMY PREPOSITIONED STOCKS .....	422,108	5,238	427,346
	UFR: Readiness increase .....		[5,238]	
240	INDUSTRIAL PREPAREDNESS .....	7,750		7,750
	<b>SUBTOTAL MOBILIZATION .....</b>	<b>776,525</b>	<b>6,362</b>	<b>782,887</b>
<b>TRAINING AND RECRUITING</b>				
250	OFFICER ACQUISITION .....	137,556		137,556

**SEC. 4301. OPERATION AND MAINTENANCE**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
260	RECRUIT TRAINING .....	58,872	1,392	60,264
	UFR: Recruit training .....		[1,392]	
270	ONE STATION UNIT TRAINING .....	58,035	1,886	59,921
	UFR: One Station Unit Training .....		[1,886]	
280	SENIOR RESERVE OFFICERS TRAINING CORPS .....	505,089	673	505,762
	UFR: Supports commissions for increase end strength .....		[673]	
290	SPECIALIZED SKILL TRAINING .....	1,015,541	15,293	1,030,834
	UFR: Supports increased capacity .....		[15,293]	
300	FLIGHT TRAINING .....	1,124,115		1,124,115
310	PROFESSIONAL DEVELOPMENT EDUCATION .....	220,688		220,688
320	TRAINING SUPPORT .....	618,164	3,526	621,690
	UFR: Supports increased capacity .....		[1,526]	
	UFR: Supports Initial Entry Training .....		[2,000]	
330	RECRUITING AND ADVERTISING .....	613,586	10,673	624,259
	UFR: Supports increased capacity .....		[10,673]	
340	EXAMINING .....	171,223		171,223
350	OFF-DUTY AND VOLUNTARY EDUCATION .....	214,738	350	215,088
	UFR: Supports increased capacity .....		[350]	
360	CIVILIAN EDUCATION AND TRAINING .....	195,099		195,099
370	JUNIOR RESERVE OFFICER TRAINING CORPS .....	176,116		176,116
	<b>SUBTOTAL TRAINING AND RECRUITING .....</b>	<b>5,108,822</b>	<b>33,793</b>	<b>5,142,615</b>
<b>ADMIN &amp; SRWIDE ACTIVITIES</b>				
390	SERVICEWIDE TRANSPORTATION .....	555,502	96,563	652,065
	UFR: Supports transportation equipment .....		[96,563]	
400	CENTRAL SUPPLY ACTIVITIES .....	894,208		894,208

410	LOGISTIC SUPPORT ACTIVITIES .....	715,462		715,462
420	AMMUNITION MANAGEMENT .....	446,931		446,931
430	ADMINISTRATION .....	493,616		493,616
440	SERVICEWIDE COMMUNICATIONS .....	2,084,922	10,000	2,094,922
	UFR: Army Regional Cyber Centers capabilities .....		[10,000]	
450	MANPOWER MANAGEMENT .....	259,588		259,588
460	OTHER PERSONNEL SUPPORT .....	326,387		326,387
470	OTHER SERVICE SUPPORT .....	1,087,602	-41,400	1,046,202
	UFR: Funds DFAS increases .....		[3,600]	
	Under execution .....		[-45,000]	
480	ARMY CLAIMS ACTIVITIES .....	210,514	3,500	214,014
	UFR: Supports JAG increase needs .....		[3,500]	
490	REAL ESTATE MANAGEMENT .....	243,584	13,153	256,737
	UFR: Supports engineering services .....		[13,153]	
500	FINANCIAL MANAGEMENT AND AUDIT READINESS .....	284,592		284,592
510	INTERNATIONAL MILITARY HEADQUARTERS .....	415,694		415,694
520	MISC. SUPPORT OF OTHER NATIONS .....	46,856		46,856
9999	CLASSIFIED PROGRAMS .....	1,242,222		1,242,222
	<b>SUBTOTAL ADMIN &amp; SRWIDE ACTIVITIES .....</b>	<b>9,307,680</b>	<b>81,816</b>	<b>9,389,496</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, ARMY .....</b>	<b>38,945,417</b>	<b>1,261,823</b>	<b>40,207,240</b>
<b>OPERATION &amp; MAINTENANCE, ARMY RES</b>				
<b>OPERATING FORCES</b>				
010	MODULAR SUPPORT BRIGADES .....	11,461	286	11,747
	UFR: ARNG Operational Demand Model to 82% .....		[286]	
020	ECHELONS ABOVE BRIGADE .....	577,410	15,643	593,053
	UFR: ARNG Operational Demand Model to 82% .....		[15,643]	
030	THEATER LEVEL ASSETS .....	117,298	4,718	122,016
	UFR: Operational Demand Model to 82% .....		[4,718]	
040	LAND FORCES OPERATIONS SUPPORT .....	552,016	12,918	564,934

SEC. 4301. OPERATION AND MAINTENANCE (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
	UFR: Operational Demand Model to 82% .....		[12,918]	
050	AVIATION ASSETS .....	80,302	1,159	81,461
	UFR: Increases aviation contract support .....		[845]	
	UFR: Operational Demand Model to 82% .....		[314]	
060	FORCE READINESS OPERATIONS SUPPORT .....	399,035	4,600	403,635
	UFR: Support additional capacity .....		[4,600]	
070	LAND FORCES SYSTEMS READINESS .....	102,687		102,687
080	LAND FORCES DEPOT MAINTENANCE .....	56,016		56,016
090	BASE OPERATIONS SUPPORT .....	599,947	550	600,497
	UFR: Support 6k additional endstrength .....		[550]	
100	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	273,940	30,750	304,690
	UFR: Address facility restoration backlog .....		[4,465]	
	UFR: Increased facilities sustainment .....		[26,285]	
110	MANAGEMENT AND OPERATIONAL HEADQUARTERS .....	22,909		22,909
	<b>SUBTOTAL OPERATING FORCES</b> .....	<b>2,793,021</b>	<b>70,624</b>	<b>2,863,645</b>
<b>ADMIN &amp; SRWD ACTIVITIES</b>				
120	SERVICEWIDE TRANSPORTATION .....	11,116		11,116
130	ADMINISTRATION .....	17,962		17,962
140	SERVICEWIDE COMMUNICATIONS .....	18,550	2,400	20,950
	UFR: Equipment support .....		[2,400]	
150	MANPOWER MANAGEMENT .....	6,166		6,166
160	RECRUITING AND ADVERTISING .....	60,027		60,027
	<b>SUBTOTAL ADMIN &amp; SRWD ACTIVITIES</b> .....	<b>113,821</b>	<b>2,400</b>	<b>116,221</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, ARMY RES</b> .....	<b>2,906,842</b>	<b>73,024</b>	<b>2,979,866</b>

<b>OPERATION &amp; MAINTENANCE, ARNG</b>			
<b>OPERATING FORCES</b>			
010	MANEUVER UNITS .....	777,883	16,979
	UFR: Readiness increase .....		[16,979]
020	MODULAR SUPPORT BRIGADES .....	190,639	
030	ECHELONS ABOVE BRIGADE .....	807,557	13,099
	UFR: Operational Demand Model to 82% .....		[13,099]
040	THEATER LEVEL ASSETS .....	85,476	13,093
	UFR: Operational Demand Model to 82% .....		[13,093]
050	LAND FORCES OPERATIONS SUPPORT .....	36,672	2,225
	UFR: Increased aviation readiness .....		[2,225]
060	AVIATION ASSETS .....	956,381	29,998
	UFR: Aviation readiness for AH64 .....		[24,828]
	UFR: Aviation readiness for TAB .....		[2,040]
	UFR: Aviation readiness for ECAB .....		[3,130]
070	FORCE READINESS OPERATIONS SUPPORT .....	777,756	100
	UFR: Supports increased capacity .....		[100]
080	LAND FORCES SYSTEMS READINESS .....	51,506	
090	LAND FORCES DEPOT MAINTENANCE .....	244,942	
100	BASE OPERATIONS SUPPORT .....	1,144,726	3,850
	UFR: Support increase end-strength .....		[3,850]
110	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	781,895	94,839
	UFR: Address facility restoration backlog .....		[20,108]
	UFR: Facilities Sustainment improvement .....		[74,731]
120	MANAGEMENT AND OPERATIONAL HEADQUARTERS .....	999,052	240
	UFR: Support increase end-strength .....		[240]
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>6,854,485</b>	<b>174,423</b>
<b>ADMIN &amp; SRWD ACTIVITIES</b>			
			<b>7,028,908</b>

SEC. 4301. OPERATION AND MAINTENANCE (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
130	SERVICEWIDE TRANSPORTATION .....	7,703		7,703
140	ADMINISTRATION .....	79,236		79,236
150	SERVICEWIDE COMMUNICATIONS .....	85,160		85,160
160	MANPOWER MANAGEMENT .....	8,654		8,654
170	OTHER PERSONNEL SUPPORT .....	268,839	8,500	277,339
	UFR: Behavior Health Specialists .....		[8,500]	
180	REAL ESTATE MANAGEMENT .....	3,093		3,093
	<b>SUBTOTAL ADMIN &amp; SRWD ACTIVITIES .....</b>	<b>452,685</b>	<b>8,500</b>	<b>461,185</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, ARNG .....</b>	<b>7,307,170</b>	<b>182,923</b>	<b>7,490,093</b>
<b>OPERATION &amp; MAINTENANCE, NAVY</b>				
<b>OPERATING FORCES</b>				
010	MISSION AND OTHER FLIGHT OPERATIONS .....	5,544,165		5,544,165
020	FLEET AIR TRAINING .....	2,075,000		2,075,000
030	AVIATION TECHNICAL DATA & ENGINEERING SERVICES .....	46,801		46,801
040	AIR OPERATIONS AND SAFETY SUPPORT .....	119,624		119,624
050	AIR SYSTEMS SUPPORT .....	552,536	42,000	594,536
	UFR: Fund to Max Executable .....		[42,000]	
060	AIRCRAFT DEPOT MAINTENANCE .....	1,088,482		1,088,482
070	AIRCRAFT DEPOT OPERATIONS SUPPORT .....	40,584		40,584
080	AVIATION LOGISTICS .....	723,786	120,000	843,786
	UFR: Fund to Max Executable .....		[120,000]	
090	MISSION AND OTHER SHIP OPERATIONS .....	4,067,334	22,000	4,089,334
	UFR: Combat Logistics Maintenance Funding TAO-187 .....		[22,000]	
100	SHIP OPERATIONS SUPPORT & TRAINING .....	977,701		977,701



110	SHIP DEPOT MAINTENANCE .....	7,165,858		7,165,858
120	SHIP DEPOT OPERATIONS SUPPORT .....	2,193,851		2,193,851
130	COMBAT COMMUNICATIONS AND ELECTRONIC WARFARE .....	1,288,094		1,288,094
150	SPACE SYSTEMS AND SURVEILLANCE .....	206,678		206,678
160	WARFARE TACTICS .....	621,581	1,000	622,581
	UFR: Operational range Clearance and Environmental Compliance .....		[1,000]	
170	OPERATIONAL METEOROLOGY AND OCEANOGRAPHY .....	370,681		370,681
180	COMBAT SUPPORT FORCES .....	1,437,966		1,437,966
190	EQUIPMENT MAINTENANCE AND DEPOT OPERATIONS SUPPORT .....	162,705		162,705
210	COMBATANT COMMANDERS CORE OPERATIONS .....	65,108		65,108
220	COMBATANT COMMANDERS DIRECT MISSION SUPPORT .....	86,892		86,892
230	MILITARY INFORMATION SUPPORT OPERATIONS .....	8,427		8,427
240	CYBERSPACE ACTIVITIES .....	385,212		385,212
260	FLEET BALLISTIC MISSILE .....	1,278,456		1,278,456
280	WEAPONS MAINTENANCE .....	745,680	5,000	750,680
	UFR: Munitions wholeness .....		[5,000]	
290	OTHER WEAPON SYSTEMS SUPPORT .....	380,016		380,016
300	ENTERPRISE INFORMATION .....	914,428	-32,000	882,428
	Under execution .....		[-32,000]	
310	SUSTAINMENT, RESTORATION AND MODERNIZATION .....	1,905,679	542,181	2,447,860
	NHHC Reduction .....		[-29,000]	
	UFR: 88% of Facility Sustainment requirements .....		[293,181]	
	UFR: FSRM Increases .....		[218,000]	
	UFR: MPT&E Management System IT Modernization .....		[60,000]	
320	BASE OPERATING SUPPORT .....	4,333,688	51,000	4,384,688
	UFR: FSRM Increases .....		[28,000]	
	UFR: Operational range Clearance and Environmental Compliance .....		[11,000]	
	UFR: Port Operations Service Craft Maintenance .....		[12,000]	
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>38,767,013</b>	<b>751,181</b>	<b>39,538,194</b>

## MOBILIZATION

**SEC. 4301. OPERATION AND MAINTENANCE**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
330	SHIP PREPOSITIONING AND SURGE .....	417,450	10,000	427,450
	UFR: Strategic Sealift .....		[10,000]	
360	SHIP ACTIVATIONS/INACTIVATIONS .....	198,341		198,341
370	EXPEDITIONARY HEALTH SERVICES SYSTEMS .....	66,849		66,849
390	COAST GUARD SUPPORT .....	21,870		21,870
	<b>SUBTOTAL MOBILIZATION .....</b>	<b>704,510</b>	<b>10,000</b>	<b>714,510</b>
<b>TRAINING AND RECRUITING</b>				
400	OFFICER ACQUISITION .....	143,924		143,924
410	RECRUIT TRAINING .....	8,975		8,975
420	RESERVE OFFICERS TRAINING CORPS .....	144,708		144,708
430	SPECIALIZED SKILL TRAINING .....	812,708		812,708
450	PROFESSIONAL DEVELOPMENT EDUCATION .....	180,448		180,448
460	TRAINING SUPPORT .....	234,596		234,596
470	RECRUITING AND ADVERTISING .....	177,517		177,517
480	OFF-DUTY AND VOLUNTARY EDUCATION .....	103,154		103,154
490	CIVILIAN EDUCATION AND TRAINING .....	72,216		72,216
500	JUNIOR ROTC .....	53,262		53,262
	<b>SUBTOTAL TRAINING AND RECRUITING .....</b>	<b>1,931,508</b>	<b>0</b>	<b>1,931,508</b>
<b>ADMIN &amp; SRWWD ACTIVITIES</b>				
510	ADMINISTRATION .....	1,135,429		1,135,429
530	CIVILIAN MANPOWER AND PERSONNEL MANAGEMENT .....	149,365		149,365
540	MILITARY MANPOWER AND PERSONNEL MANAGEMENT .....	386,749		386,749
590	SERVICEWIDE TRANSPORTATION .....	165,301		165,301

610	PLANNING, ENGINEERING, AND PROGRAM SUPPORT .....	311,616	311,616	
620	ACQUISITION, LOGISTICS, AND OVERSIGHT .....	665,580	665,580	
660	INVESTIGATIVE AND SECURITY SERVICES .....	659,143	659,143	
9999	CLASSIFIED PROGRAMS .....	543,193	543,193	
	<b>SUBTOTAL ADMIN &amp; SRVWD ACTIVITIES .....</b>	<b>4,016,376</b>	<b>0</b>	<b>4,016,376</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, NAVY .....</b>	<b>45,439,407</b>	<b>761,181</b>	<b>46,200,588</b>
	<b>OPERATION &amp; MAINTENANCE, MARINE CORPS</b>			
	<b>OPERATING FORCES</b>			
010	OPERATIONAL FORCES .....	967,949	967,949	
020	FIELD LOGISTICS .....	1,065,090	3,100	1,068,190
	UFR: Long Endurance Small UAS .....		[3,100]	
030	DEPOT MAINTENANCE .....	286,635	286,635	
040	MARITIME PREPOSITIONING .....	85,577	85,577	
050	CYBERSPACE ACTIVITIES .....	181,518	181,518	
060	SUSTAINMENT, RESTORATION & MODERNIZATION .....	785,264	43,791	829,055
	UFR: Facilities Sustainment to 80% .....		[43,791]	
070	BASE OPERATING SUPPORT .....	2,196,252	2,196,252	
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>5,568,285</b>	<b>46,891</b>	<b>5,615,176</b>
	<b>TRAINING AND RECRUITING</b>			
080	RECRUIT TRAINING .....	16,163	16,163	
090	OFFICER ACQUISITION .....	1,154	1,154	
100	SPECIALIZED SKILL TRAINING .....	100,398	100,398	
110	PROFESSIONAL DEVELOPMENT EDUCATION .....	46,474	46,474	
120	TRAINING SUPPORT .....	405,039	405,039	
130	RECRUITING AND ADVERTISING .....	201,601	201,601	
140	OFF-DUTY AND VOLUNTARY EDUCATION .....	32,045	32,045	
150	JUNIOR ROTC .....	24,394	24,394	

**SEC. 4301. OPERATION AND MAINTENANCE**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
	<b>SUBTOTAL TRAINING AND RECRUITING .....</b>	<b>827,268</b>	<b>0</b>	<b>827,268</b>
	<b>ADMIN &amp; SRWD ACTIVITIES</b>			
160	SERVICEWIDE TRANSPORTATION .....	28,827		28,827
170	ADMINISTRATION .....	378,683		378,683
190	ACQUISITION AND PROGRAM MANAGEMENT .....	77,684		77,684
9999	CLASSIFIED PROGRAMS .....	52,661		52,661
	<b>SUBTOTAL ADMIN &amp; SRWD ACTIVITIES .....</b>	<b>537,855</b>	<b>0</b>	<b>537,855</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, MARINE CORPS .....</b>	<b>6,933,408</b>	<b>46,891</b>	<b>6,980,299</b>
	<b>OPERATION &amp; MAINTENANCE, NAVY RES</b>			
	<b>OPERATING FORCES</b>			
010	MISSION AND OTHER FLIGHT OPERATIONS .....	596,876		596,876
020	INTERMEDIATE MAINTENANCE .....	5,902		5,902
030	AIRCRAFT DEPOT MAINTENANCE .....	94,861		94,861
040	AIRCRAFT DEPOT OPERATIONS SUPPORT .....	381		381
050	AVIATION LOGISTICS .....	13,822		13,822
060	SHIP OPERATIONS SUPPORT & TRAINING .....	571		571
070	COMBAT COMMUNICATIONS .....	16,718		16,718
080	COMBAT SUPPORT FORCES .....	118,079		118,079
090	CYBERSPACE ACTIVITIES .....	308		308
100	ENTERPRISE INFORMATION .....	28,650		28,650
110	SUSTAINMENT, RESTORATION AND MODERNIZATION .....	86,354		86,354
120	BASE OPERATING SUPPORT .....	103,596		103,596

	SUBTOTAL OPERATING FORCES .....	1,066,118	0	1,066,118	
	ADMIN & SRVWD ACTIVITIES				
130	ADMINISTRATION .....	1,371		1,371	
140	MILITARY MANPOWER AND PERSONNEL MANAGEMENT .....	13,289		13,289	
160	ACQUISITION AND PROGRAM MANAGEMENT .....	3,229		3,229	
	SUBTOTAL ADMIN & SRVWD ACTIVITIES .....	17,889	0	17,889	
	TOTAL OPERATION & MAINTENANCE, NAVY RES .....	1,084,007		1,084,007	
	OPERATION & MAINTENANCE, MC RESERVE				
	OPERATING FORCES				
010	OPERATING FORCES .....	103,468		103,468	
020	DEPOT MAINTENANCE .....	18,794		18,794	
030	SUSTAINMENT, RESTORATION AND MODERNIZATION .....	32,777	1,077	33,854	
	UFR: Facilities Sustainment to 80% .....		[1,077]		
040	BASE OPERATING SUPPORT .....	111,213		111,213	
	SUBTOTAL OPERATING FORCES .....	266,252	1,077	267,329	497
	ADMIN & SRVWD ACTIVITIES				
060	ADMINISTRATION .....	12,585		12,585	
	SUBTOTAL ADMIN & SRVWD ACTIVITIES .....	12,585	0	12,585	
	TOTAL OPERATION & MAINTENANCE, MC RESERVE .....	278,837	1,077	279,914	
	OPERATION & MAINTENANCE, AIR FORCE				
	OPERATING FORCES				
010	PRIMARY COMBAT FORCES .....	694,702	13,200	707,902	

SEC. 4301. OPERATION AND MAINTENANCE (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
020	UFR: NC3 & Other Nuclear Requirements .....		[9,000]	
	UFR: PACAF Contingency Response Group .....		[4,200]	
	COMBAT ENHANCEMENT FORCES .....	1,392,326	184,100	1,576,426
	Air and Space Operations Center .....		[104,800]	
030	UFR: Airmen Readiness Training .....		[8,900]	
	UFR: Cyber Requirements .....		[70,400]	
	UFR: OPERATIONS TRAINING (OJT, MAINTAIN SKILLS) .....	1,128,640	144,300	1,272,940
	UFR: Airmen Readiness Training .....		[93,100]	
040	UFR: Contract Adversary Air .....		[51,200]	
	DEPOT PURCHASE EQUIPMENT MAINTENANCE .....	2,755,367	160,600	2,915,967
	UFR: Airmen Readiness Training .....		[7,100]	
	UFR: WSS funded at 89% .....		[153,500]	
050	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	3,292,553		3,292,553
060	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT .....	6,555,186	328,500	6,883,686
	UFR: E-4B Maintenance personnel .....		[1,000]	
	UFR: EC-130H Compass Call .....		[20,000]	
	UFR: Sustain 3 additional C-37B .....		[11,300]	
070	UFR: Weapon Systems Sustainment .....		[296,200]	
	FLYING HOUR PROGRAM .....	4,135,330		4,135,330
080	BASE SUPPORT .....	5,985,232	999,483	6,984,715
	UFR: Cyber Requirements .....		[152,600]	
	UFR: Facility Restoration Modernization .....		[493,883]	
	UFR: Funds mission readiness at installations .....		[146,000]	
090	UFR: Funds Operational Communications and JIE conversion .....		[190,000]	
	UFR: PACAF Contingency Response Group .....		[6,700]	
	UFR: Transient Alert Contracts .....		[10,300]	
	GLOBAL C3I AND EARLY WARNING .....	847,516	84,700	932,216

100	UFR: Cyber Requirements .....	[10,700]	
	UFR: NC3 & Other Nuclear Requirements .....	[66,000]	
	UFR: SBIRS Requirements .....	[8,000]	
	OTHER COMBAT OPS SPT PROGRAMS .....	41,200	1,173,017
	UFR: Cyber Requirements .....	[18,300]	
	UFR: Eagle Vision sustainment .....	[6,100]	
	UFR: PACAF Contingency Response Group .....	[16,800]	
	LAUNCH FACILITIES .....	175,457	175,457
120	SPACE CONTROL SYSTEMS .....	353,458	353,458
130	US NORTHCOM/NORAD .....	189,891	189,891
160	US STRATCOM .....	534,236	534,236
170	US CYBERCOM .....	357,830	357,830
180	US CENTCOM .....	168,208	168,208
190	US SOCOM .....	2,280	2,280
200	US TRANSCOM .....	533	533
210	CLASSIFIED PROGRAMS .....	1,091,655	1,091,655
9999	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>1,956,083</b>	<b>32,748,300</b>
			499
220	<b>MOBILIZATION</b>		
	AIRLIFT OPERATIONS .....	1,800	1,572,497
230	UFR: sustain 3 additional C-37B .....	[1,800]	
	MOBILIZATION PREPAREDNESS .....	46,450	176,691
	UFR: PACAF Contingency Response Group .....	[16,900]	
	UFR: Set the Theater (STT) PACOM .....	[29,550]	
	<b>SUBTOTAL MOBILIZATION .....</b>	<b>48,250</b>	<b>1,749,188</b>
270	<b>TRAINING AND RECRUITING</b>		
	OFFICER ACQUISITION .....	113,722	113,722
280	RECRUIT TRAINING .....	24,804	24,804
290	RESERVE OFFICERS TRAINING CORPS (ROTC) .....	95,733	95,733

SEC. 4301. OPERATION AND MAINTENANCE (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
320	SPECIALIZED SKILL TRAINING .....	395,476		395,476
330	FLIGHT TRAINING .....	501,599		501,599
340	PROFESSIONAL DEVELOPMENT EDUCATION .....	287,500		287,500
350	TRAINING SUPPORT .....	91,384		91,384
370	RECRUITING AND ADVERTISING .....	166,795		166,795
380	EXAMINING .....	4,134		4,134
390	OFF-DUTY AND VOLUNTARY EDUCATION .....	222,691		222,691
400	CIVILIAN EDUCATION AND TRAINING .....	171,974		171,974
410	JUNIOR ROTC .....	60,070		60,070
	<b>SUBTOTAL TRAINING AND RECRUITING .....</b>	<b>2,135,882</b>	<b>0</b>	<b>2,135,882</b>
<b>ADMIN &amp; SRVWD ACTIVITIES</b>				
420	LOGISTICS OPERATIONS .....	805,453		805,453
430	TECHNICAL SUPPORT ACTIVITIES .....	127,379		127,379
470	ADMINISTRATION .....	911,283		911,283
480	SERVICEWIDE COMMUNICATIONS .....	432,172		432,172
490	OTHER SERVICEWIDE ACTIVITIES .....	1,175,658		1,175,658
500	CIVIL AIR PATROL .....	26,719		26,719
530	INTERNATIONAL SUPPORT .....	76,878		76,878
540	AIR FORCE WIDE UNDISTRIBUTED .....	0	129,100	129,100
	UFR: C&Y Tech Sustainment .....		[6,000]	
	UFR: Child and Youth Compliance .....		[35,000]	
	UFR: Food Service Capabilities .....		[43,200]	
	UFR: MWR Resiliency Capabilities .....		[40,000]	
	UFR: Violence Prevention Program .....		[4,900]	
9999	CLASSIFIED PROGRAMS .....	1,244,653		1,244,653



	SUBTOTAL ADMIN & SRWD ACTIVITIES .....	4,800,195	129,100	4,929,295
	TOTAL OPERATION & MAINTENANCE, AIR FORCE .....	39,429,232	2,133,433	41,562,665
	OPERATION & MAINTENANCE, AF RESERVE			
	OPERATING FORCES			
010	PRIMARY COMBAT FORCES .....	1,801,007		1,801,007
020	MISSION SUPPORT OPERATIONS .....	210,642		210,642
030	DEPOT PURCHASE EQUIPMENT MAINTENANCE .....	403,867		403,867
040	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	124,951		124,951
050	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT .....	240,835	25,800	266,635
	UFR: Weapon Systems Sustainment .....		[25,800]	
060	BASE SUPPORT .....	371,878	34,000	405,878
	UFR: Restore maintenance and repair .....		[34,000]	
	SUBTOTAL OPERATING FORCES .....	3,153,180	59,800	3,212,980
	ADMINISTRATION AND SERVICEWIDE ACTIVITIES			
070	ADMINISTRATION .....	74,153		74,153
080	RECRUITING AND ADVERTISING .....	19,522		19,522
090	MILITARY MANPOWER AND PERS MGMT (ARPC) .....	12,765		12,765
100	OTHER PERS SUPPORT (DISABILITY COMP) .....	7,495		7,495
110	AUDIOVISUAL .....	392		392
	SUBTOTAL ADMINISTRATION AND SERVICEWIDE ACTIVITIES .....	114,327	0	114,327
	TOTAL OPERATION & MAINTENANCE, AF RESERVE .....	3,267,507	59,800	3,327,307
	OPERATION & MAINTENANCE, ANG			
	OPERATING FORCES			
010	AIRCRAFT OPERATIONS .....	3,175,055		3,175,055

SEC. 4301. OPERATION AND MAINTENANCE (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
020	MISSION SUPPORT OPERATIONS .....	746,082	66,000	812,082
	UFR: Facility and Communication Infrastructure .....		[66,000]	
030	DEPOT PURCHASE EQUIPMENT MAINTENANCE .....	867,063		867,063
040	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	325,090	56,000	381,090
	UFR: Sustainment, Restoration, Modernization (SRM) .....		[56,000]	
050	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT .....	1,100,829	58,700	1,159,529
	UFR: Increase Weapons System Sustainment .....		[58,700]	
060	BASE SUPPORT .....	583,664	68,000	651,664
	UFR: Facility Restoration Modernization .....		[68,000]	
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>6,797,783</b>	<b>248,700</b>	<b>7,046,483</b>
	<b>ADMINISTRATION AND SERVICE-WIDE ACTIVITIES</b>			
070	ADMINISTRATION .....	44,955		44,955
080	RECRUITING AND ADVERTISING .....	97,230	-45,000	52,230
	Advertising Reduction .....		[-45,000]	
	<b>SUBTOTAL ADMINISTRATION AND SERVICE-WIDE ACTIVITIES .....</b>	<b>142,185</b>	<b>-45,000</b>	<b>97,185</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, ANG .....</b>	<b>6,939,968</b>	<b>203,700</b>	<b>7,143,668</b>
	<b>OPERATION AND MAINTENANCE, DEFENSE-WIDE</b>			
	<b>OPERATING FORCES</b>			
010	JOINT CHIEFS OF STAFF .....	440,853		440,853
020	JOINT CHIEFS OF STAFF—CE2T2 .....	551,511		551,511
040	SPECIAL OPERATIONS COMMAND/OPERATING FORCES .....	5,008,274		5,008,274
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>6,000,638</b>	<b>0</b>	<b>6,000,638</b>

<b>TRAINING AND RECRUITING</b>			
050	DEFENSE ACQUISITION UNIVERSITY .....	144,970	5,000
	Increase for curriculum development .....		[5,000]
060	JOINT CHIEFS OF STAFF .....	84,402	
080	SPECIAL OPERATIONS COMMAND/TRAINING AND RECRUITING .....	379,462	
	<b>SUBTOTAL TRAINING AND RECRUITING</b> .....	<b>608,834</b>	<b>5,000</b>
<b>ADMIN &amp; SRWIDE ACTIVITIES</b>			
090	CIVIL MILITARY PROGRAMS .....	183,000	25,000
	Starbase .....		[25,000]
110	DEFENSE CONTRACT AUDIT AGENCY .....	597,836	
120	DEFENSE CONTRACT MANAGEMENT AGENCY .....	1,439,010	
130	DEFENSE HUMAN RESOURCES ACTIVITY .....	807,754	
140	DEFENSE INFORMATION SYSTEMS AGENCY .....	2,009,702	
160	DEFENSE LEGAL SERVICES AGENCY .....	24,207	
170	DEFENSE LOGISTICS AGENCY .....	400,422	
180	DEFENSE MEDIA ACTIVITY .....	217,585	
190	DEFENSE PERSONNEL ACCOUNTING AGENCY .....	131,268	
200	DEFENSE SECURITY COOPERATION AGENCY .....	722,496	
210	DEFENSE SECURITY SERVICE .....	683,665	
230	DEFENSE TECHNOLOGY SECURITY ADMINISTRATION .....	34,712	
240	DEFENSE THREAT REDUCTION AGENCY .....	542,604	
260	DEPARTMENT OF DEFENSE EDUCATION ACTIVITY .....	2,794,389	35,000
	Impact aid for children with severe disabilities .....		[10,000]
	Impact aid for schools with military dependent students .....		[25,000]
270	MISSILE DEFENSE AGENCY .....	504,058	
290	OFFICE OF ECONOMIC ADJUSTMENT .....	57,840	
300	OFFICE OF THE SECRETARY OF DEFENSE .....	1,612,244	9,000
	CDC Study .....		[7,000]

**SEC. 4301. OPERATION AND MAINTENANCE**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
	Readiness increase .....		[1,000]	
	Study on Air Force aircraft capacity and capabilities .....		[1,000]	
310	SPECIAL OPERATIONS COMMAND/ADMIN & SVC-WIDE ACTIVITIES .....	94,273		94,273
320	WASHINGTON HEADQUARTERS SERVICES .....	436,776		436,776
9999	CLASSIFIED PROGRAMS .....	14,806,404		14,806,404
	<b>SUBTOTAL ADMIN &amp; SRWIDE ACTIVITIES .....</b>	<b>28,100,245</b>	<b>69,000</b>	<b>28,169,245</b>
	<b>TOTAL OPERATION AND MAINTENANCE, DEFENSE-WIDE .....</b>	<b>34,709,717</b>	<b>74,000</b>	<b>34,783,717</b>
	<b>MISCELLANEOUS APPROPRIATIONS</b>			
	<b>US COURT OF APPEALS FOR THE ARMED FORCES, DEFENSE</b>			
010	US COURT OF APPEALS FOR THE ARMED FORCES, DEFENSE .....	14,538		14,538
	<b>SUBTOTAL US COURT OF APPEALS FOR THE ARMED FORCES, DEFENSE .....</b>	<b>14,538</b>	<b>0</b>	<b>14,538</b>
	<b>OVERSEAS HUMANITARIAN, DISASTER AND CIVIC AID</b>			
010	OVERSEAS HUMANITARIAN, DISASTER AND CIVIC AID .....	104,900		104,900
	<b>SUBTOTAL OVERSEAS HUMANITARIAN, DISASTER AND CIVIC AID .....</b>	<b>104,900</b>	<b>0</b>	<b>104,900</b>
	<b>FORMER SOVIET UNION (FSU) THREAT REDUCTION</b>			
010	FORMER SOVIET UNION (FSU) THREAT REDUCTION .....	324,600		324,600
	<b>SUBTOTAL FORMER SOVIET UNION (FSU) THREAT REDUCTION .....</b>	<b>324,600</b>	<b>0</b>	<b>324,600</b>
	<b>ENVIRONMENTAL RESTORATION, ARMY</b>			

050	ENVIRONMENTAL RESTORATION, ARMY .....	215,809		215,809	
	<b>SUBTOTAL ENVIRONMENTAL RESTORATION, ARMY .....</b>	<b>215,809</b>	<b>0</b>	<b>215,809</b>	
070	<b>ENVIRONMENTAL RESTORATION, NAVY</b>				
	ENVIRONMENTAL RESTORATION, NAVY .....	281,415		281,415	
	<b>SUBTOTAL ENVIRONMENTAL RESTORATION, NAVY .....</b>	<b>281,415</b>	<b>0</b>	<b>281,415</b>	
090	<b>ENVIRONMENTAL RESTORATION, AIR FORCE</b>				
	ENVIRONMENTAL RESTORATION, AIR FORCE .....	293,749		293,749	
	<b>SUBTOTAL ENVIRONMENTAL RESTORATION, AIR FORCE .....</b>	<b>293,749</b>	<b>0</b>	<b>293,749</b>	
110	<b>ENVIRONMENTAL RESTORATION, DEFENSE</b>				505
	ENVIRONMENTAL RESTORATION, DEFENSE .....	9,002		9,002	
	<b>SUBTOTAL ENVIRONMENTAL RESTORATION, DEFENSE .....</b>	<b>9,002</b>	<b>0</b>	<b>9,002</b>	
130	<b>ENVIRONMENTAL RESTORATION FORMERLY USED SITES</b>				
	ENVIRONMENTAL RESTORATION FORMERLY USED SITES .....	208,673		208,673	
	<b>SUBTOTAL ENVIRONMENTAL RESTORATION FORMERLY USED SITES .....</b>	<b>208,673</b>	<b>0</b>	<b>208,673</b>	
	<b>TOTAL MISCELLANEOUS APPROPRIATIONS .....</b>	<b>1,452,686</b>		<b>1,452,686</b>	
999	<b>UNDISTRIBUTED</b>				
	<b>UNDISTRIBUTED</b>				
	UNDISTRIBUTED .....	0	1,411,595	1,411,595	
	ERI costs transferred to base (except Ukraine assistance) .....		[2,121,300]		
	Foreign Currency Fluctuations .....		[−313,315]		
	Fuel Savings .....		[−396,390]		

SEC. 4301. OPERATION AND MAINTENANCE (In Thousands of Dollars)					
Line	Item	FY 2018 Request	Senate Change	Senate Authorized	
	SUBTOTAL UNDISTRIBUTED .....	0	1,411,595	1,411,595	
	TOTAL UNDISTRIBUTED .....	0	1,411,595	1,411,595	
	TOTAL OPERATION & MAINTENANCE .....	188,694,198	6,209,447	194,903,645	

## SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS.

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
<b>OPERATION &amp; MAINTENANCE, ARMY</b>				
<b>OPERATING FORCES</b>				
010	MANEUVER UNITS .....	828,225		828,225
030	ECHELONS ABOVE BRIGADE .....	25,474		25,474
040	THEATER LEVEL ASSETS .....	1,778,644		1,778,644
050	LAND FORCES OPERATIONS SUPPORT .....	260,575		260,575
060	AVIATION ASSETS .....	284,422		284,422
070	FORCE READINESS OPERATIONS SUPPORT .....	2,784,525		2,784,525
080	LAND FORCES SYSTEMS READINESS .....	502,330		502,330
090	LAND FORCES DEPOT MAINTENANCE .....	104,149		104,149
100	BASE OPERATIONS SUPPORT .....	80,249		80,249
110	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	32,000		32,000
140	ADDITIONAL ACTIVITIES .....	6,151,378		6,151,378
150	COMMANDERS EMERGENCY RESPONSE PROGRAM .....	5,000		5,000
160	RESET .....	864,926		864,926
180	US AFRICA COMMAND .....	186,567		186,567
190	US EUROPEAN COMMAND .....	44,250		44,250
	<b>SUBTOTAL OPERATING FORCES</b> .....	<b>13,932,714</b>	<b>0</b>	<b>13,932,714</b>
<b>MOBILIZATION</b>				
230	ARMY PREPOSITIONED STOCKS .....	56,500		56,500
	<b>SUBTOTAL MOBILIZATION</b> .....	<b>56,500</b>	<b>0</b>	<b>56,500</b>

**SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
<b>ADMIN &amp; SRWIDE ACTIVITIES</b>				
390	SERVICEWIDE TRANSPORTATION .....	755,029		755,029
400	CENTRAL SUPPLY ACTIVITIES .....	16,567		16,567
410	LOGISTIC SUPPORT ACTIVITIES .....	6,000		6,000
420	AMMUNITION MANAGEMENT .....	5,207		5,207
460	OTHER PERSONNEL SUPPORT .....	107,091		107,091
490	REAL ESTATE MANAGEMENT .....	165,280		165,280
9999	CLASSIFIED PROGRAMS .....	1,082,015		1,082,015
	<b>SUBTOTAL ADMIN &amp; SRWIDE ACTIVITIES .....</b>	<b>2,137,189</b>	<b>0</b>	<b>2,137,189</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, ARMY .....</b>	<b>16,126,403</b>	<b>0</b>	<b>16,126,403</b>
<b>OPERATION &amp; MAINTENANCE, ARMY RES</b>				
<b>OPERATING FORCES</b>				
020	ECHELONS ABOVE BRIGADE .....	4,179		4,179
040	LAND FORCES OPERATIONS SUPPORT .....	2,132		2,132
060	FORCE READINESS OPERATIONS SUPPORT .....	779		779
090	BASE OPERATIONS SUPPORT .....	17,609		17,609
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>24,699</b>	<b>0</b>	<b>24,699</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, ARMY RES .....</b>	<b>24,699</b>	<b>0</b>	<b>24,699</b>
<b>OPERATION &amp; MAINTENANCE, ARNG</b>				
<b>OPERATING FORCES</b>				



010	MANEUVER UNITS .....	41,731	41,731
020	MODULAR SUPPORT BRIGADES .....	762	762
030	ECHELONS ABOVE BRIGADE .....	11,855	11,855
040	THEATER LEVEL ASSETS .....	204	204
060	AVIATION ASSETS .....	27,583	27,583
070	FORCE READINESS OPERATIONS SUPPORT .....	5,792	5,792
100	BASE OPERATIONS SUPPORT .....	18,507	18,507
120	MANAGEMENT AND OPERATIONAL HEADQUARTERS .....	937	937
	<b>SUBTOTAL OPERATING FORCES .....</b>	<b>107,371</b>	<b>0</b>
	<b>ADMIN &amp; SRWD ACTIVITIES</b>		
	SERVICEWIDE COMMUNICATIONS .....	740	740
150	<b>SUBTOTAL ADMIN &amp; SRWD ACTIVITIES .....</b>	<b>740</b>	<b>0</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, ARNG .....</b>	<b>108,111</b>	<b>0</b>
	<b>AFGHANISTAN SECURITY FORCES FUND</b>		
	<b>MINISTRY OF DEFENSE</b>		
010	SUSTAINMENT .....	2,660,855	2,660,855
020	INFRASTRUCTURE .....	21,000	21,000
030	EQUIPMENT AND TRANSPORTATION .....	684,786	684,786
040	TRAINING AND OPERATIONS .....	405,117	405,117
	<b>SUBTOTAL MINISTRY OF DEFENSE .....</b>	<b>3,771,758</b>	<b>0</b>
	<b>MINISTRY OF INTERIOR</b>		
050	SUSTAINMENT .....	955,574	955,574
060	INFRASTRUCTURE .....	39,595	39,595
070	EQUIPMENT AND TRANSPORTATION .....	75,976	75,976
080	TRAINING AND OPERATIONS .....	94,612	94,612

SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
	SUBTOTAL MINISTRY OF INTERIOR .....	1,165,757	0	1,165,757
	TOTAL AFGHANISTAN SECURITY FORCES FUND .....	4,937,515	0	4,937,515
	OPERATION & MAINTENANCE, NAVY			
	OPERATING FORCES			
010	MISSION AND OTHER FLIGHT OPERATIONS .....	412,710		412,710
030	AVIATION TECHNICAL DATA & ENGINEERING SERVICES .....	1,750		1,750
040	AIR OPERATIONS AND SAFETY SUPPORT .....	2,989		2,989
050	AIR SYSTEMS SUPPORT .....	144,030		144,030
060	AIRCRAFT DEPOT MAINTENANCE .....	211,196		211,196
070	AIRCRAFT DEPOT OPERATIONS SUPPORT .....	1,921		1,921
080	AVIATION LOGISTICS .....	102,834		102,834
090	MISSION AND OTHER SHIP OPERATIONS .....	855,453		855,453
100	SHIP OPERATIONS SUPPORT & TRAINING .....	19,627		19,627
110	SHIP DEPOT MAINTENANCE .....	2,483,179		2,483,179
130	COMBAT COMMUNICATIONS AND ELECTRONIC WARFARE .....	58,886		58,886
150	SPACE SYSTEMS AND SURVEILLANCE .....	4,400		4,400
160	WARFARE TACTICS .....	21,550		21,550
170	OPERATIONAL METEOROLOGY AND OCEANOGRAPHY .....	21,104		21,104
180	COMBAT SUPPORT FORCES .....	605,936		605,936
190	EQUIPMENT MAINTENANCE AND DEPOT OPERATIONS SUPPORT .....	11,433		11,433
280	WEAPONS MAINTENANCE .....	325,011		325,011
290	OTHER WEAPON SYSTEMS SUPPORT .....	9,598		9,598
310	SUSTAINMENT, RESTORATION AND MODERNIZATION .....	31,898		31,898
320	BASE OPERATING SUPPORT .....	228,246		228,246

	SUBTOTAL OPERATING FORCES .....	5,553,751	0	5,553,751
	<b>MOBILIZATION</b>			
360	SHIP ACTIVATIONS/INACTIVATIONS .....	1,869		1,869
370	EXPEDITIONARY HEALTH SERVICES SYSTEMS .....	11,905		11,905
390	COAST GUARD SUPPORT .....	161,885		161,885
	<b>SUBTOTAL MOBILIZATION .....</b>	<b>175,659</b>	<b>0</b>	<b>175,659</b>
	<b>TRAINING AND RECRUITING</b>			
430	SPECIALIZED SKILL TRAINING .....	43,369		43,369
	<b>SUBTOTAL TRAINING AND RECRUITING .....</b>	<b>43,369</b>	<b>0</b>	<b>43,369</b>
	<b>ADMIN &amp; SRVWD ACTIVITIES</b>			
510	ADMINISTRATION .....	3,217		3,217
540	MILITARY MANPOWER AND PERSONNEL MANAGEMENT .....	7,356		7,356
590	SERVICEWIDE TRANSPORTATION .....	67,938		67,938
620	ACQUISITION, LOGISTICS, AND OVERSIGHT .....	9,446		9,446
660	INVESTIGATIVE AND SECURITY SERVICES .....	1,528		1,528
9999	CLASSIFIED PROGRAMS .....	12,751		12,751
	<b>SUBTOTAL ADMIN &amp; SRVWD ACTIVITIES .....</b>	<b>102,236</b>	<b>0</b>	<b>102,236</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, NAVY .....</b>	<b>5,875,015</b>	<b>0</b>	<b>5,875,015</b>
	<b>OPERATION &amp; MAINTENANCE, MARINE CORPS</b>			
	<b>OPERATING FORCES</b>			
010	OPERATIONAL FORCES .....	710,790		710,790
020	FIELD LOGISTICS .....	242,150		242,150
030	DEPOT MAINTENANCE .....	52,000		52,000

**SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
070	BASE OPERATING SUPPORT .....	17,529		17,529
	<b>SUBTOTAL OPERATING FORCES</b> .....	<b>1,022,469</b>	<b>0</b>	<b>1,022,469</b>
	<b>TRAINING AND RECRUITING</b>			
120	TRAINING SUPPORT .....	29,421		29,421
	<b>SUBTOTAL TRAINING AND RECRUITING</b> .....	<b>29,421</b>	<b>0</b>	<b>29,421</b>
	<b>ADMIN &amp; SRVWD ACTIVITIES</b>			
160	SERVICEWIDE TRANSPORTATION .....	61,600		61,600
9999	CLASSIFIED PROGRAMS .....	3,150		3,150
	<b>SUBTOTAL ADMIN &amp; SRVWD ACTIVITIES</b> .....	<b>64,750</b>	<b>0</b>	<b>64,750</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, MARINE CORPS</b> .....	<b>1,116,640</b>	<b>0</b>	<b>1,116,640</b>
	<b>OPERATION &amp; MAINTENANCE, NAVY RES</b>			
	<b>OPERATING FORCES</b>			
030	AIRCRAFT DEPOT MAINTENANCE .....	14,964		14,964
080	COMBAT SUPPORT FORCES .....	9,016		9,016
	<b>SUBTOTAL OPERATING FORCES</b> .....	<b>23,980</b>	<b>0</b>	<b>23,980</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, NAVY RES</b> .....	<b>23,980</b>	<b>0</b>	<b>23,980</b>
	<b>OPERATION &amp; MAINTENANCE, MC RESERVE</b>			

<b>OPERATING FORCES</b>			
010	OPERATING FORCES .....	2,548	2,548
040	BASE OPERATING SUPPORT .....	819	819
	<b>SUBTOTAL OPERATING FORCES</b> .....	<b>3,367</b>	<b>3,367</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, MC RESERVE</b> .....	<b>3,367</b>	<b>3,367</b>
<b>OPERATION &amp; MAINTENANCE, AIR FORCE</b>			
<b>OPERATING FORCES</b>			
010	PRIMARY COMBAT FORCES .....	248,235	248,235
020	COMBAT ENHANCEMENT FORCES .....	1,394,962	1,394,962
030	AIR OPERATIONS TRAINING (OJT, MAINTAIN SKILLS) .....	5,450	5,450
040	DEPOT PURCHASE EQUIPMENT MAINTENANCE .....	699,860	699,860
050	FACILITIES SUSTAINMENT, RESTORATION & MODERNIZATION .....	113,131	113,131
060	CONTRACTOR LOGISTICS SUPPORT AND SYSTEM SUPPORT .....	2,039,551	2,039,551
070	FLYING HOUR PROGRAM .....	2,059,363	2,059,363
080	BASE SUPPORT .....	1,088,946	1,088,946
090	GLOBAL C3I AND EARLY WARNING .....	15,274	15,274
100	OTHER COMBAT OPS SPT PROGRAMS .....	198,090	198,090
120	LAUNCH FACILITIES .....	385	385
130	SPACE CONTROL SYSTEMS .....	22,020	22,020
160	US NORTHCOM/NORAD .....	381	381
170	US STRATCOM .....	698	698
180	US CYBERCOM .....	35,239	35,239
190	US CENTCOM .....	159,520	159,520
200	US SOCOM .....	19,000	19,000
9999	CLASSIFIED PROGRAMS .....	58,098	58,098
	<b>SUBTOTAL OPERATING FORCES</b> .....	<b>8,158,203</b>	<b>8,158,203</b>
<b>MOBILIZATION</b>			

**SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
220	AIRLIFT OPERATIONS .....	1,430,316		1,430,316
230	MOBILIZATION PREPAREDNESS .....	213,827		213,827
	<b>SUBTOTAL MOBILIZATION .....</b>	<b>1,644,143</b>	<b>0</b>	<b>1,644,143</b>
	<b>TRAINING AND RECRUITING</b>			
270	OFFICER ACQUISITION .....	300		300
280	RECRUIT TRAINING .....	298		298
290	RESERVE OFFICERS TRAINING CORPS (ROTC) .....	90		90
320	SPECIALIZED SKILL TRAINING .....	25,675		25,675
330	FLIGHT TRAINING .....	879		879
340	PROFESSIONAL DEVELOPMENT EDUCATION .....	1,114		1,114
350	TRAINING SUPPORT .....	1,426		1,426
	<b>SUBTOTAL TRAINING AND RECRUITING .....</b>	<b>29,782</b>	<b>0</b>	<b>29,782</b>
	<b>ADMIN &amp; SRWVD ACTIVITIES</b>			
420	LOGISTICS OPERATIONS .....	151,847		151,847
430	TECHNICAL SUPPORT ACTIVITIES .....	8,744		8,744
470	ADMINISTRATION .....	6,583		6,583
480	SERVICEWIDE COMMUNICATIONS .....	129,508		129,508
490	OTHER SERVICEWIDE ACTIVITIES .....	84,110		84,110
530	INTERNATIONAL SUPPORT .....	120		120
9999	CLASSIFIED PROGRAMS .....	53,255		53,255
	<b>SUBTOTAL ADMIN &amp; SRWVD ACTIVITIES .....</b>	<b>434,167</b>	<b>0</b>	<b>434,167</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE, AIR FORCE .....</b>	<b>10,266,295</b>	<b>0</b>	<b>10,266,295</b>



SEC. 4302. OPERATION AND MAINTENANCE FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
160	DEFENSE LEGAL SERVICES AGENCY .....	115,000		115,000
180	DEFENSE MEDIA ACTIVITY .....	13,255		13,255
200	DEFENSE SECURITY COOPERATION AGENCY .....	2,312,000	250,000	2,562,000
	Reduction to Coalition Support Funds .....		[-100,000]	
	Ukraine Security Assistance Initiative .....		[350,000]	
260	DEPARTMENT OF DEFENSE EDUCATION ACTIVITY .....	31,000		31,000
300	OFFICE OF THE SECRETARY OF DEFENSE .....	34,715		34,715
320	WASHINGTON HEADQUARTERS SERVICES .....	3,179		3,179
9999	CLASSIFIED PROGRAMS .....	1,797,549		1,797,549
	<b>SUBTOTAL ADMIN &amp; SRVWIDE ACTIVITIES .....</b>	<b>4,402,005</b>	<b>250,000</b>	<b>4,652,005</b>
	<b>TOTAL OPERATION AND MAINTENANCE, DEFENSE-WIDE .....</b>	<b>7,712,080</b>	<b>256,300</b>	<b>7,968,380</b>
	<b>UNDISTRIBUTED</b>			
	<b>UNDISTRIBUTED</b>			
999	UNDISTRIBUTED .....	0	-2,121,300	-2,121,300
	ERI costs transferred from OCO to base (except Ukraine assistance) .....		[-2,121,300]	
	<b>SUBTOTAL UNDISTRIBUTED .....</b>	<b>0</b>	<b>-2,121,300</b>	<b>-2,121,300</b>
	<b>TOTAL UNDISTRIBUTED .....</b>	<b>0</b>	<b>-2,121,300</b>	<b>-2,121,300</b>
	<b>TOTAL OPERATION &amp; MAINTENANCE .....</b>	<b>46,268,028</b>	<b>-1,865,000</b>	<b>44,403,028</b>



## **TITLE XLIV—MILITARY PERSONNEL**

# TITLE XLIV—MILITARY PERSONNEL

## SEC. 4401. MILITARY PERSONNEL.

SEC. 4401. MILITARY PERSONNEL (In Thousands of Dollars)				
Item	FY 2018 Request	Senate Change	Senate Authorized	
<b>MILITARY PERSONNEL</b>				
<b>MILITARY PERSONNEL APPROPRIATIONS</b>				
MILITARY PERSONNEL APPROPRIATIONS .....	133,881,636	-154,913	133,726,723	
Defense Innovation Board software review .....		1,000		
ERI costs transferred to base .....		214,300		
Marine Corps endstrength increase (1k) .....		100,000		
Public-Private partnership on military spousal employment .....		1,000		
UFR: ANG funds training man days .....		170,800		
UFR: Army endstrength increase (6k) .....		321,000		
UFR: Army readiness requirements .....		107,987		
UFR: ATPF Enhancement—2nd Pier Sentry (Mahan Report) .....		12,000		
Unobligated Balances .....		[-1,083,000]		
<b>SUBTOTAL MILITARY PERSONNEL APPROPRIATIONS</b> .....	<b>133,881,636</b>	<b>-154,913</b>	<b>133,726,723</b>	
<b>MEDICARE-ELIGIBLE RETIREE HEALTH FUND CONTRIBUTIONS</b>				
MEDICARE-ELIGIBLE RETIREE HEALTH FUND CONTRIBUTIONS .....	7,804,427	16,000	7,820,427	
UFR: Army endstrength increase (6k) .....		16,000		
<b>SUBTOTAL MEDICARE-ELIGIBLE RETIREE HEALTH FUND CONTRIBUTIONS</b> .....	<b>7,804,427</b>	<b>16,000</b>	<b>7,820,427</b>	
<b>TOTAL MILITARY PERSONNEL</b> .....	<b>141,686,063</b>	<b>-138,913</b>	<b>141,547,150</b>	

**SEC. 4402. MILITARY PERSONNEL FOR OVERSEAS CONTINGENCY OPERATIONS.**

SEC. 4402. MILITARY PERSONNEL FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)				
Item	FY 2018 Request	Senate Change	Senate Authorized	
<b>MILITARY PERSONNEL</b>				
<b>MILITARY PERSONNEL APPROPRIATIONS</b>				
MILITARY PERSONNEL APPROPRIATIONS .....	4,276,276	-214,300	4,061,976	
ERI costs transferred to base budget .....		[-214,300]		
<b>SUBTOTAL MILITARY PERSONNEL APPROPRIATIONS</b> .....	<b>4,276,276</b>	<b>-214,300</b>	<b>4,061,976</b>	
<b>TOTAL MILITARY PERSONNEL</b> .....	<b>4,276,276</b>	<b>-214,300</b>	<b>4,061,976</b>	

# TITLE XLV—OTHER AUTHORIZATIONS

## SEC. 4501. OTHER AUTHORIZATIONS.

SEC. 4501. OTHER AUTHORIZATIONS (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
	<b>WORKING CAPITAL FUND</b>			
	<b>WORKING CAPITAL FUND, ARMY</b>			
010	Industrial Operations .....	43,140		43,140
020	Supply Management—Army .....	40,636	50,100	90,736
	ERI costs transfer from OCO to base .....		[50,100]	
	<b>SUBTOTAL WORKING CAPITAL FUND, ARMY</b> .....	<b>83,776</b>	<b>50,100</b>	<b>133,876</b>
	<b>WORKING CAPITAL FUND, AIR FORCE</b>			
010	Supplies and Materials .....	66,462		66,462
	<b>SUBTOTAL WORKING CAPITAL FUND, AIR FORCE</b> .....	<b>66,462</b>	<b>0</b>	<b>66,462</b>
	<b>WORKING CAPITAL FUND, DEFENSE-WIDE</b>			
020	Supply Chain Management—Def .....	47,018		47,018
	<b>SUBTOTAL WORKING CAPITAL FUND, DEFENSE-WIDE</b> .....	<b>47,018</b>	<b>0</b>	<b>47,018</b>
	<b>WORKING CAPITAL FUND, DECA</b>			
010	Working Capital Fund, DECA .....	1,389,340		1,389,340
	<b>SUBTOTAL WORKING CAPITAL FUND, DECA</b> .....	<b>1,389,340</b>	<b>0</b>	<b>1,389,340</b>
	<b>TOTAL WORKING CAPITAL FUND</b> .....	<b>1,586,596</b>	<b>50,100</b>	<b>1,636,696</b>

1	<b>CHEM AGENTS &amp; MUNITIONS DESTRUCTION</b>			
	<b>OPERATION AND MAINTENANCE</b>			
	Chem Demilitarization—O&M .....	104,237		104,237
	<b>SUBTOTAL OPERATION AND MAINTENANCE .....</b>	<b>104,237</b>	<b>0</b>	<b>104,237</b>
2	<b>RESEARCH, DEVELOPMENT, TEST, AND EVALUATION</b>			
	Chem Demilitarization—RD&E .....	839,414		839,414
	<b>SUBTOTAL RESEARCH, DEVELOPMENT, TEST, AND EVALUATION .....</b>	<b>839,414</b>	<b>0</b>	<b>839,414</b>
3	<b>PROCUREMENT</b>			
	Chem Demilitarization—Proc .....	18,081		18,081
	<b>SUBTOTAL PROCUREMENT .....</b>	<b>18,081</b>	<b>0</b>	<b>18,081</b>
	<b>TOTAL CHEM AGENTS &amp; MUNITIONS DESTRUCTION .....</b>	<b>961,732</b>	<b>0</b>	<b>961,732</b>
010	<b>DRUG INTERDICTION &amp; CTR-DRUG ACTIVITIES, DEF</b>			
	<b>DRUG INTERDICTION AND COUNTER DRUG ACTIVITIES</b>			
	Drug Interdiction and Counter-Drug Activities, Defense .....	674,001		674,001
	<b>SUBTOTAL DRUG INTERDICTION AND COUNTER DRUG ACTIVITIES .....</b>	<b>674,001</b>	<b>0</b>	<b>674,001</b>
020	<b>DRUG DEMAND REDUCTION PROGRAM</b>			
	Drug Demand Reduction Program .....	116,813		116,813
	<b>SUBTOTAL DRUG DEMAND REDUCTION PROGRAM .....</b>	<b>116,813</b>	<b>0</b>	<b>116,813</b>
	<b>TOTAL DRUG INTERDICTION &amp; CTR-DRUG ACTIVITIES, DEF .....</b>	<b>790,814</b>	<b>0</b>	<b>790,814</b>
010	<b>OFFICE OF THE INSPECTOR GENERAL</b>			
	<b>OPERATION AND MAINTENANCE</b>			
	Operation And Maintenance .....	334,087		334,087
	<b>SUBTOTAL OPERATION AND MAINTENANCE .....</b>	<b>334,087</b>	<b>0</b>	<b>334,087</b>
	<b>RD&amp;E</b>			

**SEC. 4501. OTHER AUTHORIZATIONS**  
(In Thousands of Dollars)

Line	Item	FY 2018 Request	Senate Change	Senate Authorized
020	RD&E .....	2,800		2,800
	<b>SUBTOTAL RD&amp;E .....</b>	<b>2,800</b>	<b>0</b>	<b>2,800</b>
	<b>TOTAL OFFICE OF THE INSPECTOR GENERAL .....</b>	<b>336,887</b>	<b>0</b>	<b>336,887</b>
	<b>DEFENSE HEALTH PROGRAM</b>			
	<b>OPERATION &amp; MAINTENANCE</b>			
010	In-House Care .....	9,457,768		9,457,768
020	Private Sector Care .....	15,317,732		15,317,732
030	Consolidated Health Support .....	2,193,045		2,193,045
040	Information Management .....	1,803,733		1,803,733
050	Management Activities .....	330,752		330,752
060	Education and Training .....	737,730		737,730
070	Base Operations/Communications .....	2,255,163		2,255,163
	<b>SUBTOTAL OPERATION &amp; MAINTENANCE .....</b>	<b>32,095,923</b>	<b>0</b>	<b>32,095,923</b>
	<b>RD&amp;E</b>			
080	R&D Research .....	9,796		9,796
090	R&D Exploratory Development .....	64,881		64,881
100	R&D Advanced Development .....	246,268		246,268
110	R&D Demonstration/Validation .....	99,039		99,039
120	R&D Engineering Development .....	170,602		170,602
130	R&D Management and Support .....	69,191		69,191
140	R&D Capabilities Enhancement .....	13,438		13,438
	<b>SUBTOTAL RD&amp;E .....</b>	<b>673,215</b>	<b>0</b>	<b>673,215</b>
	<b>PROCUREMENT</b>			

150	PROC Initial Outfitting .....	26,978	26,978
160	PROC Replacement & Modernization .....	360,831	360,831
180	PROC Joint Operational Medicine Information System .....	8,326	8,326
190	PROC DoD Healthcare Management System Modernization .....	499,193	499,193
	<b>SUBTOTAL PROCUREMENT .....</b>	<b>895,328</b>	<b>895,328</b>
	<b>TOTAL DEFENSE HEALTH PROGRAM .....</b>	<b>33,664,466</b>	<b>33,664,466</b>
	<b>NATIONAL DEFENSE SEALIFT FUND</b>		
	<b>OPERATIONS, MAINTENANCE AND LEASE</b>		
050	LG Med Spd Ro/Ro Maintenance .....	135,800	135,800
060	DoD Mobilization Alterations .....	11,197	11,197
070	TAH Maintenance .....	54,453	54,453
	<b>SUBTOTAL OPERATIONS, MAINTENANCE AND LEASE .....</b>	<b>201,450</b>	<b>201,450</b>
	<b>RESEARCH AND DEVELOPMENT</b>		
080	Research And Development .....	18,622	18,622
	<b>SUBTOTAL RESEARCH AND DEVELOPMENT .....</b>	<b>18,622</b>	<b>18,622</b>
	<b>READY RESERVE FORCES</b>		
090	Ready Reserve Force .....	289,255	296,255
	UFR: Strategic Sealift service life extension .....	[7,000]	
	<b>SUBTOTAL READY RESERVE FORCES .....</b>	<b>289,255</b>	<b>296,255</b>
	<b>TOTAL NATIONAL DEFENSE SEALIFT FUND .....</b>	<b>509,327</b>	<b>516,327</b>
	<b>TOTAL OTHER AUTHORIZATIONS .....</b>	<b>37,849,822</b>	<b>37,906,922</b>

**SEC. 4502. OTHER AUTHORIZATIONS FOR OVERSEAS CONTINGENCY OPERATIONS.**

SEC. 4502. OTHER AUTHORIZATIONS FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)				
Line	Item	FY 2018 Request	Senate Change	Senate Authorized
	<b>WORKING CAPITAL FUND</b>			
	<b>WORKING CAPITAL FUND, ARMY</b>			
020	Supply Management—Army .....	50,111	-50,111	0
	ERI costs transfer from OCO to base .....		[-50,111]	
	<b>SUBTOTAL WORKING CAPITAL FUND, ARMY</b> .....	<b>50,111</b>	<b>-50,111</b>	<b>0</b>
	<b>WORKING CAPITAL FUND, DEFENSE-WIDE</b>			
010	Energy Management—Def .....	70,000		70,000
020	Supply Chain Management—Def .....	28,845		28,845
	<b>SUBTOTAL WORKING CAPITAL FUND, DEFENSE-WIDE</b> .....	<b>98,845</b>	<b>0</b>	<b>98,845</b>
	<b>TOTAL WORKING CAPITAL FUND</b> .....	<b>148,956</b>	<b>-50,111</b>	<b>98,845</b>
	<b>DRUG INTERDICTION &amp; CTR-DRUG ACTIVITIES, DEF</b>			
	<b>DRUG INTERDICTION AND COUNTER DRUG ACTIVITIES</b>			
010	Drug Interdiction and Counter-Drug Activities, Defense .....	196,300		196,300
	<b>SUBTOTAL DRUG INTERDICTION AND COUNTER DRUG ACTIVITIES</b> .....	<b>196,300</b>	<b>0</b>	<b>196,300</b>
	<b>TOTAL DRUG INTERDICTION &amp; CTR-DRUG ACTIVITIES, DEF</b> .....	<b>196,300</b>	<b>0</b>	<b>196,300</b>
	<b>OFFICE OF THE INSPECTOR GENERAL</b>			
	<b>OPERATION AND MAINTENANCE</b>			
010	Operation And Maintenance .....	24,692		24,692
	<b>SUBTOTAL OPERATION AND MAINTENANCE</b> .....	<b>24,692</b>	<b>0</b>	<b>24,692</b>



	TOTAL OFFICE OF THE INSPECTOR GENERAL .....	24,692	0	24,692	
	DEFENSE HEALTH PROGRAM				
	OPERATION & MAINTENANCE				
010	In-House Care .....	61,857		61,857	
020	Private Sector Care .....	331,968		331,968	
030	Consolidated Health Support .....	1,980		1,980	
	SUBTOTAL OPERATION & MAINTENANCE .....	395,805	0	395,805	
	TOTAL DEFENSE HEALTH PROGRAM .....	395,805	0	395,805	
	COUNTER-ISLAMIC ISIS TRAIN & EQUIP FUND				
	COUNTER-ISIS TRAIN AND EQUIP FUND (CTEF)				
010	Iraq .....	1,269,000		1,269,000	
020	Syria .....	500,000		500,000	
	SUBTOTAL COUNTER-ISIS TRAIN AND EQUIP FUND (CTEF) .....	1,769,000	0	1,769,000	
	TOTAL COUNTER-ISLAMIC ISIS TRAIN & EQUIP FUND .....	1,769,000	0	1,769,000	
	TOTAL OTHER AUTHORIZATIONS .....	2,534,753	-50,111	2,484,642	
					525



TITLE XLVI—MILITARY CONSTRUCTION

SEC. 4601. MILITARY CONSTRUCTION.

SEC. 4601. MILITARY CONSTRUCTION (In Thousands of Dollars)						
Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
MILITARY CONSTRUCTION						
MILCON, ARMY						
MILCON, ARMY	ALABAMA	Fort Rucker	Training Support Facility .....	38,000		38,000
MILCON, ARMY	ARIZONA	Davis-Monthan AFB	General Instruction Building .....	22,000		22,000
MILCON, ARMY	ARIZONA	Fort Huachuca	Ground Transport Equipment Building .....	30,000		30,000
MILCON, ARMY	CALIFORNIA	Fort Irwin	Land Acquisition .....	3,000		3,000
MILCON, ARMY	COLORADO	Fort Carson, Colorado	Ammunition Supply Point .....	21,000		21,000
MILCON, ARMY	COLORADO	Fort Carson, Colorado	Battlefield Weather Facility .....	8,300		8,300
MILCON, ARMY	FLORIDA	Eglin AFB	Multipurpose Range Complex .....	18,000		18,000
MILCON, ARMY	GEORGIA	Fort Benning	Air Traffic Control Tower (ATCT) .....	0	10,800	10,800
MILCON, ARMY	GEORGIA	Fort Benning	Training Support Facility .....	28,000		28,000
MILCON, ARMY	GEORGIA	Fort Gordon	Access Control Point .....	33,000		33,000
MILCON, ARMY	GEORGIA	Fort Gordon	Automation-Aided Instructional Building .....	18,500		18,500
MILCON, ARMY	GERMANY	Stuttgart	Commissary .....	40,000		40,000
MILCON, ARMY	GERMANY	Weisbaden	Administrative Building .....	43,000		43,000
MILCON, ARMY	HAWAII	Fort Shafter	Command and Control Facility, Incr 3 .....	90,000		90,000
MILCON, ARMY	HAWAII	Pohakuloa Training Area	Operational Readiness Training Complex (Barracks)	0	25,000	25,000
MILCON, ARMY	INDIANA	Crane Army Ammunition Plant	Shipping and Receiving Building .....	24,000		24,000
MILCON, ARMY	KOREA	Kunsan AB	Unmanned Aerial Vehicle Hangar .....	53,000		53,000
MILCON, ARMY	NEW YORK	U.S. Military Academy	Cemetery .....	22,000		22,000
MILCON, ARMY	SOUTH CAROLINA	Fort Jackson	Reception Barracks Complex, Ph1 .....	60,000		60,000

SEC. 4601. MILITARY CONSTRUCTION  
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
MILCON, ARMY	SOUTH CAROLINA	Shaw AFB	Mission Training Complex .....	25,000		25,000
MILCON, ARMY	TEXAS	Camp Bullis	Vehicle Maintenance Shop .....	13,600		13,600
MILCON, ARMY	TEXAS	Fort Hood	Vehicle Maintenance Shop .....	0	33,000	33,000
MILCON, ARMY	TEXAS	Fort Hood, Texas	Battalion Headquarters Complex .....	37,000		37,000
MILCON, ARMY	TURKEY	Turkey Various	Forward Operating Site .....	6,400		6,400
MILCON, ARMY	VIRGINIA	Fort Belvoir	Secure Admin/Operations Facility, Incr 3 .....	14,124		14,124
MILCON, ARMY	VIRGINIA	Joint Base Langley-Eustis	Aircraft Maintenance Instructional Bldg .....	34,000		34,000
MILCON, ARMY	VIRGINIA	Joint Base Myer-Henderson	Security Fence .....	20,000		20,000
MILCON, ARMY	WASHINGTON	Joint Base Lewis-McChord	Confinement Facility .....	66,000	-66,000	0
MILCON, ARMY	WASHINGTON	Yakima	Fire Station .....	19,500		19,500
MILCON, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	72,770		72,770
MILCON, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Host Nation Support .....	28,700		28,700
MILCON, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	31,500		31,500
MILCON, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design .....	0	15,700	15,700
SUBTOTAL MILCON, ARMY .....				920,394	18,500	938,894
MIL CON, NAVY						
MIL CON, NAVY	ARIZONA	Yuma	Enlisted Dining Facility & Community Bldgs .....	36,358		36,358
MIL CON, NAVY	CALIFORNIA	Barstow	Combat Vehicle Repair Facility .....	36,539		36,539
MIL CON, NAVY	CALIFORNIA	Camp Pendleton, California	Ammunition Supply Point Upgrade .....	61,139		61,139

MIL CON, NAVY	CALIFORNIA	Coronado	P988 Undersea Rescue Command (URC) Operations Building.	0	36,000	36,000
MIL CON, NAVY	CALIFORNIA	Lemoore	F/A 18 Avionics Repair Facility Replacement .....	60,828		60,828
MIL CON, NAVY	CALIFORNIA	Marine Corps Air Station Miramar	F-35 Simulator Facility .....	0	47,574	47,574
MIL CON, NAVY	CALIFORNIA	Miramar	Aircraft Maintenance Hangar (INC 2) .....	39,600		39,600
MIL CON, NAVY	CALIFORNIA	San Diego	P440 Pier 8 Replacement .....	0	108,000	108,000
MIL CON, NAVY	CALIFORNIA	Twentynine Palms, California	Potable Water Treatment/Blending Facility .....	55,099		55,099
MIL CON, NAVY	DISTRICT OF COLUMBIA	NSA Washington	Washington Navy Yard AT/FP Land Acquisition .....	60,000	-60,000	0
MIL CON, NAVY	DISTRICT OF COLUMBIA	NSA Washington	Electronics Science and Technology Laboratory .....	37,882		37,882
MIL CON, NAVY	DIJIBOUTI	Camp Lemonier, Djibouti	Aircraft Parking Apron Expansion .....	13,390		13,390
MIL CON, NAVY	FLORIDA	Mayport	P426 Littoral Combat Ship (LCS) Support Facility (LSF).	0	81,000	81,000
MIL CON, NAVY	FLORIDA	Mayport	P427 Littoral Combat Ship (LCS) Training Facility (LTF).	0	29,000	29,000
MIL CON, NAVY	FLORIDA	Mayport	Missile Magazines .....	9,824		9,824
MIL CON, NAVY	FLORIDA	Mayport	Advanced Wastewater Treatment Plant (AWWTP) .....	74,994		74,994
MIL CON, NAVY	GEORGIA	Marine Corps Logistics Base Albany	Combat Vehicle Warehouse .....	0	43,308	43,308
MIL CON, NAVY	GREECE	Souda Bay	Strategic Aircraft Parking Apron Expansion .....	22,045		22,045
MIL CON, NAVY	GUAM	Joint Region Marianas	Water Well Field .....	56,088		56,088
MIL CON, NAVY	GUAM	Joint Region Marianas	MALS Facilities .....	49,431		49,431
MIL CON, NAVY	GUAM	Joint Region Marianas	Corrosion Control Hangar .....	66,747		66,747
MIL CON, NAVY	GUAM	Joint Region Marianas	Aircraft Maintenance Hangar #2 .....	75,233		75,233
MIL CON, NAVY	GUAM	Joint Region Marianas	Navy-Commercial Tie-In Hardening .....	37,180		37,180
MIL CON, NAVY	HAWAII	Joint Base Pearl Harbor-Hickam	Sewer Lift Station & Relief Sewer Line .....	73,200		73,200
MIL CON, NAVY	HAWAII	Kaneohe Bay	LHD Pad Conversions MW-22 Landing Pads .....	19,012		19,012
MIL CON, NAVY	HAWAII	Marine Corps Base Kaneohe Bay	Mokapu Gate Entry Control AT/FP Compliance .....	0	26,492	26,492
MIL CON, NAVY	HAWAII	Wahiawa	Communications/Crypto Facility .....	65,864		65,864

SEC. 4601. MILITARY CONSTRUCTION (In Thousands of Dollars)						
Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
MIL CON, NAVY	JAPAN	Iwakuni	KC130J Enlisted Aircrew Trainer Facility .....	21,860		21,860
MIL CON, NAVY	MAINE	Kittery	Paint, Blast, and Rubber Facility .....	61,692		61,692
MIL CON, NAVY	NORTH CAROLINA	Camp Lejeune, North Carolina	Water Treatment Plant Replacement Hadnot Pt .....	65,784		65,784
MIL CON, NAVY	NORTH CAROLINA	Camp Lejeune, North Carolina	Bachelor Enlisted Quarters .....	37,983		37,983
MIL CON, NAVY	NORTH CAROLINA	Cherry Point Marine Corps Air Station	F-35B Vertical Lift Fan Test Facility .....	15,671		15,671
MIL CON, NAVY	NORTH CAROLINA	Marine Corps Base Lejeune	Radio BN Complex, Phase 2 .....	0	64,292	64,292
MIL CON, NAVY	VIRGINIA	Dam Neck	ISR Operations Facility Expansion .....	29,262		29,262
MIL CON, NAVY	VIRGINIA	Joint Expeditionary Base Little Creek—Story	ACU-4 Electrical Upgrades .....	2,596		2,596
MIL CON, NAVY	VIRGINIA	Marine Corps Base Quantico	TBS Fire Station Building 533 Replacement .....	0	23,738	23,738
MIL CON, NAVY	VIRGINIA	Norfolk	Chambers Field Magazine Recap Ph 1 .....	34,665		34,665
MIL CON, NAVY	VIRGINIA	Portsmouth	Ship Repair Training Facility .....	72,990		72,990
MIL CON, NAVY	VIRGINIA	Yorktown	Bachelor Enlisted Quarters .....	36,358		36,358
MIL CON, NAVY	WASHINGTON	Indian Island	Missile Magazines .....	44,440		44,440
MIL CON, NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	23,842		23,842
MIL CON, NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design .....	0	18,500	18,500
MIL CON, NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	219,069	9,000	228,069
SUBTOTAL MIL CON, NAVY .....				1,616,665	426,904	2,043,569

<b>MILCON, AIR FORCE</b>	ALASKA	Eielson AFB	Repair Central Heat/Power Plant Boiler PH 4 .....	41,000	41,000
MILCON, AIR FORCE	ALASKA	Eielson AFB	F-35A OSS/Weapons/Intel Facility .....	11,800	11,800
MILCON, AIR FORCE	ALASKA	Eielson AFB	F-35A AGE Facility / Filstand .....	21,000	21,000
MILCON, AIR FORCE	ALASKA	Eielson AFB	F-35A R-11 Fuel Truck Shelter .....	9,600	9,600
MILCON, AIR FORCE	ALASKA	Eielson AFB	F-35A Satellite Dining Facility .....	8,000	8,000
MILCON, AIR FORCE	ALASKA	Eielson AFB	F-35A Consolidated Munitions Admin Facility .....	27,000	27,000
MILCON, AIR FORCE	ALASKA	Eielson AFB	F-35A ADAL Conventional Munitions Facility .....	2,500	2,500
MILCON, AIR FORCE	ALASKA	Eielson AFB	F-35A Extend Utiliduct to South Loop .....	48,000	48,000
MILCON, AIR FORCE	ARKANSAS	Little Rock AFB	Dormitory - 168 PN .....	0	20,000
MILCON, AIR FORCE	AUSTRALIA	Darwin	APR—Bulk Fuel Storage Tanks .....	76,000	76,000
MILCON, AIR FORCE	COLORADO	Buckley Air Force Base	SBIRS Operations Facility .....	38,000	38,000
MILCON, AIR FORCE	COLORADO	Fort Carson, Colorado	13 ASOS Expansion .....	13,000	13,000
MILCON, AIR FORCE	COLORADO	U.S. Air Force Academy	Air Force CyberWorx .....	30,000	30,000
MILCON, AIR FORCE	ESTONIA	Amari Air Base	ERI: POL Capacity Phase II .....	0	4,700
MILCON, AIR FORCE	ESTONIA	Amari Air Base	ERI: Tactical Fighter Aircraft Parking Apron .....	0	9,200
MILCON, AIR FORCE	FLORIDA	Eglin AFB	Dormitories (288 RM) .....	0	44,000
MILCON, AIR FORCE	FLORIDA	Eglin AFB	F-35A Armament Research Fac Addition (B614) .....	8,700	8,700
MILCON, AIR FORCE	FLORIDA	Eglin AFB	Long-Range Stand-Off Acquisition Fac .....	38,000	38,000
MILCON, AIR FORCE	FLORIDA	Macdill AFB	KC-135 Beddown OG/MXG HQ .....	8,100	8,100
MILCON, AIR FORCE	FLORIDA	Tyndall AFB	Fire/Crash Rescue Station .....	0	17,000
MILCON, AIR FORCE	GEORGIA	Robins AFB	Commercial Vehicle Visitor Control Facility .....	9,800	9,800
MILCON, AIR FORCE	HUNGARY	Kecskemet AB	ERI: Increase POL Storage Capacity .....	0	12,500
MILCON, AIR FORCE	HUNGARY	Kecskemet AB	ERI: Construct Parallel Taxiway .....	0	30,000
MILCON, AIR FORCE	HUNGARY	Kecskemet AB	ERI: Airfield Upgrades .....	0	12,900
MILCON, AIR FORCE	ICELAND	Keflavik	ERI: Airfield Upgrades .....	0	14,400
MILCON, AIR FORCE	ITALY	Aviano AB	Guardian Angel Operations Facility .....	27,325	27,325
MILCON, AIR FORCE	KANSAS	McConnell AFB	Combat Arms Facility .....	17,500	17,500
MILCON, AIR FORCE	LATVIA	Lielvarde Air Base	ERI: Expand Strategic Ramp Parking .....	0	3,850
MILCON, AIR FORCE	LUXEMBOURG	Sanem	ERI: ECAOS Deployable Airbase System Storage .....	0	67,400
MILCON, AIR FORCE	MARIANA ISLANDS	Tinian	APR Land Acquisition .....	12,900	12,900
MILCON, AIR FORCE	MARYLAND	Joint Base Andrews	PAR Land Acquisition .....	17,500	17,500

**SEC. 4601. MILITARY CONSTRUCTION**  
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
MILCON, AIR FORCE	MARYLAND	Joint Base Andrews	Presidential Aircraft Recap Complex .....	254,000	-196,000	58,000
MILCON, AIR FORCE	MASSACHUSETTS	Hanscom AFB	Vandenberg Gate Complex .....	11,400		11,400
MILCON, AIR FORCE	NEVADA	Nellis AFB	Red Flag 5th Gen Facility Addition .....	23,000		23,000
MILCON, AIR FORCE	NEVADA	Nellis AFB	Virtual Warfare Center Operations Facility .....	38,000		38,000
MILCON, AIR FORCE	NEW MEXICO	Cannon AFB	Dangerous Cargo Pad Relocate CATM .....	42,000		42,000
MILCON, AIR FORCE	NEW MEXICO	Holloman AFB	RPA Fixed Ground Control Station Facility .....	4,250		4,250
MILCON, AIR FORCE	NEW MEXICO	Kirtland AFB	Replace Fire Station 3 .....	0	9,300	9,300
MILCON, AIR FORCE	NORTH DAKOTA	Minot AFB	Indoor Firing Range .....	27,000		27,000
MILCON, AIR FORCE	NORWAY	Rygge	ERI: Replace/Expand Quick Reaction Alert Pad .....	0	10,300	10,300
MILCON, AIR FORCE	OHIO	Wright-Patterson AFB	Fire/Crash Rescue Station .....	0	6,800	6,800
MILCON, AIR FORCE	OKLAHOMA	Altus AFB	Fire Rescue Center .....	0	16,000	16,000
MILCON, AIR FORCE	OKLAHOMA	Altus AFB	KC-46A FTU Fuselage Trainer Phase 2 .....	4,900		4,900
MILCON, AIR FORCE	QATAR	Al Udeid, Qatar	Consolidated Squadron Operations Facility .....	15,000		15,000
MILCON, AIR FORCE	ROMANIA	Campia Turzii	ERI: Upgrade Utilities Infrastructure .....	0	2,950	2,950
MILCON, AIR FORCE	SLOVAKIA	Malacky	ERI: Increase POL Storage Capacity .....	0	20,000	20,000
MILCON, AIR FORCE	SLOVAKIA	Malacky	ERI: Airfield Upgrades .....	0	4,000	4,000
MILCON, AIR FORCE	SLOVAKIA	Slac Airport	ERI: Airfield Upgrades .....	0	22,000	22,000
MILCON, AIR FORCE	TEXAS	Joint Base San Antonio	Camp Bullis Dining Facility .....	18,500		18,500
MILCON, AIR FORCE	TEXAS	Joint Base San Antonio	Air Traffic Control Tower .....	10,000		10,000
MILCON, AIR FORCE	TEXAS	Joint Base San Antonio	BMT Recruit Dormitory 7 .....	90,130		90,130
MILCON, AIR FORCE	TEXAS	Joint Base San Antonio	BMT Classrooms/Dining Facility 4 .....	38,000		38,000
MILCON, AIR FORCE	TURKEY	Incirlık AB	Dormitory—216 PN .....	25,997		25,997
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Fairford	EIC RC-135 Intel and Squad Ops Facility .....	38,000		38,000
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Fairford	EIC RC-135 Runway Overrun Reconfiguration .....	5,500		5,500
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Fairford	EIC RC-135 Infrastructure .....	2,150		2,150
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Lakenheath	Consolidated Corrosion Control Facility .....	20,000		20,000



MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Lakenheath	F-35A F-15 Parking .....	10,800	10,800	
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Lakenheath	F-35A Flight Simulator Facility .....	22,000	22,000	
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Lakenheath	F-35A Field Training Detachment Facility .....	12,492	12,492	
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Lakenheath	F-35A Infrastructure .....	6,700	6,700	
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Lakenheath	F-35A 6-Bay Hangar .....	24,000	24,000	
MILCON, AIR FORCE	UNITED KINGDOM	Royal Air Force Lakenheath	F-35A Squadron Operations and AMU .....	41,000	41,000	
MILCON, AIR FORCE	UTAH	Hill AFB	UTTR Consolidated Mission Control Center .....	28,000	28,000	
MILCON, AIR FORCE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	KC-46A Main Operating Base 4 .....	269,000	-16,000	253,000
MILCON, AIR FORCE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	0	56,400	56,400
MILCON, AIR FORCE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	97,852		97,852
MILCON, AIR FORCE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design .....	0	56,630	56,630
MILCON, AIR FORCE	WORLDWIDE UNSPECIFIED	Various Worldwide Locations	Unspecified Minor Construction .....	31,400		31,400
MILCON, AIR FORCE	WYOMING	F. E. Warren AFB	Consolidated Helo/TRF Ops/AMU and Alert Fac .....	62,000		62,000
<b>SUBTOTAL MILCON, AIR FORCE</b> .....				<b>1,738,796</b>	<b>228,330</b>	<b>1,967,126</b>
<b>MIL CON, DEF-WIDE</b>						
MIL CON, DEF-WIDE	CALIFORNIA	Camp Pendleton, California	SOF Marine Battalion Company/Team Facilities .....	9,958		9,958
MIL CON, DEF-WIDE	CALIFORNIA	Camp Pendleton, California	SOF Motor Transport Facility Expansion .....	7,284		7,284

SEC. 4601. MILITARY CONSTRUCTION (In Thousands of Dollars)					
Account	State/ Country	Installation	Project Title	Budget Request	Senate Authorized
MIL CON, DEF-WIDE	CALIFORNIA	Camp Pendleton, California	Ambulatory Care Center Replacement .....	26,400	26,400
MIL CON, DEF-WIDE	CALIFORNIA	Coronado	SOF Basic Training Command .....	96,077	96,077
MIL CON, DEF-WIDE	CALIFORNIA	Coronado	SOF SEAL Team Ops Facility .....	66,218	66,218
MIL CON, DEF-WIDE	CALIFORNIA	Coronado	SOF Logistics Support Unit One Ops Fac. #3 .....	46,175	46,175
MIL CON, DEF-WIDE	CALIFORNIA	Coronado	SOF SEAL Team Ops Facility .....	50,265	50,265
MIL CON, DEF-WIDE	COLORADO	Schriever AFB	Ambulatory Care Center/Dental Add./Alt. ....	10,200	10,200
MIL CON, DEF-WIDE	CONUS CLASSIFIED	Classified Location	Battalion Complex, PH 1 .....	64,364	64,364
MIL CON, DEF-WIDE	FLORIDA	Eglin AFB	SOF Simulator Facility .....	5,000	5,000
MIL CON, DEF-WIDE	FLORIDA	Eglin AFB	Upgrade Open Storage Yard .....	4,100	4,100
MIL CON, DEF-WIDE	FLORIDA	Hurlburt Field	SOF Simulator & Fuselage Trainer Facility .....	11,700	11,700
MIL CON, DEF-WIDE	FLORIDA	Hurlburt Field	SOF Combat Aircraft Parking Apron .....	34,700	34,700
MIL CON, DEF-WIDE	GEORGIA	Fort Gordon	Blood Donor Center Replacement .....	10,350	10,350
MIL CON, DEF-WIDE	GERMANY	Rhine Ordnance Barracks	Medical Center Replacement Incr 7 .....	106,700	106,700
MIL CON, DEF-WIDE	GERMANY	Spangdahlem AB	Spangdahlem Elementary School Replacement .....	79,141	79,141
MIL CON, DEF-WIDE	GERMANY	Stuttgart	Robinson Barracks Elem. School Replacement .....	46,609	46,609
MIL CON, DEF-WIDE	GREECE	Souda Bay	Construct Hydrant System .....	18,100	18,100
MIL CON, DEF-WIDE	GUAM	Andersen AFB	Construct Truck Load & Unload Facility .....	23,900	23,900
MIL CON, DEF-WIDE	HAWAII	Kunia	NSAH Kunia Tunnel Entrance .....	5,000	5,000
MIL CON, DEF-WIDE	ITALY	Sigonella	Construct Hydrant System .....	22,400	22,400
MIL CON, DEF-WIDE	ITALY	Vicenza	Vicenza High School Replacement .....	62,406	62,406
MIL CON, DEF-WIDE	JAPAN	Iwakuni	Construct Bulk Storage Tanks PH 1 .....	30,800	30,800
MIL CON, DEF-WIDE	JAPAN	Kadena AB	SOF Special Tactics Operations Facility .....	27,573	27,573
MIL CON, DEF-WIDE	JAPAN	Kadena AB	SOF Maintenance Hangar .....	3,972	3,972
MIL CON, DEF-WIDE	JAPAN	Okinawa	Replace Mooring System .....	11,900	11,900
MIL CON, DEF-WIDE	JAPAN	Sasebo	Upgrade Fuel Wharf .....	45,600	45,600
MIL CON, DEF-WIDE	JAPAN	Torii Commo Station	SOF Tactical Equipment Maintenance Fac .....	25,323	25,323

MIL CON, DEF-WIDE	JAPAN	Yokota AB	Hangar/Aircraft Maintenance Unit .....	12,034	12,034
MIL CON, DEF-WIDE	JAPAN	Yokota AB	Operations and Warehouse Facilities .....	8,590	8,590
MIL CON, DEF-WIDE	JAPAN	Yokota AB	Simulator Facility .....	2,189	2,189
MIL CON, DEF-WIDE	JAPAN	Yokota AB	Airfield Apron .....	10,800	10,800
MIL CON, DEF-WIDE	MARYLAND	Bethesda Naval Hospital	Medical Center Addition/Alteration Incr 2 .....	123,800	123,800
MIL CON, DEF-WIDE	MARYLAND	Fort Meade	NSAW Recapitalize Building #2 Incr 3 .....	313,968	313,968
MIL CON, DEF-WIDE	MISSOURI	Fort Leonard Wood	Hospital Replacement Ph 1 .....	250,000	50,000
MIL CON, DEF-WIDE	MISSOURI	Fort Leonard Wood	Blood Processing Center Replacement .....	11,941	11,941
MIL CON, DEF-WIDE	MISSOURI	St Louis	Next NGA West (N2W) Complex Ph1 .....	381,000	50,000
MIL CON, DEF-WIDE	NEW MEXICO	Cannon AFB	SOF C-130 AGE Facility .....	8,228	8,228
MIL CON, DEF-WIDE	NORTH CAROLINA	Camp Lejeune, North Carolina	SOF Human Performance Training Center .....	10,800	10,800
MIL CON, DEF-WIDE	NORTH CAROLINA	Camp Lejeune, North Carolina	SOF Motor Transport Maintenance Expansion .....	20,539	20,539
MIL CON, DEF-WIDE	NORTH CAROLINA	Camp Lejeune, North Carolina	Ambulatory Care Center Addition/Alteration .....	15,300	15,300
MIL CON, DEF-WIDE	NORTH CAROLINA	Camp Lejeune, North Carolina	Ambulatory Care Center/Dental Clinic .....	21,400	21,400
MIL CON, DEF-WIDE	NORTH CAROLINA	Camp Lejeune, North Carolina	Ambulatory Care Center/Dental Clinic .....	22,000	22,000
MIL CON, DEF-WIDE	NORTH CAROLINA	Fort Bragg	SOF Support Battalion Admin Facility .....	13,518	13,518
MIL CON, DEF-WIDE	NORTH CAROLINA	Fort Bragg	SOF Human Performance Training Ctr .....	20,260	20,260
MIL CON, DEF-WIDE	NORTH CAROLINA	Fort Bragg	SOF Tactical Equipment Maintenance Facility .....	20,000	20,000
MIL CON, DEF-WIDE	NORTH CAROLINA	Fort Bragg	SOF Telecomm Reliability Improvements .....	4,000	4,000
MIL CON, DEF-WIDE	NORTH CAROLINA	Seymour Johnson AFB	Construct Tanker Truck Delivery System .....	20,000	20,000
MIL CON, DEF-WIDE	PUERTO RICO	Punta Borinquen	Ramey Unit School Replacement .....	61,071	61,071
MIL CON, DEF-WIDE	SOUTH CAROLINA	Shaw AFB	Consolidate Fuel Facilities .....	22,900	22,900
MIL CON, DEF-WIDE	TEXAS	Fort Bliss	Blood Processing Center .....	8,300	8,300
MIL CON, DEF-WIDE	TEXAS	Fort Bliss	Hospital Replacement Incr 8 .....	251,330	251,330
MIL CON, DEF-WIDE	UNITED KINGDOM	Menwith Hill Station	RAFMH Main Gate Rehabilitation .....	11,000	11,000
MIL CON, DEF-WIDE	UTAH	Hill AFB	Replace POL Facilities .....	20,000	20,000

**SEC. 4601. MILITARY CONSTRUCTION**  
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
MIL CON, DEF-WIDE	VIRGINIA	Joint Expeditionary Base Little Creek—Story	SOF SATEC Range Expansion .....	23,000		23,000
MIL CON, DEF-WIDE	VIRGINIA	Norfolk	Replace Hazardous Materials Warehouse .....	18,500		18,500
MIL CON, DEF-WIDE	VIRGINIA	Pentagon	Security Updates .....	13,260		13,260
MIL CON, DEF-WIDE	VIRGINIA	Pentagon	Pentagon Corr & Pedestrian Access Control Pt .....	8,140		8,140
MIL CON, DEF-WIDE	VIRGINIA	Pentagon	S.E. Safety Traffic and Parking Improvements .....	28,700		28,700
MIL CON, DEF-WIDE	VIRGINIA	Portsmouth	Replace Hazardous Materials Warehouse .....	22,500		22,500
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	8,000		8,000
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	26,147		26,147
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	39,746		39,746
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	3,000		3,000
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	7,384		7,384
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design .....	0	1,900	1,900
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	1,150		1,150
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design .....	23,012		23,012
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	2,039		2,039
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Energy Resilience and Conserv. Invest. Prog. ....	150,000	26,500	176,500

MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Contingency Construction .....	10,000	10,000	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	3,000	3,000	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	13,500	13,500	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERCIP Design .....	10,000	10,000	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	3,000	3,000	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	20,000	20,000	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	40,220	40,220	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	10,000	10,000	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Exercise Related Minor Construction .....	11,490	11,490	
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	0	1,150	1,150
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	1,942	1,942	1,942
<b>SUBTOTAL MIL CON, DEF-WIDE .....</b>				<b>3,114,913</b>	<b>-501,450</b>	<b>2,613,463</b>
<b>MILCON, ARNG</b>						
MILCON, ARNG	DELAWARE	New Castle	Combined Support Maintenance Shop .....	36,000		36,000
MILCON, ARNG	IDAHO	Mission Training Center Gowen	Enlisted Barracks, Transient Training .....	0	9,000	9,000
MILCON, ARNG	IDAHO	Orchard Training Area	Digital Air/Ground Integration Range .....	22,000		22,000
MILCON, ARNG	IOWA	Camp Dodge	Vehicle Maintenance Instructional Facility .....	0	8,500	8,500
MILCON, ARNG	KANSAS	Fort Leavenworth	Enlisted Barracks, Transient Training .....	0	19,000	19,000
MILCON, ARNG	MAINE	Presque Isle	National Guard Readiness Center .....	17,500		17,500

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Account	State/ Country	Installation	Project Title	Budget Request	Senate Change  Senate Authorized
MILCON, ARNG	MARYLAND	Sykesville	National Guard Readiness Center .....	19,000	19,000
MILCON, ARNG	MINNESOTA	Arden Hills	National Guard Readiness Center .....	39,000	39,000
MILCON, ARNG	MISSOURI	Springfield	Aircraft Maintenance Hangar (Addition) .....	0	32,000
MILCON, ARNG	NEW MEXICO	Las Cruces	National Guard Readiness Center Addition .....	8,600	8,600
MILCON, ARNG	VIRGINIA	Fort Belvoir	National Guard Readiness Center .....	0	15,000
MILCON, ARNG	VIRGINIA	Fort Pickett	Training Aids Center .....	4,550	4,550
MILCON, ARNG	WASHINGTON	Tumwater	National Guard Readiness Center .....	31,000	31,000
MILCON, ARNG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	16,731	16,731
MILCON, ARNG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	16,271	16,271
SUBTOTAL MILCON, ARNG .....				210,652	294,152
53					
88					
MILCON, ANG	CALIFORNIA	March AFB	TFI Construct RPA Flight Training Unit .....	15,000	15,000
MILCON, ANG	COLORADO	Peterson AFB	Space Control Facility .....	8,000	8,000
MILCON, ANG	CONNECTICUT	Bradley IAP	Construct Base Entry Complex .....	7,000	7,000
MILCON, ANG	INDIANA	Hulman Regional Airport	Construct Small Arms Range .....	0	8,000
MILCON, ANG	KENTUCKY	Louisville IAP	Add/Alter Response Forces Facility .....	9,000	9,000
MILCON, ANG	MISSISSIPPI	Jackson International Air- port	Construct Small Arms Range .....	0	8,000
MILCON, ANG	MISSOURI	Rosecrans Memorial Air- port	Replace Communications Facility .....	10,000	10,000
MILCON, ANG	NEW YORK	Hancock Field	Add To Flight Training Unit, Building 641 .....	6,800	6,800
MILCON, ANG	OHIO	Toledo Express Airport	NORTHCOM—Construct Alert Hangar .....	15,000	15,000
MILCON, ANG	OKLAHOMA	Tulsa International Airport	Construct Small Arms Range .....	0	8,000
MILCON, ANG	OREGON	Klamath Falls IAP	Construct Corrosion Control Hangar .....	10,500	10,500

MILCON, ANG	OREGON	Klamath Falls IAP	Construct Indoor Range .....	8,000		8,000
MILCON, ANG	SOUTH DAKOTA	Joe Foss Field	Aircraft Maintenance Shops .....	12,000		12,000
MILCON, ANG	TENNESSEE	McGhee-Tyson Airport	Replace KC-135 Maintenance Hangar and Shops ...	25,000		25,000
MILCON, ANG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	0	2,000	2,000
MILCON, ANG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	18,000		18,000
MILCON, ANG	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	17,191		17,191
<b>SUBTOTAL MILCON, ANG .....</b>				<b>161,491</b>	<b>26,000</b>	<b>187,491</b>
<b>MILCON, ARMY R</b>						
MILCON, ARMY R	CALIFORNIA	Fallbrook	Army Reserve Center .....	36,000		36,000
MILCON, ARMY R	DELAWARE	Newark	Army Reserve Center .....	0	19,500	19,500
MILCON, ARMY R	OHIO	Wright-Patterson AFB	Area Maintenance Support Activity .....	0	9,100	9,100
MILCON, ARMY R	PUERTO RICO	Aguadilla	Army Reserve Center .....	12,400		12,400
MILCON, ARMY R	WASHINGTON	Joint Base Lewis-McChord	Army Reserve Center .....	0	30,000	30,000
MILCON, ARMY R	WISCONSIN	Fort McCoy	AT/MOB Dining Facility-1428 PN .....	13,000		13,000
MILCON, ARMY R	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning and Design .....	6,887		6,887
MILCON, ARMY R	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	5,425		5,425
<b>SUBTOTAL MILCON, ARMY R .....</b>				<b>73,712</b>	<b>58,600</b>	<b>132,312</b>
<b>MIL CON, NAVY RES</b>						
MIL CON, NAVY RES	CALIFORNIA	Lemoore	Naval Operational Support Center Lemoore .....	17,330		17,330
MIL CON, NAVY RES	GEORGIA	Fort Gordon	Naval Operational Support Center Fort Gordon .....	17,797		17,797
MIL CON, NAVY RES	NEW JERSEY	Joint Base McGuire-Dix-Lakehurst	Aircraft Apron, Taxiway & Support Facilities .....	11,573		11,573
MIL CON, NAVY RES	TEXAS	Fort Worth	KC130-J EACTS Facility .....	12,637		12,637
MIL CON, NAVY RES	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	1,504		1,504

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MIL CON, NAVY RES	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design .....	4,430		4,430
<b>SUBTOTAL MIL CON, NAVY RES</b>				<b>65,271</b>	<b>0</b>	<b>65,271</b>
<b>MILCON, AF RES</b>						
MILCON, AF RES	FLORIDA	Patrick AFB	Guardian Angel Facility .....	25,000		25,000
MILCON, AF RES	GEORGIA	Robins AFB	Consolidated Mission Complex Phase 2 .....	0	32,000	32,000
MILCON, AF RES	GUAM	Joint Region Marianas	Reserve Medical Training Facility .....	5,200		5,200
MILCON, AF RES	HAWAII	Joint Base Pearl Harbor- Hickam	Consolidated Training Facility .....	5,500		5,500
MILCON, AF RES	MASSACHUSETTS	Westover ARB	Indoor Small Arms Range .....	10,000		10,000
MILCON, AF RES	MASSACHUSETTS	Westover ARB	Maintenance Facility Shops .....	0	51,100	51,100
MILCON, AF RES	MINNESOTA	Minneapolis-St Paul IAP	Indoor Small Arms Range .....	0	9,000	9,000
MILCON, AF RES	NORTH CAROLINA	Seymour Johnson AFB	KC-46A ADAL for Alt Mission Storage .....	6,400		6,400
MILCON, AF RES	TEXAS	NAS JRB Fort Worth	Munitions Training/Admin Facility .....	0	3,100	3,100
MILCON, AF RES	UTAH	Hill AFB	Add/Alter Life Support Facility .....	3,100		3,100
MILCON, AF RES	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design .....	0	13,500	13,500
MILCON, AF RES	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design .....	4,725		4,725
MILCON, AF RES	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Unspecified Minor Construction .....	3,610		3,610
<b>SUBTOTAL MILCON, AF RES</b>				<b>63,535</b>	<b>108,700</b>	<b>172,235</b>
<b>NATO SEC INV PRGM</b>						
NATO SEC INV PRGM	WORLDWIDE UNSPECIFIED	Nato Security Investment Program	Nato Security Investment Program .....	154,000		154,000



SUBTOTAL NATO SEC INV PRGM .....		154,000	0	154,000
TOTAL MILITARY CONSTRUCTION .....		8,119,429	449,084	8,568,513
FAMILY HOUSING				
FAM HSG CON, ARMY				
FAM HSG CON, ARMY	GEORGIA	Fort Gordon	Family Housing New Construction .....	6,100
FAM HSG CON, ARMY	GERMANY	Baumholder	Construction Improvements .....	34,156
FAM HSG CON, ARMY	GERMANY	South Camp Vilseck	Family Housing New Construction (36 units) .....	22,445
FAM HSG CON, ARMY	KOREA	Camp Humphreys	Family Housing New Construction Incr 2 .....	34,402
FAM HSG CON, ARMY	KWAJALEIN	Kwajalein Atoll	Family Housing Replacement Construction .....	31,000
FAM HSG CON, ARMY	MASSACHUSETTS	Natick	Family Housing Replacement Construction .....	21,000
FAM HSG CON, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design .....	33,559
SUBTOTAL FAM HSG CON, ARMY .....		182,662	-31,000	151,662
FAM HSG O&M, ARMY				
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Management .....	37,089
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Services .....	8,930
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings .....	12,816
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Miscellaneous .....	400
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance .....	57,708
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities .....	60,251
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing .....	148,538

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Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
FAM HSG O&M, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Housing Privatization Support .....	20,893		20,893
<b>SUBTOTAL FAM HSG O&amp;M, ARMY</b>				<b>346,625</b>	<b>0</b>	<b>346,625</b>
<b>FAM HSG CON, N/MC</b>						
FAM HSG CON, N/MC	BAHRAIN ISLAND	SW Asia	Construct On-Base GFOG .....	2,138		2,138
FAM HSG CON, N/MC	MARIANA ISLANDS	Guam	Replace Andersen Housing PH II .....	40,875	-40,875	0
FAM HSG CON, N/MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Construction Improvements .....	36,251		36,251
FAM HSG CON, N/MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design .....	4,418		4,418
<b>SUBTOTAL FAM HSG CON, N/MC</b>				<b>83,682</b>	<b>-40,875</b>	<b>42,807</b>
<b>FAM HSG O&amp;M, N/MC</b>						
FAM HSG O&M, N/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities .....	62,167		62,167
FAM HSG O&M, N/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings .....	14,529		14,529
FAM HSG O&M, N/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Management .....	50,989		50,989
FAM HSG O&M, N/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Miscellaneous .....	336		336
FAM HSG O&M, N/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Services .....	15,649		15,649
FAM HSG O&M, N/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing .....	61,921		61,921

FAM HSG O&M, IV/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance .....	95,104	95,104
FAM HSG O&M, IV/ MC	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Housing Privatization Support .....	27,587	27,587
<b>SUBTOTAL FAM HSG O&amp;M, IV/MC</b>				<b>328,282</b>	<b>0</b>
<b>FAM HSG CON, AF</b>					
FAM HSG CON, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Construction Improvements .....	80,617	80,617
FAM HSG CON, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Planning & Design .....	4,445	4,445
<b>SUBTOTAL FAM HSG CON, AF</b>				<b>85,062</b>	<b>0</b>
<b>FAM HSG O&amp;M, AF</b>					
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Housing Privatization .....	21,569	21,569
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities .....	47,504	47,504
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Management .....	53,464	53,464
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Services .....	13,517	13,517
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings .....	29,424	29,424
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Miscellaneous .....	1,839	1,839
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing .....	16,818	16,818
FAM HSG O&M, AF	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance .....	134,189	134,189
<b>SUBTOTAL FAM HSG O&amp;M, AF</b>				<b>318,324</b>	<b>0</b>

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Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
<b>FAM HSG O&amp;M, DW</b>						
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities .....	4,100		4,100
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings .....	407		407
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities .....	268		268
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing .....	12,390		12,390
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance .....	655		655
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings .....	641		641
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Leasing .....	39,716		39,716
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Furnishings .....	6		6
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Services .....	14		14
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Utilities .....	86		86
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Maintenance .....	567		567
FAM HSG O&M, DW	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Management .....	319		319
<b>SUBTOTAL FAM HSG O&amp;M, DW</b>				<b>59,169</b>	<b>0</b>	<b>59,169</b>

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<b>FAM HSG IMPROVE FUND</b>					
FAM HSG IMPROVE FUND	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Administrative Expenses—FHIF	2,726	2,726
<b>SUBTOTAL FAM HSG IMPROVE FUND</b>				<b>2,726</b>	<b>2,726</b>
<b>TOTAL FAMILY HOUSING</b>				<b>1,406,532</b>	<b>1,334,657</b>
<b>DEFENSE BASE REALIGNMENT AND CLOSURE</b>					
<b>DOD BRAC—ARMY</b>					
DOD BRAC—ARMY	WORLDWIDE UNSPECIFIED	Base Realignment & Closure, Army	Base Realignment and Closure	58,000	58,000
<b>SUBTOTAL DOD BRAC—ARMY</b>				<b>58,000</b>	<b>58,000</b>
<b>DOD BRAC—NAVY</b>					
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Base Realignment & Closure, Navy	Base Realignment & Closure	93,474	93,474
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DON-172: NWS Seal Beach, Concord, CA	5,355	5,355
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DON-138: NAS Brunswick, ME	647	647
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DON-157: MCSA Kansas City, MO	40	40
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DON-84: JRB Willow Grove & Cambria Reg AP	4,737	4,737
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	Undistributed	7,210	7,210
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DON-100: Planning, Design and Management	8,428	8,428
DOD BRAC—NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DON-101: Various Locations	23,753	23,753
<b>SUBTOTAL DOD BRAC—NAVY</b>				<b>143,644</b>	<b>143,644</b>

SEC. 4601. MILITARY CONSTRUCTION (In Thousands of Dollars)						
Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
<b>DOD BRAC—AIR FORCE</b>						
DOD BRAC—AIR FORCE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	DoD BRAC Activities—Air Force .....	54,223		54,223
<b>SUBTOTAL DOD BRAC—AIR FORCE</b>				<b>54,223</b>	<b>0</b>	<b>54,223</b>
<b>TOTAL DEFENSE BASE REALIGNMENT AND CLOSURE</b>				<b>255,867</b>		<b>255,867</b>
<b>UNACCOMP HSG IMPRV FUND</b>						
UNACCOMP HSG IMPRV FUND	WORLDWIDE UNSPECIFIED	Unaccompanied Housing Improvement Fund	Administrative Expenses—UHIF .....	623		623
<b>SUBTOTAL UNACCOMP HSG IMPRV FUND</b>				<b>623</b>	<b>0</b>	<b>623</b>
<b>TOTAL UNACCOMP HSG IMPRV FUND</b>				<b>623</b>		<b>623</b>
<b>TOTAL MILITARY CONSTRUCTION, FAMILY HOUSING, AND BRAC</b>				<b>9,782,451</b>	<b>377,209</b>	<b>10,159,660</b>

**SEC. 4602. MILITARY CONSTRUCTION FOR OVERSEAS CONTINGENCY OPERATIONS.**

SEC. 4602. MILITARY CONSTRUCTION FOR OVERSEAS CONTINGENCY OPERATIONS (In Thousands of Dollars)						
Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
MILITARY CONSTRUCTION						
MILCON, ARMY						
MILCON, ARMY	GUANTANAMO BAY, CUBA	Guantanamo Bay	OCO: Barracks	115,000		115,000
MILCON, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design	15,700	-15,700	0
MILCON, ARMY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	OCO: Planning and Design	9,000		9,000
SUBTOTAL MILCON, ARMY				139,700	-15,700	124,000
MIL CON, NAVY						
MIL CON, NAVY	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design	18,500	-18,500	0
SUBTOTAL MIL CON, NAVY				18,500	-18,500	
MILCON, AIR FORCE						
MILCON, AIR FORCE	ESTONIA	Amari Air Base	ERI: POL Capacity Phase II	4,700	-4,700	0
MILCON, AIR FORCE	ESTONIA	Amari Air Base	ERI: Tactical Fighter Aircraft Parking Apron	9,200	-9,200	0
MILCON, AIR FORCE	HUNGARY	Kecskemet AB	ERI: Increase POL Storage Capacity	12,500	-12,500	0
MILCON, AIR FORCE	HUNGARY	Kecskemet AB	ERI: Construct Parallel Taxiway	30,000	-30,000	0
MILCON, AIR FORCE	HUNGARY	Kecskemet AB	ERI: Airfield Upgrades	12,900	-12,900	0
MILCON, AIR FORCE	ICELAND	Keflavik	ERI: Airfield Upgrades	14,400	-14,400	0
MILCON, AIR FORCE	JORDAN	Azraq	OCO: MSAB Development	143,000		143,000
MILCON, AIR FORCE	LATVIA	Lielvarde Air Base	ERI: Expand Strategic Ramp Parking	3,850	-3,850	0
MILCON, AIR FORCE	LUXEMBOURG	Sanem	ERI: ECAOS Deployable Airbase System Storage	67,400	-67,400	0
MILCON, AIR FORCE	NORWAY	Rygge	ERI: Replace/Expand Quick Reaction Alert Pad	10,300	-10,300	0

**SEC. 4602. MILITARY CONSTRUCTION FOR OVERSEAS CONTINGENCY OPERATIONS**  
(In Thousands of Dollars)

Account	State/ Country	Installation	Project Title	Budget Request	Senate Change	Senate Authorized
MILCON, AIR FORCE	ROMANIA	Campia Turzii	ERI: Upgrade Utilities Infrastructure .....	2,950	-2,950	0
MILCON, AIR FORCE	SLOVAKIA	Malacky	ERI: Increase POL Storage Capacity .....	20,000	-20,000	0
MILCON, AIR FORCE	SLOVAKIA	Malacky	ERI: Airfield Upgrades .....	4,000	-4,000	0
MILCON, AIR FORCE	SLOVAKIA	Slac Airport	ERI: Airfield Upgrades .....	22,000	-22,000	0
MILCON, AIR FORCE	TURKEY	Inciirlik AB	OCO: Replace Perimeter Fence .....	8,100		8,100
MILCON, AIR FORCE	TURKEY	Inciirlik AB	OCO: Relocate Base Main Access Control Point .....	14,600		14,600
MILCON, AIR FORCE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design .....	56,630	-56,630	0
MILCON, AIR FORCE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	OCO—Planning and Design .....	41,500		41,500
<b>SUBTOTAL MILCON, AIR FORCE .....</b>				<b>478,030</b>	<b>-270,830</b>	<b>207,200</b>
<b>MIL CON, DEF-WIDE</b>						
MIL CON, DEF-WIDE	WORLDWIDE UNSPECIFIED	Unspecified Worldwide Locations	ERI: Planning and Design .....	1,900	-1,900	0
<b>SUBTOTAL MIL CON, DEF-WIDE .....</b>				<b>1,900</b>	<b>-1,900</b>	
<b>TOTAL MILITARY CONSTRUCTION .....</b>				<b>638,130</b>	<b>-306,930</b>	<b>331,200</b>
<b>TOTAL MILITARY CONSTRUCTION, FAMILY HOUSING, AND BRAC .....</b>				<b>638,130</b>	<b>-306,930</b>	<b>331,200</b>



**TITLE XLVII—DEPARTMENT OF ENERGY  
NATIONAL SECURITY PROGRAMS**

**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS.**

SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS (In Thousands of Dollars)				
Program	FY 2018 Request	Senate Change	Senate Authorized	
Discretionary Summary by Appropriation				
Energy and Water Development and Related Agencies				
Appropriation Summary:				
Energy Programs				
Nuclear energy .....	133,000	0	133,000	
Atomic Energy Defense Activities				
National nuclear security administration:				
Weapons activities .....	10,239,344	273,600	10,512,944	
Defense nuclear nonproliferation .....	1,793,310	250,297	2,043,607	
Naval reactors .....	1,479,751	38,000	1,517,751	
Federal Salaries and Expenses .....	418,595	0	418,595	
<b>Total, National nuclear security administration .....</b>	<b>13,931,000</b>	<b>561,897</b>	<b>14,492,897</b>	
Environmental and other defense activities:				
Other defense activities .....	815,512	0	815,512	
Defense nuclear waste disposal .....	30,000	0	30,000	
<b>Total, Environmental &amp; other defense activities .....</b>	<b>845,512</b>	<b>0</b>	<b>845,512</b>	
<b>Total, Atomic Energy Defense Activities .....</b>	<b>14,776,512</b>	<b>561,897</b>	<b>15,338,409</b>	
<b>Subtotal, Energy And Water Development and Related Agencies .....</b>	<b>14,909,512</b>	<b>561,897</b>	<b>15,471,409</b>	
Defense EM funded .....	5,537,186	0	5,537,186	
Uranium enrichment D&D fund contribution .....	0	0	0	
<b>Total, Discretionary Funding .....</b>	<b>20,446,698</b>	<b>561,897</b>	<b>21,008,595</b>	

<b>Nuclear Energy</b>			
Idaho sitewide safeguards and security .....	133,000	133,000	
<b>Total, Nuclear Energy</b> .....	<b>133,000</b>	<b>133,000</b>	<b>0</b>
Defense (050) function.....(non-add) .....	( 133,000)		-133,000
<b>Weapons Activities</b>			
<b>Directed stockpile work</b>			
<b>Life extension programs and major alterations</b>			
B61 Life extension program .....	788,572	788,572	
W76 Life extension program .....	224,134	224,134	
W88 Alt 370 .....	0	0	
W88 Alteration program .....	332,292	332,292	
W80-4 Life extension program .....	399,090	399,090	
<b>Total, Life extension programs and major alterations</b> .....	<b>1,744,088</b>	<b>1,744,088</b>	<b>0</b>
<b>Stockpile systems</b>			
B61 Stockpile systems .....	59,729	59,729	
W76 Stockpile systems .....	51,400	51,400	
W78 Stockpile systems .....	60,100	60,100	
W80 Stockpile systems .....	80,087	80,087	
B83 Stockpile systems .....	35,762	35,762	
W87 Stockpile systems .....	83,200	83,200	
W88 Stockpile systems .....	131,576	131,576	
<b>Total, Stockpile systems</b> .....	<b>501,854</b>	<b>501,854</b>	<b>0</b>
<b>Weapons dismantlement and disposition</b>			
Operations and maintenance .....	52,000	52,000	
<b>Stockpile services</b>			
Production support .....	470,400	470,400	

**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**  
(In Thousands of Dollars)

Program	FY 2018 Request	Senate Change	Senate Authorized
Research and development support .....	31,150		31,150
R&D certification and safety .....	196,840	20,900	217,740
Program increase for technology maturation .....		[20,900]	
Management, technology, and production .....	285,400		285,400
<b>Total, Stockpile services .....</b>	<b>983,790</b>	<b>20,900</b>	<b>1,004,690</b>
<b>Strategic materials</b>			
Uranium sustainment .....	20,579		20,579
Plutonium sustainment .....	210,367		210,367
Tritium sustainment .....	198,152		198,152
Domestic uranium enrichment .....	60,000		60,000
Strategic materials sustainment .....	206,196		206,196
<b>Total, Strategic materials .....</b>	<b>695,294</b>	<b>0</b>	<b>695,294</b>
<b>Total, Directed stockpile work .....</b>	<b>3,977,026</b>	<b>20,900</b>	<b>3,997,926</b>
<b>Research, development, test evaluation (RDTE)</b>			
<b>Science</b>			
Advanced certification .....	57,710		57,710
Primary assessment technologies .....	89,313		89,313
Dynamic materials properties .....	122,347		122,347
Advanced radiography .....	37,600		37,600
Secondary assessment technologies .....	76,833		76,833
Academic alliances and partnerships .....	52,963		52,963
Enhanced Capabilities for Subcritical Experiments .....	50,755	15,000	65,755
Radiography project completion .....		[15,000]	
<b>Total, Science .....</b>	<b>487,521</b>	<b>15,000</b>	<b>502,521</b>

<b>Engineering</b>				
Enhanced surety .....	39,717	12,300	52,017	
Program increase for technology maturation .....		[12,300]		
Weapon systems engineering assessment technology .....	23,029		23,029	
Nuclear survivability .....	45,230		45,230	
Enhanced surveillance .....	45,147		45,147	
Stockpile Responsiveness .....	40,000	10,000	50,000	
Program increase .....		[10,000]		
<b>Total, Engineering .....</b>	<b>193,123</b>	<b>22,300</b>	<b>215,423</b>	
<b>Inertial confinement fusion ignition and high yield</b>				
Ignition .....	79,575		79,575	
Support of other stockpile programs .....	23,565		23,565	
Diagnostics, cryogenics and experimental support .....	77,915		77,915	
Pulsed power inertial confinement fusion .....	7,596		7,596	
Joint program in high energy density laboratory plasmas .....	9,492		9,492	
Facility operations and target production .....	334,791	12,000	346,791	
Support increased shot rates .....		[12,000]		
<b>Total, Inertial confinement fusion and high yield .....</b>	<b>532,934</b>	<b>12,000</b>	<b>544,934</b>	
<b>Advanced simulation and computing</b>				
Advanced simulation and computing .....	709,244		709,244	
<b>Construction:</b>				
18-D-670, Exascale Class Computer Cooling Equipment, LNL .....	22,000		22,000	
18-D-620, Exascale Computing Facility Modernization Project .....	3,000		3,000	
<b>Total, Construction .....</b>	<b>25,000</b>	<b>0</b>	<b>25,000</b>	
<b>Total, Advanced simulation and computing .....</b>	<b>734,244</b>	<b>0</b>	<b>734,244</b>	
<b>Advanced manufacturing development</b>				
Additive manufacturing .....	12,000	12,000	24,000	
Program increase for research and infrastructure .....		[12,000]		
Component manufacturing development .....	38,644	36,400	75,044	

**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**  
(In Thousands of Dollars)

Program	FY 2018 Request	Senate Change	Senate Authorized
Improve production efficiency .....		[36,400]	
Process technology development .....	29,896		29,896
<b>Total, Advanced manufacturing development .....</b>	<b>80,540</b>	<b>48,400</b>	<b>128,940</b>
<b>Total, RD&amp;E .....</b>	<b>2,028,362</b>	<b>97,700</b>	<b>2,126,062</b>
<b>Infrastructure and operations</b>			
<b>Operating</b>			
<b>Operations of facilities</b>	868,000		868,000
Operations of facilities .....			
Kansas City National Security Campus .....	0		0
Lawrence Livermore National Laboratory .....	0		0
Los Alamos National Laboratory .....	0		0
Nevada National Security Site .....	0		0
Pantex .....	0		0
Sandia National Laboratories .....	0		0
Savannah River Site .....	0		0
Y-12 National security complex .....	0		0
<b>Total, Operations of facilities .....</b>	<b>868,000</b>	<b>0</b>	<b>868,000</b>
Safety and environmental operations .....	116,000		116,000
Maintenance and repair of facilities .....	360,000	50,000	410,000
Reduce deferred maintenance backlog .....		[50,000]	
Recapitalization .....	427,342	100,000	527,342
Reduce deferred maintenance backlog .....		[100,000]	
<b>Construction:</b>			
18-D-660, Fire Station, Y-12 .....	28,000		28,000
18-D-650, Tritium Production Capability, SPS .....	6,800		6,800

17-D-640, U1a Complex Enhancements Project, NNSS .....	22,100	22,100	
17-D-630, Expand Electrical Distribution System, LLNL .....	6,000	6,000	
17-D-126, PF-4 reconfiguration project, LANL .....	0	0	
17-D-125, RLOUB reconfiguration project, LANL .....	0	0	
16-D-621 TA-3 substation replacement, LANL .....	0	0	
16-D-515 Albuquerque complex project .....	98,000	98,000	
15-D-613 Emergency Operations Center, Y-12 .....	7,000	7,000	
15-D-302, TA-55 Reinvestment project, Phase 3, LANL .....	0	0	
11-D-801 TA-55 Reinvestment project Phase 2, LANL .....	0	0	
07-D-220 Radioactive liquid waste treatment facility upgrade project, LANL .....	2,100	2,100	
07-D-220-04 Transuranic liquid waste facility, LANL .....	17,895	17,895	
06-D-141 Uranium processing facility Y-12, Oak Ridge, TN .....	663,000	663,000	
<b>Chemistry and metallurgy replacement (CMRR)</b>			
04-D-125 Chemistry and metallurgy research facility replacement project, LANL .....	180,900	180,900	
04-D-125—04 RLUOB equipment installation .....	0	0	
04-D-125—05 PF -4 equipment installation .....	0	0	
<b>Total, Chemistry and metallurgy replacement (CMRR)</b>	<b>180,900</b>	<b>180,900</b>	
<b>Total, Construction</b>	<b>1,031,795</b>	<b>1,031,795</b>	
<b>Total, Infrastructure and operations</b>	<b>2,803,137</b>	<b>150,000</b>	<b>2,953,137</b>
<b>Secure transportation asset</b>			
Operations and equipment .....	219,464	219,464	
Program direction .....	105,600	105,600	
<b>Total, Secure transportation asset</b>	<b>325,064</b>	<b>0</b>	<b>325,064</b>
<b>Defense nuclear security</b>			
Operations and maintenance .....	686,977	5,000	691,977
Reduce deferred maintenance backlog .....		[5,000]	
Security improvements program .....	0	0	0
<b>Construction:</b>			
17-D-710 West end protected area reduction project, Y-12 .....	0	0	0
14-D-710 Device assembly facility argus installation project, NNSS, NV .....	0	0	0

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**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**  
(In Thousands of Dollars)

Program	FY 2018 Request	Senate Change	Senate Authorized
<b>Total, Defense nuclear security</b> .....	<b>686,977</b>	<b>5,000</b>	<b>691,977</b>
Information technology and cybersecurity .....	186,728		186,728
Legacy contractor pensions .....	232,050		232,050
<b>Subtotal, Weapons activities</b> .....	<b>10,239,344</b>	<b>273,600</b>	<b>10,512,944</b>
<b>Adjustments</b>			
Use of prior year balances .....	0		0
<b>Subtotal, Weapons activities</b> .....	<b>10,239,344</b>	<b>273,600</b>	<b>10,512,944</b>
<b>Rescission</b>			
Rescission of prior year balances .....	0		0
<b>Total, Weapons Activities</b> .....	<b>10,239,344</b>	<b>273,600</b>	<b>10,512,944</b>
<b>Defense Nuclear Nonproliferation</b>			
<b>Defense Nuclear Nonproliferation Programs</b>			
<b>Global material security</b>			
International nuclear security .....	46,339	20,000	66,339
Enhanced nuclear security .....		[20,000]	
Radiological security .....	146,340	20,000	166,340
Protection and safe disposal of radioactive sources .....		[20,000]	
Domestic radiologic security .....	0		0
International radiologic security .....	0		0
Nuclear smuggling detection .....	144,429	60,000	204,429
Radiation detection .....		[60,000]	
<b>Total, Global material security</b> .....	<b>337,108</b>	<b>100,000</b>	<b>437,108</b>



<b>Material management and minimization</b>			
HEU reactor conversion .....	125,500	125,500	
Nuclear material removal .....	32,925	32,925	
Material disposition .....	173,669	173,669	
<b>Total, Material management &amp; minimization .....</b>	<b>332,094</b>	<b>0</b>	<b>332,094</b>
Nonproliferation and arms control .....			200,000
Verification .....	129,703	70,297	
Defense nuclear nonproliferation R&D .....	446,095	[70,297]	446,095
<b>Nonproliferation construction</b>			
<b>U. S. Construction:</b>			
18-D-150 Surplus Plutonium Disposition Project .....	9,000		9,000
99-D-143 Mixed Oxide (MOX) Fuel Fabrication Facility, SRS .....	270,000	80,000	350,000
Increase to continue construction of MOX .....		[80,000]	
<b>Total, Nonproliferation construction .....</b>	<b>279,000</b>	<b>80,000</b>	<b>359,000</b>
<b>Total, Defense Nuclear Nonproliferation Programs .....</b>	<b>1,524,000</b>	<b>250,297</b>	<b>1,774,297</b>
Legacy contractor pensions .....			40,950
Nuclear counterterrorism and incident response program .....	277,360		277,360
<b>Subtotal, Defense Nuclear Nonproliferation .....</b>	<b>1,842,310</b>	<b>250,297</b>	<b>2,092,607</b>
<b>Adjustments</b>			
Use of prior year balances .....	0		0
<b>Subtotal, Defense Nuclear Nonproliferation .....</b>	<b>1,842,310</b>	<b>250,297</b>	<b>2,092,607</b>
Rescission .....			0
Rescission of prior year balances .....	-49,000		-49,000
<b>Total, Defense Nuclear Nonproliferation .....</b>	<b>1,793,310</b>	<b>250,297</b>	<b>2,043,607</b>
<b>Naval Reactors</b>			
Naval reactors development .....	473,267		473,267

**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**  
(in Thousands of Dollars)

Program	FY 2018 Request	Senate Change	Senate Authorized
Ohio replacement reactor systems development .....	0		0
Columbia-Class reactor systems development .....	156,700		156,700
S8G Prototype refueling .....	190,000		190,000
Naval reactors operations and infrastructure .....	466,884	38,000	504,884
Reduce deferred maintenance backlog .....		[38,000]	
Construction: .....			0
17-D-911, BL Fire System Upgrade .....	0		0
15-D-904 NRF Overpack Storage Expansion 3 .....	13,700		13,700
15-D-903 KL Fire System Upgrade .....	15,000		15,000
15-D-902 KS Engineerroom team trainer facility .....	0		0
14-D-902 KL Materials characterization laboratory expansion, KAPL .....	0		0
14-D-901 Spent fuel handling recapitalization project, NRF .....	116,000		116,000
10-D-903, Security upgrades, KS .....	0		0
<b>Total, Construction</b> .....	<b>144,700</b>	<b>0</b>	<b>144,700</b>
Program direction .....	48,200		48,200
<b>Subtotal, Naval Reactors</b> .....	<b>1,479,751</b>	<b>38,000</b>	<b>1,517,751</b>
<b>Rescission</b>			
Rescission of prior year balances .....	0		0
<b>Total, Naval Reactors</b> .....	<b>1,479,751</b>	<b>38,000</b>	<b>1,517,751</b>
<b>Federal Salaries and Expenses</b>			
Program direction .....	418,595		418,595
Rescission .....	0		0
<b>Total, Federal Salaries and Expenses</b> .....	<b>418,595</b>	<b>0</b>	<b>418,595</b>

2.600

**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**  
(In Thousands of Dollars)

Program	FY 2018 Request	Senate Change	Senate Authorized
Los Alamos National Laboratory .....	191,629		191,629
<b>Total, NNSA sites and Nevada off-sites .....</b>	<b>257,340</b>		<b>257,340</b>
<b>Oak Ridge Reservation:</b>			
<b>OR Nuclear facility D &amp; D</b>			
OR-0041—D&D - Y-12 .....	29,369		29,369
OR-0042—D&D -ORNL .....	48,110		48,110
<b>Construction</b>			
17—D-401 On-site waste disposal facility .....	5,000		5,000
14—D-403 Outfall 200 Mercury Treatment Facility .....	17,100		17,100
<b>Total, OR Nuclear facility D &amp; D .....</b>	<b>99,579</b>		<b>99,579</b>
U233 Disposition Program .....	33,784		33,784
<b>OR cleanup and disposition</b>			
OR cleanup and disposition .....	66,632		66,632
OR community & regulatory support .....	4,605		4,605
<b>Solid waste stabilization and disposition</b>			
Oak Ridge technology development .....	3,000		3,000
<b>Total, Oak Ridge Reservation .....</b>	<b>207,600</b>		<b>207,600</b>
<b>Office of River Protection:</b>			
<b>Waste treatment and immobilization plant</b>			
<b>Construction:</b>			
01—D-416 A-D WTP Subprojects A-D .....	655,000		655,000
01—D-416 E—Pretreatment Facility .....	35,000		35,000
<b>Total, 01—D-416 Construction .....</b>	<b>690,000</b>		<b>690,000</b>

WTP Commissioning .....	8,000	
<b>Total, Waste treatment &amp; immobilization plant .....</b>	<b>698,000</b>	
<b>Tank farm activities</b>		
Rad liquid tank waste stabilization and disposition .....	713,311	
<b>Construction:</b>		
15-D-409 Low activity waste pretreatment system, ORP .....	93,000	
<b>Total, Tank farm activities .....</b>	<b>806,311</b>	
<b>Total, Office of River protection .....</b>	<b>1,504,311</b>	
<b>Savannah River Sites:</b>		
<b>Savannah River risk management operations:</b>		
Nuclear material stabilization and disposition .....	0	0
SNF stabilization and disposition .....	0	0
Soil and water remediation-2035 .....	0	0
Solid waste stabilization and disposition .....	0	0
<b>Total, Savannah River risk management operations .....</b>	<b>0</b>	<b>0</b>
<b>Nuclear Material Management</b>		
Nuclear Material Management .....	323,482	323,482
<b>Environmental Cleanup</b>		
Environmental Cleanup .....	159,478	159,478
<b>Construction:</b>		
08-D-402, Emergency Operations Center .....	500	500
<b>Total, Environmental Cleanup .....</b>	<b>159,978</b>	<b>159,978</b>
SR community and regulatory support .....	11,249	11,249
<b>Radioactive liquid tank waste:</b>		
Radioactive liquid tank waste stabilization and disposition .....	597,258	597,258

**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**  
(In Thousands of Dollars)

Program	FY 2018 Request	Senate Change	Senate Authorized
<b>Construction:</b>			
18-D-401, SDU #8/9 .....	500		500
17-D-402—Saltstone Disposal Unit #7 .....	40,000		40,000
15-D-402—Saltstone Disposal Unit #6, SRS .....	0		0
05-D-405 Salt waste processing facility, Savannah River Site .....	150,000		150,000
<b>Total, Savannah River Site .....</b>	<b>1,282,467</b>		<b>1,282,467</b>
<b>Waste Isolation Pilot Plant</b>			
Operations and maintenance .....	206,617		206,617
Recovery activities .....	0		0
Central characterization project .....	22,500		22,500
Transportation .....	21,854		21,854
<b>Construction:</b>			
15-D-411 Safety significant confinement ventilation system, WIPP .....	46,000		46,000
15-D-412 Exhaust shaft, WIPP .....	19,600		19,600
<b>Total, Construction .....</b>	<b>65,600</b>		<b>65,600</b>
<b>Total, Waste Isolation Pilot Plant .....</b>	<b>316,571</b>		<b>316,571</b>
Program direction .....	300,000		300,000
Program support .....	6,979		6,979
WCF Mission Related Activities .....	22,109		22,109
Minority Serving Institution Partnership .....	6,000		6,000
<b>Safeguards and Security:</b>			
Oak Ridge Reservation .....	16,500		16,500
Paducah .....	14,049		14,049
Portsmouth .....	12,713		12,713

Richland/Hanford Site .....	75,600	75,600
Savannah River Site .....	142,314	142,314
Waste Isolation Pilot Project .....	5,200	5,200
West Valley .....	2,784	2,784
<b>Total, Safeguards and Security .....</b>	<b>269,160</b>	<b>269,160</b>
Cyber Security .....	43,342	43,342
Technology development .....	25,000	25,000
HQEF-0040—Excess Facilities .....	225,000	225,000
CB-0101 Economic assistance to the state of NM .....	0	0
<b>Subtotal, Defense environmental cleanup .....</b>	<b>5,537,186</b>	<b>5,537,186</b>
<b>Rescission:</b>		
Rescission of prior year balances .....	0	0
<b>Total, Defense Environmental Cleanup .....</b>	<b>5,537,186</b>	<b>5,537,186</b>
<b>Other Defense Activities</b>		
<b>Environment, health, safety and security</b>		
Environment, health, safety and security .....	130,693	130,693
Program direction .....	68,765	68,765
<b>Total, Environment, Health, safety and security .....</b>	<b>199,458</b>	<b>199,458</b>
<b>Independent enterprise assessments</b>		
Independent enterprise assessments .....	24,068	24,068
Program direction .....	50,863	50,863
<b>Total, Independent enterprise assessments .....</b>	<b>74,931</b>	<b>74,931</b>
Specialized security activities .....	237,912	237,912
<b>Office of Legacy Management</b>		
Legacy management .....	137,674	137,674

**SEC. 4701. DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS**  
(In Thousands of Dollars)

Program	FY 2018 Request	Senate Change	Senate Authorized
Program direction .....	16,932		16,932
<b>Total, Office of Legacy Management .....</b>	<b>154,606</b>	<b>0</b>	<b>154,606</b>
<b>Defense related administrative support</b>			
Chief financial officer .....	48,484		48,484
Chief information officer .....	91,443		91,443
Management .....	0		0
Project management oversight and Assessments .....	3,073		3,073
<b>Total, Defense related administrative support .....</b>	<b>143,000</b>	<b>0</b>	<b>143,000</b>
Office of hearings and appeals .....	5,605		5,605
<b>Subtotal, Other defense activities .....</b>	<b>815,512</b>	<b>0</b>	<b>815,512</b>
<b>Rescission:</b>			
Rescission of prior year balances (LM) .....	0		0
Rescission of prior year balances (EHS&S) .....	0		0
Rescission of prior year balances (OHA) .....	0		0
Rescission of prior year balances (SSA) .....	0		0
Rescission of prior year balances (EA) .....	0		0
Rescission of prior year balances (ESA) .....	0		0
<b>Total, Rescission .....</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total, Other Defense Activities .....</b>	<b>815,512</b>	<b>0</b>	<b>815,512</b>
<b>Defense Nuclear Waste Disposal</b>			
Yucca mountain and interim storage .....	30,000		30,000
<b>Uranium Enrichment D&amp;D Fund</b>			



Uranium Enrichment D&D Fund Contribution .....	0
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## **LEGISLATIVE REQUIREMENTS**

### **Departmental Recommendations**

One legislative proposal on the National Defense Authorization Act for Fiscal Year 2018 was submitted as an executive communication to the President of the Senate by the Assistant Secretary of Defense for Legislative Affairs of the Department of Defense and subsequently referred to the committee. Information on this executive communications appears below. This executive communication is available for review at the committee.

Executive Communication No. EC-1677

Dated June 6, 2017

Received in the Committee on Armed Services on June 6, 2017

### **Committee Action**

The committee vote to report the National Defense Authorization Act for Fiscal Year 2018 passed by roll call vote, 27–0, as follows: In favor: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Graham, Sasse, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, Heinrich, Warren, and Peters

The other 7 roll call votes on motions and amendments to the bill which were considered during the course of the full committee markup are as follows:

1. MOTION: To conduct full committee markup of the National Defense Authorization Act for Fiscal Year 2018 in closed session because of classified and proprietary information expected to be discussed.

Passed by roll call vote 18–9

In favor: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Graham, Sasse, Strange, Reed, Nelson, Donnelly, Hirono, and King

Opposed: Senators Cruz, McCaskill, Shaheen, Gillibrand, Blumenthal, Kaine, Heinrich, Warren, and Peters

2. MOTION: To include a provision that would vest in the Chief of Staff of each of the Armed Forces the responsibility for establishing, approving, and modifying the criteria, standards, and qualifications for military specialty codes within that Armed Force.

VOTE: Passed by roll call vote 15–12

In favor: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Graham, Sasse, Strange, and King

Opposed: Senators Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, Heinrich, Warren, and Peters

3. MOTION: To include a provision that would remove Department of Defense exemptions from Program and Program Management requirements in Section 503(c) of title 31, United States Code, and Program Improvement Management Officer requirements in Section 1123(a)(3) of title 31, United States Code.

VOTE: Failed by roll call vote 10–17

In favor: Senators Ernst, Perdue, Cruz, McCaskill, Gillibrand, Donnelly, King, Heinrich, Warren, and Peters

Opposed: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Tillis, Sullivan, Graham, Sasse, Strange, Reed, Nelson, Shaheen, Blumenthal, Hirono, and Kaine

4. MOTION: To include a provision that would allow each secretary of a military department to transfer funds designated for military museums to the World War I Centennial Commission.

VOTE: Failed by roll call vote 13–14

In favor: Senators Cruz, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, Warren, and Peters

Opposed: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Graham, Sasse, King, and Heinrich

5. MOTION: To include a provision that would direct the Secretary of Defense to reestablish port of call exchanges between the United States and Taiwan.

VOTE: Passed by roll call vote 21–6

In Favor: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Graham, Sasse, Strange, McCaskill, Shaheen, Gillibrand, Blumenthal, Donnelly, Heinrich, and Peters

Opposed: Senators Reed, Nelson, Hirono, Kaine, King, and Warren

6. MOTION: To strike the portions of a provision that would allow the Department of Defense to conduct all personnel background and security investigations adjudicated by the Consolidated Adjudication Facility of the Department.

VOTE: Failed by roll call vote 9–18

In favor: Senators McCaskill, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, and Peters

Opposed: Senators McCain, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Perdue, Cruz, Graham, Sasse, Strange, Reed, Nelson, Donnelly, and Heinrich

7. MOTION: To include a provision that would direct the Secretary of Defense to submit a report on the oversight of Department of Defense assistance for the Lebanese Armed Forces and the Lebanese Internal Security Forces.

VOTE: Failed by roll call vote 8–19

In favor: Senators Cotton, Ernst, Perdue, Cruz, Sasse, Donnelly, Kaine, and King

Opposed: Senators McCain, Inhofe, Wicker, Fischer, Rounds, Tillis, Sullivan, Graham, Strange, Reed, Nelson, McCaskill, Shaheen, Gillibrand, Blumenthal, Hirono, Heinrich, Warren, and Peters

### **Congressional Budget Office Cost Estimate**

It was not possible to include the Congressional Budget Office cost estimate on this legislation because it was not available at the time the report was filed. It will be included in material presented during Senate floor debate on the legislation.

**Regulatory Impact**

Paragraph 11(b) of rule XXVI of the Standing Rules of the Senate requires that a report on the regulatory impact of the bill be included in the report on the bill. The committee finds that there is no regulatory impact in the case of the National Defense Authorization Bill for Fiscal Year 2018.

**Changes in Existing Laws**

Pursuant to the provisions of paragraph 12 of rule XXVI of the Standing Rules of the Senate, the changes in existing law made by certain portions of the bill have not been shown in this section of the report because, in the opinion of the committee, it is necessary to dispense with showing such changes in order to expedite the business of the Senate and reduce the expenditure of funds.

## ADDITIONAL VIEWS

### ADDITIONAL VIEWS OF MR. ROUNDS

I strongly support the National Defense Authorization Act reported out of the Senate Armed Services Committee. I commend Chairman McCain and Ranking Member Reed for their outstanding bipartisan cooperation in once again moving this crucial bill to the full Senate. However, I strongly oppose a section of the bill that would adversely affect my constituents who are military retirees as well as those in many other states. These retirees may be disproportionately and unfairly impacted by increases in TRICARE prescription drug copay increases in the bill. Specifically, provisions in this bill would increase cost-sharing amounts for the TRICARE pharmacy benefits program for years 2018 through 2026.

The committee report does not state the rationale for these increases. Such increases in the Senate passed NDAA 2017, which fortunately did not survive conference, had the stated rationale that the increases would generate savings which could be used to improve health outcomes and the experience of care for beneficiaries of the military health system. I fully support improving care for beneficiaries of the military health system. However, increased TRICARE pharmacy copays must be carefully considered to make certain that they do not disproportionately impact one part of the beneficiary population. Unfortunately that would be the case for South Dakota and other largely rural states with large military retiree populations that live too far from Military Treatment Facilities to draw free prescriptions available there. Instead, these military retirees and their families are compelled to use the TRICARE mail order system or retail pharmacies and in both cases, they would have to pay higher copays.

For example, the copay for a generic drug ordered through the TRICARE mail order system would increase by \$10 dollars in Fiscal Year 2018. While this does not seem like a lot of money, these costs can add up rapidly if a military retiree and his or her family members are required to make multiple copays for multiple prescriptions every month.

Simply put—our military retirees who live distant from a Military Treatment Facility should not be unfairly forced to pay higher copays on prescription drugs just because of where they choose to live.

MIKE ROUNDS.

