

## **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**

#### **Deployment by the Army of an interim cruise missile defense capability (sec. 111)**

The committee recommends a provision that would direct the Army to consider alternate short-term options to fill its cruise missile defense gap with existing systems and accelerate the Indirect Fire Protection Capability (IFPC) system independently of Integrated Air and Missile Defense Battle Command System (IBCS) deployment, leveraging entities such as the Defense Digital Service or the Defense Innovation Unit Experimental and report the determination of that short-term option to the congressional defense committees no later than 90 days after the enactment of this act. The committee recognizes the Army's commitment to missile defense, as shown through the recently employed cross-functional team dedicated to missile defense, and commends the Army's dedication to the mission, as demonstrated through the increased funding allocation to the Maneuver-Short-Range Air Defense program in the fiscal year 2019 budget request. However, the committee is deeply concerned about the paucity of land-based cruise missile defense capabilities and the Army's corresponding inability to adequately protect the joint force's fixed site systems, such as airfields and logistical depots. Integrated air and missile defense is critical for joint operations, but assets are not currently ready to counter an adversary's potential complex, integrated attack, thus leaving critical assets vulnerable. Furthermore, current air and missile defense forces fall dangerously short of being an effective and foundational defense for the kind of conflict outlined by the National Defense Strategy. While adversary air and missile threats become more capable, more complex, more powerful, and more numerous, U.S. air and missile defense capabilities have regressed. Specifically, the IBCS and IFPC systems have struggled to make real progress in a reasonable amount of time.

The IFPC system has experienced significant delays while employing a risky acquisition strategy. By attempting to leverage the

IBCS system for IFPC, the Army exposes itself to additional delays if certain testing milestones are not achieved on time. Furthermore, the IBCS system is already delayed 7 years and has expended about \$1.0 billion to date. The committee is not confident that the Army will successfully deliver an IBCS system on its current timeline due to the previous and recurring schedule delays. Any further delays will jeopardize timelines for delivery of integrated capabilities. Furthermore, the Government Accountability Office has stated that the IFPC Increment 2–1 Block 1 Program has struggled with integration of all four components—the Sentinel radar, the AIM–9X interceptor, the IBCS fire control, and the multi-mission launcher. While the committee appreciates the Army’s dedication to innovation within the IBCS framework, the Army is overextended in its IBCS effort and is therefore slowing the development and deployment of IFPC.

As outlined by the National Defense Strategy, cruise missile defense is a critical capability to defend against Russian and Chinese threats. Without this capability, the committee is concerned the U.S. Army will fail to successfully perform its mission to protect the joint force.

### **Subtitle C—Navy Programs**

#### **Multiyear procurement authority for F/A–18E/F Super Hornet and EA–18G aircraft program (sec. 121)**

The committee recommends a provision that would provide the Department of Defense authority to enter into multiyear procurement for F/A–18E/F and EA–18G aircraft for up to 3 years.

#### **Multiyear procurement authority for E–2D Advanced Hawkeye (AHE) aircraft program (sec. 122)**

The committee recommends a provision that would provide to the Department of Defense authority to enter into multiyear procurement for E–2D aircraft for up to 5 years.

#### **Extension of limitation on use of sole-source shipbuilding contracts for certain vessels (sec. 123)**

The committee recommends a provision that would extend to include fiscal year 2019 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 or Expeditionary Fast Transports (EPFs), 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 10th EPF, and the Navy planned to shut down the production line.

Without an authorization or request in the President’s Budget, the Department of Defense Appropriations Act for Fiscal Year 2015 (Public Law 113–235) included procurement of an 11th EPF at a cost of \$200.0 million. Two more EPFs, the 12th and 13th, were added at a cost of \$225.0 million each in the Department of Defense Appropriations Act for Fiscal Year 2016 (Public Law 114–

113) and Department of Defense Appropriations Act for Fiscal Year 2018 (Public Law 115–141) respectively, without an authorization or request in the President’s Budget. The fiscal year 2015 and 2016 EPFs were awarded to a single shipbuilder, with no competition, using a sole source contract.

**Prohibition on availability of funds for Navy port waterborne security barriers (sec. 124)**

The committee recommends a provision that would prohibit funds from being used to procure new Navy port waterborne security barriers unless the Secretary of the Navy submits a waiver to the congressional defense committees.

The committee notes that the former Commander of Navy Installations Command, Vice Admiral Dixon Smith, testified before the committee on April 5, 2016, that current Navy maritime security barriers do “not meet the requirement for high-speed boats that could be used for a terrorist attack.”

Furthermore, the committee is aware of significant performance shortfalls of the current maritime security barriers that continue to result in unacceptable anti-terrorism and force protection gaps in at least one location.

The committee understands that the Navy is testing other Navy port waterborne security barriers, and Admiral Smith testified that these barriers will better be able to stop vessels. The committee further understands that these barriers may provide improved protection against low profile surface threats, capacity to withstand multiple coordinated attacks, and ability to endure environmental extremes.

The committee also notes that in a May 2016 report to the Congress, 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.” A business case analysis described in this report showed a significant decrease in sustainment costs for a new commercially available system.

The committee is concerned that the Navy has not set requirements, requested funding, or released a request for proposals to procure new Navy port waterborne security barriers.

Therefore, the committee urges the Navy to expeditiously set requirements, request funding, and release a request for proposals with full and open competition for new Navy port waterborne security barriers.

**Multiyear procurement authority for Standard Missile-6 (sec. 125)**

The committee recommends a provision authorizing the Secretary of the Navy to enter into multiyear contracts beginning in fiscal year 2019 for the procurement of 625 Standard Missile-6 guided missiles pending the Director of Cost Assessment and Program Evaluation confirmation of the Secretary of the Navy’s preliminary findings as required in subsection a of section 2306b of title 10, United States Code.

**Limitation on availability of funds for the Littoral Combat Ship (sec. 126)**

The committee recommends a provision that would prohibit funds from being used to exceed the total procurement quantity listed in revision five of the Littoral Combat Ship (LCS) acquisition strategy unless the Under Secretary of Defense for Acquisition and Sustainment submits to the congressional defense committees a certification.

The committee notes the Navy force structure assessment requirement and LCS acquisition strategy total procurement quantity of 32 LCS was met in fiscal year 2018. The committee further notes that in testimony before the Committee on Armed Services of the Senate on April 17, 2018, the joint statement of the Deputy Chief of Naval Operations for Warfare Systems and Assistant Secretary of the Navy for Research, Development and Acquisition stated, “The [budget request] includes one LCS in [fiscal year] 2019 to sustain the viability of the industrial base until the FFG(X) award in [fiscal year] 2020.”

Accordingly, the committee believes that before further LCS procurement, the Under Secretary of Defense for Acquisition and Sustainment should certify that such procurement: (1) Is in the national security interests of the United States; (2) Will not result in exceeding the low rate initial production quantity approved in the LCS acquisition strategy in effect at the time of the certification; and (3) Is necessary to maintain a full and open competition for the guided missile frigate (FFG(X)) with a single source award in fiscal year 2020.

**Nuclear refueling of aircraft carriers (sec. 127)**

The committee recommends a provision that would authorize the procurement of naval nuclear reactor power units and associated reactor components for the nuclear refueling of the following aircraft carriers: USS *John C. Stennis* (CVN-74), USS *Harry S. Truman* (CVN-75), USS *Ronald Reagan* (CVN-76), and USS *George H.W. Bush* (CVN-77).

The committee notes that the procurement lead time for some nuclear components required to conduct a nuclear refueling precedes the authorization for the associated aircraft carrier refueling by several years.

Accordingly, pursuant to section 7314a of title 10, United States Code, as added by section 1014 of this Act, in order to maintain appropriate oversight of program execution of the nuclear refueling of aircraft carriers, the committee recommends the authorizations contained in this provision.

**Limitation on funding for Amphibious Assault Vehicle Product Improvement Program (sec. 128)**

The committee recommends a provision that would limit twenty-five percent of funds authorized for Amphibious Assault Vehicles product improvement program (AAV PIP) from being obligated or expended until the Secretary of Defense provides the required report identified in the section titled Report on the Highest-priority roles and missions of the Department of Defense and the Armed Forces.

**Subtitle D—Air Force Programs****Prohibition on availability of funds for retirement of E-8 JSTARS aircraft (sec. 141)**

The committee recommends a provision that would prohibit the availability of funds to retire, or prepare to retire, any E-8 Joint Surveillance Target Attack Radar System (JSTARS) aircraft.

As part of its fiscal year 2019 budget request, the Air Force is seeking to cancel the JSTARS recapitalization program and retire three existing JSTARS aircraft. The Air Force's rationale is that current assessments demonstrate a recapitalized JSTARS aircraft will not be survivable in a highly contested environment during conflict. In its place, the Air Force is seeking to invest in a portfolio of new ideas and emerging capabilities to fulfill the Ground Moving Target Indicator (GMTI) mission.

The committee agrees with the National Defense Strategy on the need to focus on peer adversaries and is supportive of the Air Force's efforts to move to an Advanced Battle Management System. However, the committee is concerned with the Air Force's plan to divest current capability before its replacement technology is developed and operational. While the Air Force's plan for 2030 and beyond is aspirational with no guarantee of success, it is willing to make decisive, irreversible decisions about the retirement of current capabilities. The committee is concerned that this dynamic creates the potential, if not the likelihood, of extended capability gaps should the Air Force's ambitious plan not meet reality, either in time or feasibility.

The committee believes the Air Force must ensure a robust capability to execute the GMTI and airborne battle management missions throughout the transition to its planned Advanced Battle Management System.

**B-52H aircraft system modernization report (sec. 142)**

The committee recommends a provision requiring a long-term modernization plan for the B-52H aircraft due 180 days after the enactment of this Act.

The Air Force has stated it intends to keep the B-52H flying through 2040, at which time the newest aircraft, having left the assembly line in 1962, will be 78 years old. The committee recognizes the value of the B-52 and is supportive of the Department of Defense's efforts to continue to employ its unique capabilities for the foreseeable future.

However, the committee is cognizant that, given the age of the B-52, any modernization effort must consider the whole system. For example, because the radar is integrated into the electronic warfare system, the radar cannot simply be modernized without taking into account the characteristics of the future electronic warfare system. The committee believes it is imperative that the Air Force take a holistic approach to the modernization of the B-52 to ensure its continued relevance and effectiveness.

**Repeal of funding restriction for EC-130H Compass Call Recapitalization Program and review of program acceleration opportunities (sec. 143)**

The committee recommends a provision that would repeal Section 131 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328; 13 Stat. 2037) and require the Secretary of the Air Force to provide periodic reports to the congressional defense committees on the status of the EC-130H Compass Call recapitalization program.

**Subtitle E—Defense-Wide, Joint, and Multiservice Matters**  
**Multiyear procurement authority for C-130J aircraft program (sec. 151)**

The committee recommends a provision that would provide the Department of Defense authority to enter into multiyear procurement for C-130J aircraft for up to 5 years.

**Quarterly updates on the F-35 Joint Strike Fighter program (sec. 152)**

The committee recommends a provision that would require the Under Secretary of Defense for Acquisition and Sustainment to provide the congressional defense committees quarterly updates on the F-35 Joint Strike Fighter (JSF) program.

The committee notes the F-35 program is facing an inflection point in its lifecycle. The committee is encouraged that the program is at long last on the cusp of completing the System Development and Demonstration (SDD) phase but continues to have a number of concerns. The sustainment, modification, and modernization of the F-35s will be a continuous challenge for the Department of Defense (DOD) for decades to come. The committee believes if the right foundation is not established today, prior to a steep ramp in production, the viability of the program will be put into doubt, depriving our warfighters of urgently-needed capabilities necessary to deter and, if necessary, defeat any adversary.

The F-35 sustainment enterprise is struggling to provide the Air Force, Navy, and Marine Corps an affordable strategy that meets their operational needs. As the number of fielded aircraft nearly triples in the next 3 years, the challenge will grow exponentially. The committee is particularly concerned by the Not Mission Capable-Supply (NMC-S) rates of the F-35. In part, the high NMC-S rates are due to a lack of adequate repair capacity. The Government Accountability Office (GAO) published a report on October 26, 2017, titled “F-35 Aircraft Sustainment: DoD Needs to Address Challenges Affecting Readiness and Cost Transparency” (GAO-18-75), that stated the DOD “does not have enough capacity to repair F-35 aircraft parts because the establishment of repair capabilities at the military depots is 6 years behind schedule.” The report goes on to say, “Program officials in part attributed these delays to the military services not providing enough funding for depot requirements; however, service officials told [the GAO] the program office did not clearly identify some depot requirements in a timely manner necessary for the services to fund those requirements.”

The GAO cited five key challenges facing the Department: (1) Limited repair capacity at depots; (2) Spare parts shortages; (3) Undefined technical data needs; (4) Unfunded intermediate-level maintenance capabilities; and (5) Delays in the Autonomic Logistics Information System (ALIS) development and uncertain funding.

While production of aircraft has begun to rapidly increase, development of the baseline Block 3F configuration has continued. There are over 250 aircraft now delivered and fielded, despite the fact that Initial Operational Test and Evaluation (IOT&E) will not even begin until the fall of 2018. The committee notes the continued costs associated with the concurrency of development and production. In June 2017, the Joint Program Office (JPO) estimated the cost to upgrade the fielded fleet of 266 aircraft to the Block 3F System Development and Demonstration standard at \$1.6 billion. In January 2018, the JPO estimated the cost to upgrade the older Lot 2–8 aircraft to Block 4 will be approximately \$16.0 million per aircraft and the newer Lot 9–10 aircraft will be approximately \$13.0 million.

The committee is concerned by the enormous retrofit costs required to provide the warfighters the capabilities they need from the F–35. The committee supports upgrading as many F–35s as possible to the most advanced configuration in order to, most importantly, provide the best capability to the warfighter but also to reduce the complication of maintaining and sustaining multiple configurations of three different aircraft. Elsewhere in this bill, the committee provides additional funding for the modifications of F–35 aircraft. However, the committee is concerned the modification costs and lack of industrial capacity for parts will limit the Department's ability to achieve a rationalized and maximally capable F–35 fleet.

Despite the clear and obvious issues, the committee is not convinced the program office or Services are adequately addressing the problems, including providing adequate funding for spare parts and to stand up depot component repair capabilities and purchase the necessary lay-in material, both of which are years behind schedule.

The committee urges the Services to urgently prioritize funding spare parts and depot repair capability. Elsewhere in this legislation, the committee recommends funding increases to accelerate procurement of spare parts and the establishment of depot component repair capability.

At the same time, the sustainment enterprise is struggling to keep up with the number of fielded aircraft and modification costs continue to rise, the JPO is about to embark on the Block 4 modernization program, known as Continuous Capability Development and Delivery (C2D2). An enormously expensive and complicated effort in its own right, C2D2 seeks to rapidly field advanced capabilities to the warfighter under an agile software development construct. While supportive of moving to a more agile and rapid capability fielding cycle, the committee remains concerned with the ability of the Department to execute in an affordable and efficient manner on a program as large and complicated as the F–35.

The committee has been encouraged by the renewed commitment to transparency and communication with the Congress and looks

forward to continuing to work together to ensure the success of the F-35 program. In order to facilitate this collaboration, the committee believes it prudent for the Congress to be regularly updated on the status and direction of this vital program.

**Authority to procure additional polar-class icebreakers (sec. 153)**

The committee recommends a provision that would amend section 122 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91) by striking subsections (a) and (b), as well as providing authority to enter into a contract or contracts for up to six polar-class icebreakers.

**Budget Items**

**Army**

**Interim cruise missile defense capability for the Army**

The budget request for the Army included \$145.6 million in line number 3 of Missile Procurement, Army (MPA), for the Indirect Fire Protection Capability (IFPC) Increment 2-Intercept weapon system.

The committee believes this is insufficient to deliver the critical need for cruise missile defenses of fixed assets and to ensure any delays that emanate from the IFPC weapon system or the Integrated Air and Missile Defense Battle Command System.

Therefore, the committee recommends an increase of \$500.0 million in line number 3 of MPA for procurement of an interim cruise missile defense capability for the Army, which equates to about two batteries for such a capability.

**Army Tactical Missile System**

The budget request included \$221.7 million in line number 16 in Missile Procurement, Army (MPA), for Army Tactical Missile System (ATACMS) modifications.

The total request is for 402 ATACMS; however, the maximum capacity for ATACMS is 320.

Therefore, committee recommends a decrease of \$80.0 million in line number 16 in MPA to align total quantity to 320.

**Armored Multi-Purpose Vehicle**

The budget request included of \$480.0 million in line number 2 of Weapons and Tracked Combat Vehicles, Army (W&TCV) for the procurement of 131 Armored Multi-Purpose Vehicles (AMPV).

The committee recognizes the importance of the Army's efforts to modernize and to be better prepared to execute the National Defense Strategy. The Army has made clear its modernization priorities in order to rapidly build capabilities needed for combined arms maneuver against a peer adversary. The committee understands that the AMPV program continues to work through performance challenges of key components.

Therefore, the committee recommends a decrease of \$100.0 million in line number 2 W&TCV for the procurement of the AMPV.

**Stryker modification**

The budget request included \$287.5 million in line number 4 of Weapons and Tracked Combat Vehicles, Army (WTCV), for Stryker modifications.

The Army has requested a transfer of \$149.4 from line number 4 to line number 5 of WTCV for Stryker upgrades.

Therefore, the committee recommends a decrease of \$149.4 million in line number 4 of WTCV.

**Stryker upgrade**

The budget request included \$21.9 million in line number 5 of Weapons and Tracked Combat Vehicles, Army (WTCV), for Stryker upgrades.

The Army has requested a transfer of \$149.4 from line number 4 to line number 5 of WTCV for Stryker upgrades.

Therefore, the committee recommends an increase of \$149.4 million in line number 5 of WTCV.

**Bradley Program (Modifications)**

The budget request included \$625.0 million in line number 6 of Weapons and Tracked Combat Vehicles, Army (W&TCV), for the procurement of Bradley fighting vehicles.

The committee recognizes the importance of the Army's efforts to modernize and to be better prepared to execute the National Defense Strategy. The Army has made clear its modernization priorities in order to rapidly build capabilities needed for combined arms maneuver against a peer adversary.

Therefore, the committee recommends a decrease of \$324.0 million in line number 6 W&TCV for the procurement of the Bradley.

**Paladin Integrated Management**

The budget request included \$351.8 million in line number 8 of Weapons and Tracked Combat Vehicles, Army (WTCV), for the procurement of 30 Paladin Integrated Management (PIM) sets.

The committee recognizes the importance of the Army's efforts to modernize and to be better prepared to execute the National Defense Strategy. The Army has made clear its modernization priorities in order to rapidly build capabilities needed for combined arms maneuver against a peer adversary.

Accordingly, the committee recommends an increase of \$110.0 million in line number 8 WTCV for the procurement of the PIM.

**Small caliber reduction**

The budget request included \$2.2 billion for Procurement of Ammunition, Army (PAA), of which \$41.8 million was for LI 0132E00700, CTG 5.56 mm. The committee notes the increase in the appropriations omnibus for fiscal year 18 and therefore a decrease of \$6.7 million in PAA 0132E00700 due to forward financing.

**Army ammunition reduction**

The budget request included \$2.2 billion for Procurement of Ammunition, Army (PAA), of which \$184.0 million was for LI 8750E27501, Artillery, Fuze, Precision Guidance Kit (PGK).

The committee is very supportive of the PGK program, its combat performance to date, and the Army's goal to stockpile PGK rounds to reach its total Army munitions requirements. However, given the Army's plans to replace current PGK rounds with anti-jam capable PGK rounds in the near future and the requested three-fold increase compared to fiscal year 2018, the requested funding increase in fiscal year 2019 could be better aligned for other readiness priorities.

Accordingly, the committee recommends a decrease of \$100.0 million in PAA to LI 8750E27501 for PGK.

#### **Joint Light Tactical Vehicle**

The budget request included \$1.32 billion in line number 6 of Other Procurement, Army (OPA), for the procurement of 3,390 Joint Light Tactical Vehicles (JLTV).

The committee recognizes the importance of the Army's efforts to modernize and to be better prepared to execute the National Defense Strategy. The Army has made clear its modernization priorities in order to rapidly build capabilities needed for combined arms maneuver against a peer adversary.

Therefore, the committee recommends a decrease of \$250.0 million in line number 6 OPA for the procurement of the JLTV.

#### **U.S. Southern Command unfunded priorities increase**

The budget request included \$8.0 billion for Other Procurement, Army, of which \$46.0 million was for line number 71, Modification of In Service Equipment (Intelligence Support).

The committee notes that United States Southern Command identified intelligence, surveillance, and reconnaissance as an unfunded priority.

Accordingly, the committee recommends an increase of \$1.8 million to line number 71, Modification of In Service Equipment (Intelligence Support).

#### **Army automated data processing equipment**

The budget request included \$8.0 billion in Other Procurement, Army (OPA), of which \$201.9 million was for line number 112, 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 Department of Defense elements and services. As the Army consolidates IT purchases and develops integrated personnel systems in other budget lines, the committee expects to see a decrease in this budget line.

Accordingly, the committee recommends a decrease of \$15.0 million in OPA for line number 112, automated data processing equipment.

## Navy

### **F-35C Joint Strike Fighter**

The budget request included \$1.1 billion in line number 3 of Aircraft Procurement, Navy (APN), for procurement of nine F-35C aircraft.

The committee supports the F-35 Joint Strike Fighter and the delivery of its unique capabilities to our warfighters as quickly as reasonably possible. However, the committee remains concerned with the state of the F-35 sustainment enterprise and its ability to efficiently and affordably bear the rapidly increasing demands upon it.

The committee believes the enterprise is behind, particularly in regards to spare parts and depot component repair capacity. If the program does not allow the sustainment enterprise to catch up to the currently fielded and soon to be fielded aircraft, maintenance will continue to fall further behind its needed capability and capacity and will ultimately reduce the number of aircraft the Department of Defense is able to procure, sustain, and upgrade.

The Navy and Joint Program Office's belated appreciation for the need for a shipboard intermediate maintenance capability has further challenged the ability to effectively and efficiently sustain the Department of the Navy's F-35s going forward.

The committee believes it is prudent to establish a solid sustainment base before the steep ramp of production aircraft overwhelms the enterprise's ability to sustain them. Elsewhere in this legislation, the committee seeks to increase funding for F-35 spares, modifications, and depot repair capability.

Accordingly, the committee recommends a decrease of \$121.0 million and one aircraft in line number 3 of APN.

### **E-2D Advanced Hawkeye**

The budget request included \$742.7 million in line number 16 of Aviation Procurement, Navy (APN), for the procurement of four E-2D Advanced Hawkeye aircraft.

The committee recognizes the vital contributions of the E-2D Advanced Hawkeye to present and future carrier air wing operations. As the airborne battle manager, the E-2D is the linchpin for carrier strike group concepts of operations, including Naval Integrated Fire Control—Counter Air.

The committee is supportive of accelerating capabilities that enhance our abilities to deter and, if necessary, defeat any peer or near-peer adversary. The committee also recognizes the critical need to provide our weapons schools with the latest equipment to ensure the most relevant and effective tactics are being developed and disseminated.

Therefore, the committee recommends an increase of \$175.0 million in line number 16 of APN for the procurement of one additional E-2D aircraft. This item was included on the Chief of Naval Operations' unfunded priorities list.

### **USMC OA-X light attack procurement**

The budget request included no funds in Aircraft Procurement, Navy (APN), for the acquisition of a fleet of light attack aircraft.

The committee believes that, as the nation's middle-weight expeditionary force-in-readiness, the Marine Corps could benefit from a fleet of low-cost, light attack aircraft that would require minimal work to develop. These aircraft could conduct counterterrorism operations, perform close air support (CAS), and other missions in permissive and semi-permissive environments such as those where employing low altitude rotary-wing CAS platforms has proven prohibitive. These aircraft would also help season pilots to mitigate the potential for a shortfall in the future. The low cost per flight hour, simplicity, and tailored capabilities of a light attack platform could also provide a significant increase in the amount of support provided to Marine, joint force, and allied ground units. It may also help provide an affordable path to a light attack capability for allies, partners, and friends with limited financial resources.

The committee is concerned that the Marine Corps' future tactical aviation foundation rests almost solely on 5th generation fighters such as the F-35B and C variants. However, the bulk of Marine Corps aviation missions executed in the past 15 years revolve around providing CAS and non-traditional intelligence, surveillance and reconnaissance (NT-ISR) flights. While the F-35 offers unique capabilities against a peer competitor, the committee questions the value of using such an exquisite platform, with its high cost per flight hour, short time-on station, and low readiness rates, to perform CAS and NT-ISR missions in support of enduring requirements in Afghanistan, Iraq, Syria, on the African continent and for other limited contingency operations. Additionally, using a light attack platform to meet the majority of Marine CAS and NT-ISR requirements reduces the wear on expensive, low-observable aircraft and enables those aircrews to focus on their primary operational missions in high-end contested and degraded operations against potential peer adversaries.

Therefore, the committee recommends an increase of \$100.0 million in APN, line number 71, for a total of \$100.0 million, for acquisition of a light attack 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.

#### **C-40 aircraft**

The budget request included \$206.0 million in line number 18 of Aircraft Procurement, Navy (APN), for procurement of two C-40 aircraft.

The committee notes that two C-40 aircraft were included in the Department of Defense Appropriations Act for Fiscal Year 2018 (Public Law 115-141), and therefore the requested aircraft are excess to need.

Accordingly, the committee recommends a decrease of \$206.0 million and two aircraft in line 18 of APN.

### **USMC Medium-Altitude Long-Endurance Unmanned Aircraft System procurement**

The budget request included no funds in Aircraft Procurement, Navy (APN) for the acquisition of Medium-Altitude Long-Endurance (MALE) Group 5 drones.

The committee understands that the Marine Corps uses the RQ-21A Blackjack Unmanned Aircraft System (UAS) to provide Intelligence, Surveillance and Reconnaissance (ISR) for its Ground Combat Element. Numerous Urgent Universal Need Statements from operational commanders have repeatedly pointed out serious shortfalls in the range, payload, survivability, and overall effectiveness of the RQ-21 system. The proposed solution to many of these shortfalls is an, as yet undetermined, replacement system called the Marine Air Ground Task Force Unmanned Expeditionary Capability (MUX) system. This system's Initial Operational Capability date has shifted from 2015, as reported in the Marine Corps Aviation Plan in 2005, to sometime after 2026, with a Full Operational Capability forecasted for 2035 or later.

The committee is concerned that the Marine Corps' lack of reliable capability and capacity in the UAS field leaves them vulnerable to enemy action and less effective at completing their assigned missions over the next decade or longer. The committee also notes that the Marine Corps is currently operating MQ-9 Reaper UAS under contract to support operations in Afghanistan. The committee believes that a MALE Group 5 type UAS platform offers the best combination of capabilities available currently to support maneuver elements on the ground. Such platforms are able to perform ISR, Signals Intelligence, Electronic Warfare, fire support and communications relay tasks and have proven range, survivability, and reliability characteristics from years of use supporting ground and special operations units. Procurement of a Group 5 type MALE UAS solves all of the capability and performance gaps of the RQ-21 and will help the Marine Corps to more precisely refine its requirements for the future MUX program. Additionally, the experience gained in MALE UAS operations and fire support execution as well as the ISR acquired by using such a system will help to train and educate a new generation of Marine UAS operators and planners, who will then be ready to transition smoothly to a future MUX system.

Therefore, the committee recommends an increase of \$100.0 million in APN, line number 72, for a total of \$100.0 million, for acquisition of a Group 5 MALE UAS fleet.

### **EA-18G cognitive electronic warfare**

The budget request included \$1.2 billion in line number 30 of Aircraft Procurement, Navy (APN), for procurement of modifications to all models of the F/A-18 aircraft.

The committee recognizes the growing importance of electronic warfare and its critical role in any fight with a peer or near-peer adversary. The committee believes it is imperative the United States maintains relevant and effective electronic warfare capabilities. Moving forward, the ability to sense and react to the electromagnetic spectrum will be key to success in any conflict.

Therefore, the committee recommends an increase of \$13.9 million in line number 30 of APN for Reactive Electronic Attack Measures technology for the EA-18G Growler. This item was included on the Chief of Naval Operations' unfunded priorities list.

#### **Adaptive Radar Countermeasure**

The budget request included \$166.3 million in line number 49 of Aircraft Procurement, Navy (APN), for procurement of common electronic countermeasures equipment.

The committee understands that the survivability of U.S. strike fighters will clearly be essential to the success of any conflict with a peer or near-peer adversary.

Therefore, the committee recommends an increase of \$25.0 million in line number 49 of APN for Adaptive Radar Countermeasure (ARC). This item was included on the Chief of Naval Operations' unfunded priorities list.

#### **F-35B modifications**

The budget request included \$36.6 million in line number 59 of Aircraft Procurement, Navy (APN), F-35B STOVL Series, for procurement of modifications to F-35B aircraft.

The Department of Defense continues to deal with the ramifications of the concurrency of development and production of the F-35. As the number of fielded aircraft grows while development is still ongoing, the costs continue to rise. Concurrency will continue to be a logistical and financial burden as the program moves on to the Block 4 modernization program, known as Continuous Capability Development and Delivery. According to recent estimates, the cost of upgrading aircraft up to the Block 4 configuration will be from \$12.0 to \$16.0 million per jet, adding to the already considerable affordability issues facing the program.

The committee supports upgrading as many F-35s as possible to the most advanced configuration in order to, most importantly, provide the best capability to the warfighter, but also reduce the complication of maintaining and sustaining multiple configurations of three different aircraft.

Therefore, the committee recommends an increase of \$33.5 million in line number 59 of APN for F-35B modifications.

#### **F-35C modifications**

The budget request included \$21.2 million in line number 60 of Aircraft Procurement, Navy (APN), F-35 CV Series, for procurement of modifications to F-35C aircraft.

The Department of Defense continues to deal with the ramifications of the concurrency of development and production of the F-35. As the number of fielded aircraft grows while development is still ongoing, the costs continue to rise. Concurrency will continue to be a logistical and financial burden as the program moves on to the Block 4 modernization program, known as Continuous Capability Development and Delivery. According to recent estimates, the cost of upgrading aircraft up to the Block 4 configuration will be from \$12.0 to \$16.0 million per jet, adding to the already considerable affordability issues facing the program.

The committee supports upgrading as many F-35s as possible to the most advanced configuration in order to, most importantly, provide the best capability to the warfighter, but also reduce the complication of maintaining and sustaining multiple configurations of three different aircraft.

Therefore, the committee recommends an increase of \$5.0 million in line number 60 of APN for F-35C modifications.

### **F-35 spares and repair parts**

The budget request included \$1.8 billion in line number 64 of Aircraft Procurement, Navy (APN), for procurement of aircraft spares and repair parts.

The committee remains concerned by the readiness rates of the F-35 Joint Strike Fighter. A particularly concerning trend is the increase in the percentage of aircraft unable to fly while awaiting replacement parts due to inadequate supply support, known as the Not Mission Capable—Supply (NMC-S) rate. As the Director of Operational Test and Evaluation (DOT&E) notes in the January 2018 annual report, “Concurrency of production and development, lower-than-expected reliability for parts, inadequate fault isolation, and early program decisions to not adequately fund procurement of spares have contributed to the NMC-S rate.”

Given this situation, which will be exacerbated as production ramps up steeply in the coming years, the committee is perplexed by the Services’ combined decrease of \$546.4 million for F-35 spares between fiscal years 2020 and 2022. While the Department of Defense claims the cuts are due to “process improvements by Services to meet Departmental readiness efficiency goals in military spending,” the committee is unaware of any such process improvements that would resolve a NMC-S rate that is nearly double the goal, let alone that would warrant cutting a half billion dollars in spare parts. Should such process improvements exist, the committee strongly urges the Services to share them, as they would clearly bring immense benefit to the entire Department.

The committee believes the F-35 program urgently needs to increase the supply of spare parts.

Therefore, the committee recommends an increase of \$30.0 million for F-35B spares and repair parts and \$20.0 million F-35C spares and repair parts for a total increase of \$50.0 million in line number 64 of APN for aircraft spares and repair parts.

### **Sidewinder**

The budget request included \$77.9 million in line number 5 of Weapons Procurement, Navy (WPN), for the Sidewinder missile.

The committee notes that after several years of assuming risk in the procurement of munitions, the current level of munitions inventory is low. In an attempt to address this, the Department of Defense has requested many munitions be funded at the maximum production capacity. However, there are several munitions that are not funded at maximum capacity within the budget request.

Therefore, the committee recommends an increase of \$45.0 million in line number 5 of WPN for an additional 58 missiles. This increases procurement to the maximum capacity for Sidewinder. This was on the Chief of Naval Operations’ unfunded priorities list.

**Long range anti-ship missile**

The budget request included \$81.2 million in line number 17 of Weapons Procurement, Navy (WPN), for the long range anti-ship missile.

The committee notes that after several years of assuming risk in the procurement of munitions, the current level of munitions inventory is low. In an attempt to address this, the Department of Defense has requested many munitions be funded at the maximum production capacity. However, there are several munitions that are not funded at maximum capacity within the budget request. The long range anti-ship missile is a highly-capable system that is critical for the warfight.

The committee recommends an increase of \$30.0 million in line number 17 of WPN for an additional 10 missiles. This increases procurement to the maximum capacity for the long range anti-ship missile. This was on the Chief of Naval Operations' unfunded priorities list.

**Harpoon block II**

The budget request included \$14.8 million in line number 20 of Weapons Procurement, Navy (WPN), for the Harpoon missile.

The committee notes that after several years of assuming risk in the procurement of munitions the current level of munitions inventory is low. In an attempt to address this, the Department of Defense has requested many munitions be funded at the maximum production capacity. However, there are several munitions that are not funded at maximum capacity within the budget request.

The committee recommends an increase of \$12.0 million in line number 20 of WPN for an additional 48 missiles. This increases procurement to the maximum capacity for the Harpoon block II and accelerates meeting total requirement in fiscal year 2020 instead of 2021. This was on the Chief of Naval Operations' unfunded priorities list.

**Advanced Anti-Radiation Guided Missile**

The budget request included \$188.0 million in line number 21 in Weapons Procurement, Navy (WPN), for Harm Mods.

The committee notes that the Navy is currently in full rate production for the Advanced Anti-Radiation Guided Missile (AARGM) and requested to purchase 257 missiles in fiscal year 2019. The committee also notes that the Director of Operational Test and Evaluation (DOT&E) recently stated that the AARGM Block I was "not adequate to support an evaluation of operational effectiveness or survivability." Furthermore, DOT&E stated that the AARGM Block I "provides limited employment capability against advanced threat surface-to-air radar systems." Given the directive by new National Defense Strategy to prioritize competition against near-peer adversaries, the committee believes that the Navy must re-evaluate the AARGM program of record. The committee believes the Navy should seek a solution that will be operationally effective against advanced threats surface-to-air radar systems and deprioritize investments on programs that are not.

Therefore, the committee recommends a decrease of \$113.9 million in line number 21 in WPN, which reduces the quantity by 200 missiles.

#### **MK48 torpedoes**

The budget request included \$92.6 million in line number 27 of Weapons Procurement, Navy (WPN), for the MK-48 torpedo.

The committee notes that after several years of assuming risk in the procurement of munitions, the current level of munitions inventory is low. In an attempt to address this, the Department of Defense has requested many munitions be funded at the maximum production capacity. However, there are several munitions that are not funded at maximum capacity within the budget request.

The committee recommends an increase of \$11.0 million in line number 27 of WPN for an additional five torpedoes. This increases procurement to the maximum capacity for the MK-48. This was on the Chief of Naval Operations' unfunded priorities list.

#### **LCS module weapons**

The budget request included \$11.4 million in line number 39 of Weapons Procurement, Navy (WPN), for procurement of Littoral Combat Ship module weapons, including 90 Longbow Hellfire missiles.

The committee notes the Navy, which has procured 134 Longbow Hellfire Missiles for the surface-to-surface missile module (SSMM) program in previous years, plans to complete developmental testing, initial operational test and evaluation, and declare initial operational capability in fiscal year 2019.

Therefore, the committee recommends a decrease of \$6.0 million to reduce missile quantities until operational testing is completed.

#### **Advanced low-cost munitions ordnance**

The budget request included \$33.6 million in line number 10 of Procurement of Ammunition, Navy & Marine Corps (PANMC), of which \$19.5 million was for the procurement of the advanced low-cost munitions ordnance (ALAMO) rounds.

The committee believes the request to purchase 1,500 rounds is ahead of need as testing has not been complete.

Therefore, the committee recommends a decrease of \$13.0 million in line number 10 of PANMC to reduce the procurement of ALAMO by 1,000 rounds. The remaining 500 rounds should be used to complete operational testing.

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

The budget request included \$2.8 billion in line number 5 of Shipbuilding and Conversion, Navy (SCN), for *Virginia*-class submarine advance procurement.

The committee recommends an additional \$250.0 million for the Secretary of the Navy to use for: (1) Economic order quantity for the fiscal year 2019 through 2023 multiyear *Virginia*-class submarine procurement, which may include the addition of a third submarine in both fiscal years 2022 and 2023; or (2) To expand second and third tier contractors in the submarine industrial base to support planned increased production requirements.

If the Secretary pursues option (2), consistent with the statement of managers accompanying the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), 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 additional submarines, 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.

Therefore, the committee recommends an increase of \$250.0 million in line number 5 of SCN for *Virginia*-class submarine advance procurement.

#### **DDG–1000**

The budget request included \$271.0 million in line number 8 of Shipbuilding and Conversion, Navy (SCN), for procurement of the DDG–1000 program.

The committee notes these funds are requested as subsequent year full funding. The committee is unaware of incremental funding authority for this program in fiscal year 2019.

Therefore, the committee recommends a decrease of \$271.0 million in line number 8 of SCN and transfer of these funds to line number 28 for completion of the prior year shipbuilding program.

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

The budget request included \$5.3 billion in line number 9 of Shipbuilding and Conversion, Navy (SCN), for *Arleigh Burke*-class destroyer procurement.

The committee notes the budget request includes procurement of three *Arleigh Burke*-class destroyers, which is one additional destroyer in fiscal year 2019 as compared to last year’s request. The committee further notes the unit costs of the fiscal year 2019 destroyers slightly increased. The committee believes a higher procurement rate should decrease unit costs.

Therefore, the committee recommends a decrease of \$27.5 million in line number 9 of SCN.

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

The budget request included \$391.9 million in line number 10 of Shipbuilding and Conversion, Navy (SCN), for *Arleigh Burke*-class destroyer advance procurement.

The committee notes the Navy future years defense program includes procurement of two *Arleigh Burke*-class destroyers in fiscal year 2020, which would be procured using a multiyear procurement contract. The committee understands that advance procurement of long lead time material could reduce component costs and enable optimal ship construction intervals.

Therefore, the committee recommends an increase of \$250.0 million in line number 10 of SCN.

### **Littoral Combat Ship**

The budget request included \$749.2 million in line number 11 of Shipbuilding and Conversion, Navy (SCN), for procurement of one Littoral Combat Ship (LCS).

The committee notes the one LCS requested in fiscal year 2019 is the last ship of the class. Accordingly, the committee recommends adjusting the plans and other cost categories to align with the end of production.

Therefore, the committee recommends a decrease of \$70.0 million in line number 11 of SCN. Additionally, the committee requests the Secretary of the Navy establish a separate SCN line number for the Frigate (FFG(X)) in the fiscal year 2020 budget request.

### **LPD-class amphibious transport ship advance procurement**

The budget request included no funding in line number 12 of Shipbuilding and Conversion, Navy (SCN), for procurement or advance procurement of LPD-class amphibious transport ships.

The committee notes the Navy has identified LPD-30, which was authorized and appropriated in fiscal year 2018, as the first Flight II LPD. The committee believes sufficient design maturity and cost estimate precision have been achieved to award a multiyear procurement contract for Flight II LPD-class ships, which will be procured in fiscal years 2020 through 2024.

The committee further notes that the Secretary of the Navy and Commandant of the Marine Corps testified on April 19, 2018, before the Committee on Armed Services of the Senate that they support the addition of the Vertical Launch System to Flight II LPD-class ships. The committee believes this increased capability merits serious consideration, including the applicable concepts of operation, requirements, and ship design changes.

Therefore, the committee recommends an increase of \$650.0 million in line number 12 of SCN for advance procurement for Flight II LPD-class ships, which the Secretary of the Navy may use for: (1) Economic order quantity procurement associated with a multiyear procurement contract or contracts awarded pursuant to section 2306b of title 10, United States Code; and/or (2) Advance procurement of the amphibious transport ship designated LPD-31.

### **Outfitting**

The budget request included \$634.0 million in line number 21 of Shipbuilding and Conversion, Navy (SCN), for outfitting.

Based on planned delivery dates, the committee notes post-delivery funding is early to need for CVN-79, DDG-1002, and SSN-793. The committee also notes unjustified outfitting cost growth for LCS-11, LCS-13, LCS-14, LCS-15, LCS-16, LCS-17, LCS-18, LCS-19, LCS-20, LCS-22, DDG-119, and DDG-121.

Therefore, the committee recommends a decrease of \$72.0 million in line number 21 of SCN.

### Service craft

The budget request included \$72.1 million in line number 23 of Shipbuilding and Conversion, Navy (SCN), for service craft.

The committee understands the current Navy Surface Warfare Officer (SWO) candidate training curriculum is comprised of primarily classroom and simulator training methods. The committee believes SWO candidates lack sufficient at-sea training before reporting to their first ships. The committee is concerned that the lack of practical at-sea experience before reporting to their first ships may result in SWOs having gaps in their foundational safety, seamanship, and navigation knowledge, skills, and experience. The committee has previously encouraged the Navy to utilize Navy Yard Patrol (YP) craft for SWO candidate training in the Senate report accompanying S. 2943 (S. Rept. 114–255) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328). Additionally, the 2017 Comprehensive Review of Surface Force Incidents directed an evaluation of the use of YP craft in all officer accession programs, including the feasibility of expanding YP craft use.

Since at least 1975, YP craft have been used by the Navy to train naval officer candidates. Currently, the Navy maintains 24 YP craft, based in Annapolis, Maryland, to provide realistic, at-sea training in basic to advanced navigation and seamanship. Of these 24 craft, Navy officials have stated six YP 676 class craft are slated for near-term disposal, 12 YP 676 class craft are only able to conduct local operations, and six YP 703 class craft can conduct out-of-area training with a range of 1,680 nautical miles and 40 personnel embarked.

The Navy conducts annual Atlantic Patrol summer training cruises, known as LANTPAT, with the six YP 703 class craft, which provide four-week cruises for approximately 400 Naval Academy midshipmen and international students with port visits in locations such as New York, Rhode Island, and Massachusetts. The Navy plans to expand this effort by having 80 Naval Reserve Officer Training Corps midshipmen take part in LANTPAT cruises in both 2018 and 2019. The committee understands that, if additional craft were available, potentially all of the approximately 260 NROTC midshipmen who will become SWOs could take part in a LANTPAT cruise. The additional craft could also increase LANTPAT participation of Naval Academy midshipmen, as well as new SWO candidate graduates of the Officer Candidate School.

In order to increase LANTPAT training opportunities for SWO candidates from all accession sources as soon as possible, the committee believes that, at a minimum, the Navy should replace the six YP 676 class craft slated for disposal with new YP 703 craft that incorporate modernization, training, and habitability improvements derived from lessons learned with existing YP 703 craft.

The committee urges the Secretary of the Navy to release a request for proposals for the detail design and construction of upgraded YP 703 class craft not later than fiscal year 2019, with an award for the first such craft not later than fiscal year 2020. Based on YP 703 class craft actual procurement costs, the committee believes the design, non-recurring engineering, government support,

and construction costs for the first upgraded YP 703 class craft should not exceed \$25.0 million.

Therefore, the committee recommends an increase of \$25.0 million in line number 23 of SCN.

### **Completion of prior year shipbuilding programs**

The budget request included \$207.1 million in line number 28 of Shipbuilding and Conversion, Navy (SCN), for completion of prior year shipbuilding programs.

The committee notes \$271.0 million are requested in line number 8 as subsequent year full funding for the DDG-1000 program. The committee is unaware of incremental funding authority for this program in fiscal year 2019.

The committee further notes the budget request in line number 28 funds completion of prior year shipbuilding programs, including cost overruns for seven Littoral Combat Ships, three *Arleigh Burke*-class destroyers, three Ship to Shore Connectors, CVN-78, and LHA-7.

Therefore, the committee recommends an increase of \$271.0 million in line number 28 of SCN and the transfer of these funds from line number 8.

### **Cable ship**

The budget request included no funding in line number 29 of Shipbuilding and Conversion, Navy (SCN), for a cable ship.

The committee recommends an increase of \$250.0 million in line number 29 of SCN 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.

### **Other navigation equipment**

The budget request included \$63.3 million in line number 4 of Other Procurement, Navy (OPN), for procurement of other navigation equipment.

The committee notes the 2017 Comprehensive Review of Surface Force Incidents recommended accelerating the transition to Electronic Chart Display and Information System—Navy (ECDIS-N) versions 9.4 and greater on all ships.

Therefore, the committee recommends an increase of \$10.0 million in line number 4 of OPN to accelerate the installation of ECDIS-N upgrades.

### **DDG-1000 class support equipment**

The budget request included \$89.7 million in line number 16 of Other Procurement, Navy (OPN), for procurement of DDG-1000 class support equipment.

The committee notes the fiscal year 2019 request increased \$38.4 million above last year's planned request for fiscal year 2019 of \$51.3 million. The committee further notes the Navy attributes this \$38.4 million increase to funding activities that overlap with those funded in the DDG-1000 research and development program element (PE 0204202N), which increased \$40.8 million above last year's planned request for fiscal year 2019.

Therefore, the committee recommends a decrease of \$38.4 million in line number 16 of OPN.

#### **Items less than \$5 million**

The budget request included \$126.9 million in line number 22 of Other Procurement, Navy (OPN), for procurement of items less than \$5.0 million.

The committee notes this funding includes \$32.9 million for CVN-78 in-service requirements. However, the committee lacks sufficient budget justification (e.g., P-3a exhibit) to support this request.

Therefore, the committee recommends a decrease of \$25.0 million in line number 22 of OPN and requests the Navy consolidate *Ford*-class OPN requests in a new line number.

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

The budget request included \$124.1 million in line number 32 of Other Procurement, Navy (OPN), for procurement of Littoral Combat Ship (LCS) mine countermeasures mission modules.

The committee notes \$19.3 million in line number 52 would procure Knifefish and Unmanned Influence Sweep System training assets for LCS mine countermeasures mission modules.

The committee further notes \$8.6 million in line number 53 would procure a Coastal Battlefield Reconnaissance and Analysis airborne mine countermeasures system block one training asset for LCS mine countermeasures mission modules.

Therefore, the committee recommends an increase of \$27.9 million and discontinuing use of line numbers 52 and 53 of OPN for procurement of systems associated with LCS mine countermeasures mission modules.

#### **LCS anti-submarine warfare mission modules**

The budget request included \$57.3 million in line number 33 of Other Procurement, Navy (OPN), for procurement of Littoral Combat Ship (LCS) anti-submarine warfare mission modules.

The committee recommends procuring one Escort Mission Module (EMM) in fiscal year 2019 and delaying procurement at a rate of two EMMs per year until operational testing is completed for both LCS variants, which is planned for fiscal year 2020.

Therefore, the committee recommends a decrease of \$18.0 million in line number 33 of OPN.

#### **LCS surface warfare mission modules**

The budget request included \$26.0 million in line number 34 of Other Procurement, Navy (OPN), for procurement of Littoral Combat Ship (LCS) surface warfare mission modules.

The committee notes the surface-to-surface missile module (SSMM) program plans to complete developmental testing, initial operational test and evaluation, declare initial operational capability (IOC), and procure 2 additional SSMMs in fiscal year 2019.

Therefore, the committee recommends a decrease of \$11.5 million in line number 34 of OPN to limit procurement to a single SSMM until IOC is declared.

**Surface ship torpedo defense**

The budget request included \$11.3 million in line number 42 of Other Procurement, Navy (OPN), for surface ship torpedo defense programs.

The committee notes a delay in the AN/SLQ-25E contract award.

Therefore, the committee recommends a decrease of \$5.0 million in line number 42 of OPN.

Additionally, the committee is concerned by the termination of the Torpedo Warning System (TWS), which addressed a critical capability gap. Accordingly, not later than January 1, 2019, the committee directs the Chief of Naval Operations to provide the congressional defense committees with a report on the specific capability gap or gaps that the TWS was rapidly fielded to address, the performance of the TWS in addressing such gap or gaps, the warfighting risk that will be accepted without the TWS deployed, and the Navy's plans to address the specific capability gap or gaps without the TWS deployed.

**Cooperative Engagement Capability**

The budget request included \$44.2 million in line number 48 of Other Procurement, Navy (OPN), for procurement of Cooperative Engagement Capability.

The committee notes Common Array Block pre-production unit schedule delays.

Therefore, the committee recommends a decrease of \$6.0 million in line number 48 of OPN.

**Minesweeping system replacement**

The budget request included \$35.7 million in line number 52 of Other Procurement, Navy (OPN), for procurement of minesweeping replacement systems.

The committee notes \$19.3 million of this funding would procure Knifefish and Unmanned Influence Sweep System training assets for Littoral Combat Ship (LCS) mine countermeasures mission modules.

Therefore, the committee recommends a decrease of \$19.3 million in line number 52 of OPN, transfer of these funds to line number 32, and discontinuing use of line number 52 for procurement of systems associated with LCS mine countermeasures mission modules.

**Shallow water mine countermeasures**

The budget request included \$8.6 million in line number 53 of Other Procurement, Navy (OPN), for procurement of shallow water mine countermeasures systems.

The committee notes this funding would procure a Coastal Battlefield Reconnaissance and Analysis airborne mine countermeasures system block one training asset for Littoral Combat Ship (LCS) mine countermeasures mission modules.

Therefore, the committee recommends a decrease of \$8.6 million in line number 53 of OPN, transfer of these funds to line number 32, and discontinuing use of line number 53 for procurement of systems associated with LCS mine countermeasures mission modules.

### **Next Generation Surface Search Radar**

The budget request included \$148.4 million in line number 71 of Other Procurement, Navy (OPN), for procurement of items less than \$5.0 million.

The committee notes \$58.4 million of this request would fund the Next Generation Surface Search Radar (NGSSR) program, including non-recurring engineering, procurement of 43 units, and installation. The committee further notes installations are scheduled to begin in the second quarter of fiscal year 2020.

Therefore, the committee recommends a decrease of \$5.4 million in line number 71 of OPN due to installation funding ahead of need. Additionally, while recognizing fielding NGSSR is a priority for the Navy, the committee is concerned by the cost and schedule risk posed by the concurrent nature of the acquisition strategy, specifically concurrent NGSSR engineering, testing, shipboard integration, and procurement of 43 NGSSRs in fiscal year 2019.

Additionally, the committee understands that NGSSR will be the primary navigation radar replacement. The committee believes the NGSSR should include the capability to record and retain radar data for investigative and other purposes.

Accordingly, the committee directs the Secretary of the Navy to submit a report to the congressional defense committees not later than October 1, 2018, on the capability of surface navigation radars to record and retain radar data for investigative and other purposes. This report shall include: (1) The current capability and capacity of surface navigation radars (e.g., AN/SPS-73) to record and retain radar data; (2) The current methods used by the Navy to reconstruct surface navigation radar data for investigative and other purposes; (3) The planned NGSSR capability and capacity to record and retain radar data; and (4) Once the NGSSR is fielded, the methods planned to be used by the Navy to reconstruct surface navigation radar data for investigative and other purposes.

### **Cryptologic communications equipment**

The budget request included \$14.2 million in line number 82 of Other Procurement, Navy (OPN), for procurement of cryptologic communications equipment.

The committee notes that U.S. Southern Command identified intelligence, surveillance, and reconnaissance as an unfunded priority with a specific need for increased cryptologic carry-on collection capability.

Therefore, the committee recommends an increase of \$2.8 million in line number 82 of OPN.

### **Sonobuoys**

The budget request included \$199.0 million in line number 88 of Other Procurement, Navy (OPN), for the procurement of sonobuoys.

The committee notes greater than expected sonobuoy expenditures in fiscal year 2018 resulted in the Chief of Naval Operations requesting procurement of additional sonobuoys as a fiscal year 2019 unfunded priority.

Therefore, the committee recommends an increase of \$36.0 million in line number 88 of OPN.

### **Navy port waterborne security barriers**

The budget request included \$175.4 million in line number 129 of Other Procurement, Navy (OPN), for the procurement of physical security equipment.

The committee notes the former Commander of Navy Installations Command, Vice Admiral Dixon Smith, testified before the Committee on Armed Services of the Senate on April 5, 2016, that current Navy maritime security barriers do “not meet the requirement for high-speed boats that could be used for a terrorist attack.”

Furthermore, the committee is aware of significant performance shortfalls of the current maritime security barriers that continue to result in unacceptable anti-terrorism and force protection gaps in at least one location.

The committee is concerned that the Navy has not set requirements, requested funding, or released a request for proposals to procure new Navy port waterborne security barriers.

Accordingly, the committee urges the Navy to expeditiously set requirements, request funding, and release a request for proposals with full and open competition for new Navy port waterborne security barriers.

Therefore, the committee recommends an increase of \$20.0 million in line number 129 of OPN.

### **Amphibious Assault Vehicle Survivability Upgrade**

The budget request included \$156.2 million in line number 1 of Procurement, Marine Corps (PMC), for the procurement of Amphibious Assault Vehicle (AAV) Survivability Upgrade Program (SUP) armored vehicles.

The committee understands that the AAV SUP will produce marginal improvements in the vehicle’s overall survivability and that few of the proposed enhancements address threats the vehicle may face in conflict against a peer adversary. The AAV is a decades-old platform with legacy amphibious and combat capabilities that do not meet the needs of modern Marine amphibious forcible entry operations. Rather than continue to invest in a vehicle that, even in upgraded form, will not provide adequate maneuverability, survivability or ship-to-shore performance the committee believes these funds would be better used elsewhere to support modernization initiatives across the force.

Therefore, the committee recommends a decrease of \$78.1 million in line number 1 of PMC.

### **Command post systems**

The budget request included \$124.8 million in line number 32 of Procurement, Marine Corps (PMC), for the procurement of command post systems.

The committee notes that the majority of this budget line is dedicated to procuring Networking On The Move (NOTM) systems for air and ground platforms. The NOTM system represents one method to achieve long range data and voice communications, however it has operational performance issues and is not considered a Low Probability of Detection or Low Probability of Intercept system.

Therefore, the committee recommends a decrease of \$25.0 million in line number 32 of PMC.

### **Training devices**

The budget request included \$52.0 million in line number 48 of Procurement, Marine Corps (PMC), for the procurement of training devices.

This budget line includes funding for training devices and simulators for obsolete equipment to include the Amphibious Assault Vehicle, Light Armored Vehicle, M16A2, M249 SAW, MP5, M240G, Mk-153 SMAW, and other systems.

Therefore, the committee recommends a decrease of \$10.4 million in line number 48 of PMC.

## **Air Force**

### **F-35A Joint Strike Fighter**

The budget request included \$4.3 billion in line number 1 of Aircraft Procurement, Air Force (APAF), for procurement of 48 F-35A aircraft.

The committee supports the F-35 Joint Strike Fighter and delivery of its unique capabilities to our warfighters as quickly as reasonably possible. However, the committee remains concerned with the state of the F-35 sustainment enterprise and its ability to bear the rapidly increasing demands upon it efficiently and affordably. The committee believes the enterprise is behind, particularly in regards to spare parts and depot component repair capacity. If the program does not allow the sustainment enterprise to catch up to the currently fielded and soon to be fielded aircraft, sustainment capability will continue to fall farther and further behind its needed capability and capacity, which will ultimately reduce the number of aircraft the Department of Defense is able to procure, sustain, and upgrade.

The committee believes it is prudent to establish a solid sustainment base before the steep ramp of production aircraft overwhelms the enterprise's ability to sustain them. Elsewhere in this legislation, the committee seeks to increase funding for F-35 spares, modifications, and depot repair capability.

Accordingly, the committee recommends an increase of \$25.0 million for depot repair capability standup and a decrease of \$92.5 million, or one aircraft, for a total decrease of \$67.5 million in line number 1 of APAF.

### **OA-X light attack aircraft**

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

The recently published National Defense Strategy (NDS) clearly states the need to conduct operations in permissive environments with lower-cost platforms and concepts of operations than is being done currently, both to be more fiscally efficient and to free our more capable, multi-role aircraft assets to focus on rebuilding readiness and deterring peer competitors. The NDS additionally places a strong emphasis on the need to enhance partnerships with our allies throughout the world. The committee strongly believes that a light attack fleet is ideally suited to meet both of these strategic demands.

The committee has been encouraged by the Air Force's moves towards pursuing the acquisition of a fleet of light attack aircraft, including a \$2.4 billion wedge in the out years of the future years defense program. However, the committee believes that the Air Force continues to move slower than is warranted or than the speed at which senior leadership proclaims they want to move.

Therefore, the committee recommends an increase of \$350.0 million in APAF, line number 18, for the acquisition of light attack aircraft and their associated long lead material.

### **KC-46A Pegasus**

The budget request included \$2.6 billion in line number 4 of Aircraft Procurement, Air Force (APAF), for procurement of 15 KC-46 tanker aircraft.

The committee remains supportive of the KC-46 tanker but continues to be frustrated by the repeated delays to achieving required certification and unforeseen technical challenges that continue to plague the program. Over the seven years since the program contract was awarded in February 2011, key schedule dates have slipped later and later, in some cases more than three years. The Government Accountability Office (GAO) published a report on April 18, 2018, KC-46 Modernization: Program Cost is Stable, but Schedule May Be Further Delayed," which states that "the program updated its delivery schedule in 2017 to allow Boeing to delay delivery of the first 18 fully capable aircraft from August 2017 to October 2018 / 14 months. A schedule risk assessment, as well as GAO's analysis, however projects that deliveries could slip to May 2019, 21 months from the original schedule, if risks are not mitigated." With military certification testing, receiver certification, and resolution of Category 1 discrepancies still to be completed, the committee remains unconvinced that there will not be further delays to the program.

While attention has been focused on the delivery of the first aircraft, the committee notes that first delivery is simply the first step to bringing capability to the warfighter. Successful completion of full receiver aircraft certification, Initial Operational Test and Evaluation, delivery of the required assets available (to include wing air refueling pod sets), and a positive full rate production decision will be the true guideposts.

Additionally, while the committee understands the need to be flexible as a program encounters delays, the committee is disappointed the Air Force has, on more than one occasion, changed the criteria the contractor needs to meet before first delivery. The committee expects the Air Force to hold the contractor to the contracted agreements, and should the contract be breached, pursue appropriate consideration.

Meanwhile, production of aircraft continues apace, with nearly 40 aircraft in some phase of production or modification. As the April 18, 2018, GAO report notes, "Based on the updated schedule, Boeing will be producing 49 aircraft, or about 27 percent of the total aircraft the Air Force will buy, before developmental testing is complete." While the contractor is responsible for paying for any required modifications, the concurrency of production and development will impact delivering capability to the Air Force.

Additionally, the Government Accountability Office identified \$102.7 million of funding for KC-46 interim contractor support that is early to need.

Therefore, the committee recommends a decrease of \$145.2 million, or one KC-46 aircraft, and \$102.7 million for interim contractor support for a total decrease of \$247.9 million in line number 4 of APAF.

### **MQ-9**

The budget request included \$221.7 million in line number 17 of Aircraft Procurement, Air Force (APAF), for procurement of 29 MQ-9 aircraft.

The committee understands the Air Force is moving toward establishing an Advanced Battle Management System concept. As part of this effort, the Air Force intends to emplace a Ground Moving Target Indicator (GMTI) capability on a number of its MQ-9 Reaper fleet to provide GMTI in low-threat areas. The committee is supportive of providing more capabilities to its MQ-9 fleet and of executing operations in permissive environments in a more fiscally efficient manner.

However, the committee is concerned that the Air Force's plan to use MQ-9s for GMTI missions without increasing capacity will overtask an already heavily utilized asset.

Accordingly, the committee recommends an increase of \$120.0 million in line 17 of APAF for six additional MQ-9 aircraft in order to accelerate the Air Force's Advanced Battle Management System.

### **B-52**

The budget request included \$105.5 million in line number 21 of Aircraft Procurement, Air Force (APAF), for B-52 modifications.

The Air Force has requested a transfer of \$14.8 million from this line to Research, Development, Test & Evaluation (RDT&E), Air Force.

Therefore, the committee recommends a decrease of \$14.8 million in line number 21 of APAF.

### **Long range anti-ship missile certification on the B-52**

The budget request included \$105.5 million in line number 21 in Aircraft Procurement, Air Force (APAF), for B-52.

The B-52 will be certified to carry the Joint Air-to-Surface Standoff Missile Extended Range (JASSM-ER). The long range anti-ship missile (LRASM) has the same physical configuration as the JASSM-ER. The Air Force is procuring 50 LRASMs. Currently, the LRASM is certified to be carried on the B-1. However, given the Air Force plans to eventually retire the B-1, and the critical capability and expensive nature of the LRASM, the committee requires the Air Force certify the B-52 to carry the LRASM.

Therefore, the committee recommends an increase of \$10.0 million in line number 21 in APAF to certify the LRASM on the B-52.

### **A-10 replacement wing program**

The budget request included \$109.1 million in line number 23 of Aircraft Procurement, Air Force (APAF), for modifications to the A-

10 aircraft, including \$79.2 million for the wing replacement program.

The committee recommends an increase of \$65.0 million in line number 23 of APAF for the A-10 wing replacement program.

#### **F-35A modifications**

The budget request included \$247.3 million in line number 29 of Aircraft Procurement, Air Force (APAF), for procurement of modifications to F-35A aircraft.

The committee supports upgrading as many F-35s as possible to the most advanced configuration in order to, most importantly, provide the best capability to the warfighter, but also reduce the complication of maintaining and sustaining multiple configurations of three different aircraft.

Therefore, the committee recommends an increase of \$50.0 million in line number 29 of APAF for F-35A modifications.

#### **C-130 propulsion upgrade**

The budget request included \$22.1 million in line number 50 of Aircraft Procurement, Air Force (APAF), for modifications to the legacy C-130 and Special Mission C-130 aircraft.

The committee notes that the budget request did not include any funding for the C-130H T56 Series 3.5 Engine Enhancement Packages (EEPs) in this or any other line.

The committee has been encouraged by the results of the Air Force's testing of the T56 Series 3.5 engine upgrade and the resulting performance and fuel efficiency gains it brings.

Therefore, the committee recommends an increase of \$74.0 million in line number 50 of APAF for C-130H T56 Series 3.5 EEPs.

#### **Joint Surveillance Target Attack Radar System**

The budget request included \$22.9 million in line number 59 of Aircraft Procurement, Air Force (APAF), for modifications to the E-8C Joint Surveillance Target Attack Radar System (JSTARS).

The committee understands the Air Force is seeking to retire three JSTARS aircraft in fiscal year 2019, forgo recapitalizing the JSTARS fleet, and move towards an Advanced Battle Management System (ABMS). The committee supports the Air Force's move toward establishing advanced capabilities and concepts of operations to enhance effectiveness in any potential conflict with a peer or near-peer adversary.

However, the committee is concerned that the Air Force is divesting proven capability before its planned replacement is matured, let alone fielded. The committee is particularly concerned that the Air Force's plan to divest the JSTARS fleet by the mid-2020s will leave a significant capability gap in the mid- to late-2020s should implementation of ABMS be delayed or prove unfeasible.

The committee believes the JSTARS aircraft remains a critical capability for our warfighters in the near- to mid-term. In order to ensure its relevance and effectiveness as an interim capability as the Air Force transitions to an ABMS, JSTARS requires upgrades, including to its central computer.

Therefore, the committee recommends an increase of \$25.0 million in line 59 of APAF for JSTARS central computer upgrade design.

#### **F-35A spares and repair parts**

The budget request included \$956.4 million in line number 70 of Aircraft Procurement, Air Force (APAF), for procurement of aircraft spares and repair parts.

The committee remains concerned by the readiness rates of the F-35 Joint Strike Fighter. A particularly concerning trend is the increase in the percentage of aircraft unable to fly while awaiting replacement parts due to inadequate supply support, known as the Not Mission Capable—Supply (NMC-S) rate. As the Office of the Director of Operational Test and Evaluation (DOT&E) notes in the January 2018, DOT&E annual report, “Concurrency of production and development, lower-than-expected reliability for parts, inadequate fault isolation, and early program decisions to not adequately fund procurement of spares have contributed to the NMC-S rate.”

Given this situation, which will be exacerbated as production ramps up steeply in the coming years, the committee is perplexed by the Services’ combined decrease of \$546.4 million for F-35 spares between fiscal years 2020 and 2022. While the Department of Defense claims the cuts are due to “process improvements by Services to meet Departmental readiness efficiency goals in military spending,” the committee is unaware of any such process improvements that would resolve a NMC-S rate that is nearly double the goal, let alone that would warrant cutting more than a half billion dollars in spare parts. Should such process improvements exist, the committee strongly urges the Services to share them, as they would clearly bring immense benefit to the entire Department. The committee believes the F-35 program urgently needs to increase the supply of spare parts. Therefore, the committee recommends an increase of \$50.0 million in line number 70 of APAF for F-35A spares and repair parts.

#### **Air Force long range anti-ship missile**

The budget request included \$44.2 million in line number 3 of Missile Procurement, Air Force (MPAF), for the long range anti-ship missile.

The committee notes that, after several years of assuming risk in the procurement of munitions, the current level of munitions inventory is low. In an attempt to address this problem, the Department of Defense has requested funding for many munitions at the maximum production capacity. However, there are several munitions that are not funded at maximum capacity within the budget request. The long range anti-ship missile is a highly capable system that is critical for achieving the goals set forth in the National Defense Strategy. However, the Air Force budget request reduced the quantity of this critical munition for fiscal year 2019 from 15 to 12. The Air Force intends to complete the procurement of this missile in fiscal year 2019 terminating the program with a total procurement of 47 missiles. However, the total requirement of the long range anti-ship missile for the Air Force is 50 missiles.

Therefore, the committee recommends an increase of \$10.2 million in line number 3 of MPAF for an additional three missiles. This increases procurement to the maximum capacity for the long range anti-ship missile and achieves the Air Force's requirement of 50 munitions. In addition, given the critical nature of this missile, the committee believes that 50 missiles is insufficient. The Air Force shall re-examine the total program requirement of the long range anti-ship missile in light of the advancing capabilities of near-peer adversaries.

### **Small Diameter Bomb II**

The budget request included \$100.9 million in line number 8 in Missile Procurement, Air Force (MPAF), for Small Diameter Bomb II.

The committee recommends a decrease of \$8.0 million in line number 8 in MPAF to realign unit price to \$104,000 per weapon.

### **Cargo and utility vehicles**

The budget request included \$42.7 million in line number 4 for Cargo and Utility Vehicles in Other Procurement, Air Force (OPAF).

As part of its strategic approach for addressing long-term strategic competition with China and Russia, the National Defense Strategy (NDS) calls for building a more lethal force, including investments in forward force maneuver, posture resilience, and resilient and agile logistics. According to the NDS, the objectives of these investments are to ensure that U.S. forces can “deploy, survive, operate, maneuver, and regenerate in all domains while under attack” and conduct “logistics sustainment while under persistent multi-domain attack.” Meeting these objectives will require a transition “from large, centralized, unhardened infrastructure to smaller, dispersed, resilient, adaptive basing that include active and passive defenses” as well as an emphasis on “prepositioned forward stocks and munitions, strategic mobility assets,” and “distributed logistics and maintenance.”

Consistent with the priorities set forth in the National Defense Strategy, the committee has fully supported resiliency efforts such as the prepositioning of European Contingency Air Operations Sets Deployable Airbase Systems (DABS), which is part of the European Deterrence Initiative, to complement and enhance the theater-wide response capability of the U.S. Air Force in Europe.

However, the committee is concerned that the appropriate level of investment in similar resiliency efforts in the Indo-Pacific region has not materialized. U.S. force posture in the Indo-Pacific region remains heavily concentrated in Northeast Asia within range of China's advanced arsenal of ballistic and cruise missiles, posing a significant risk to forward-stationed forces, to the ability of the Joint Force to execute the contingency plans of the Department of Defense, and to the credibility of U.S. deterrence in the Indo-Pacific region.

As a result, Admiral Harry Harris, Commander, U.S. Pacific Command (PACOM), identified force posture initiatives focused on resiliency as critical requirements in his letter to the committee of

February 22, 2018, concerning PACOM's unfunded priority list and in his testimony to the committee on March 15, 2018.

Therefore, the committee supports the procurement of seven DABS in fiscal year 2019 to be prepositioned forward in the PACOM area of responsibility in order to support the priorities of the National Defense Strategy and PACOM's "resiliency" and "agile logistics" force posture initiatives as well as to enhance the credible combat power of U.S. forces in the Indo-Pacific region.

Accordingly, the committee recommends an increase of \$7.2 million in line number 4 for Cargo and Utility Vehicles in OPAF.

#### **Security and tactical vehicles**

The budget request included \$1.2 million in line number 6 for Security and Tactical Vehicles in Other Procurement, Air Force (OPAF). The committee recommends an increase of \$2.7 million in line number 6 for Security and Tactical Vehicles in OPAF.

This increase would support the procurement of seven Deployable Airbase Systems in fiscal year 2019 to be prepositioned forward in the U.S. Pacific Command area of responsibility as further explained elsewhere in this report.

#### **Special purpose vehicles**

The budget request included \$43.0 million in line number 7 for Special Purpose Vehicles in Other Procurement, Air Force (OPAF). The committee recommends an increase of \$10.7 million in line number 7 for Special Purpose Vehicles in OPAF.

This increase would support the procurement of seven Deployable Airbase Systems in fiscal year 2019 to be prepositioned forward in the U.S. Pacific Command area of responsibility as further explained elsewhere in this report.

#### **Fire fighting/crash rescue vehicles**

The budget request included \$23.3 million in line number 8 for Fire Fighting/Crash Rescue Vehicles in Other Procurement, Air Force (OPAF). The committee recommends an increase of \$9.0 million in line number 8 for Fire Fighting/Crash Rescue Vehicles in OPAF.

This increase would support the procurement of seven Deployable Airbase Systems in fiscal year 2019 to be prepositioned forward in the U.S. Pacific Command area of responsibility as further explained elsewhere in this report.

#### **Materials handling vehicles**

The budget request included \$11.5 million in line number 9 for Materials Handling Vehicles in Other Procurement, Air Force (OPAF). The committee recommends an increase of \$19.8 million in line number 9 for Materials Handling Vehicles in OPAF.

This increase would support the procurement of seven Deployable Airbase Systems in fiscal year 2019 to be prepositioned forward in the U.S. Pacific Command area of responsibility as further explained elsewhere in this report.

### **Runway snow removal and cleaning equipment**

The budget request included \$37.6 million in line number 10 for Runway Snow Removal and Cleaning Equipment in Other Procurement, Air Force (OPAF). The committee recommends an increase of \$2.8 million in line number 10 for Runway Snow Removal and Cleaning Equipment in OPAF.

This increase would support the procurement of seven Deployable Airbase Systems in fiscal year 2019 to be prepositioned forward in the U.S. Pacific Command area of responsibility as further explained elsewhere in this report.

### **Air Force physical security system**

The budget request included \$159.3 million in line number 29 for Air Force Physical Security System in Other Procurement, Air Force (OPAF). The committee recommends an increase of \$2.0 million in line number 29 for Air Force Physical Security System in OPAF.

This increase would support the procurement of seven Deployable Airbase Systems in fiscal year 2019 to be prepositioned forward in the U.S. Pacific Command area of responsibility as further explained elsewhere in this report.

### **Base maintenance and support equipment**

The budget request included \$24.0 million in line number 56 for Base Maintenance and Support Equipment in Other Procurement, Air Force (OPAF). The committee recommends an increase of \$24.0 million in line number 56 for Base Maintenance and Support Equipment in OPAF.

This increase would support the procurement of seven Deployable Airbase Systems in fiscal year 2019 to be prepositioned forward in the U.S. Pacific Command area of responsibility as further explained elsewhere in this report.

## **Defense Wide**

### **Joint Service Provider**

The budget request included \$107.2 million in line number 16 of Joint Service Provider, Defense Information Systems Agency.

The committee notes that the budget request represents significant growth from prior years, and that the Department of Defense has set up a Reform Management Group specifically focused on reducing costs in the shared services information technology area.

Therefore, the committee recommends a decrease of \$19.5 million in line number 16 of Joint Service Provider, Defense Information Systems Agency.

## **Items of Special Interest**

### **Aircraft carrier acquisition**

The Department of Defense has been able to achieve program efficiencies and cost-savings by using multiyear and block buy contracting with many weapons programs, to include shipbuilding. Section 2306b of title 10, United States Code, sets forth criteria for requesting and evaluating multiyear contracting proposals. Al-

though similar criteria for block buy authorities are not codified, the committee expects the Department to conduct rigorous analysis of proposals and provide that analysis to the Congress, and that the Department's analysis will show a sound business case with substantial savings from committing the government to a longer term contract.

Earlier this year, the Navy issued a request for proposal soliciting information on a potential block buy to acquire two Ford-class aircraft carriers (CVN-80 and CVN-81). The committee will review any information that the Navy provides related to such an approach as consideration of the National Defense Authorization Act for Fiscal Year 2019 continues.

#### **Army M4 Carbine Forward Extended Rails**

In fiscal year 2018, the committee directed the Army to evaluate the need for upgrading the M4 Carbine legacy rail with the Special Operations Command (SOCOM) free-float extended rails. In response, the Army conducted a Solider Enhancement Program (SEP) evaluation and published the results in December 2017. The Limited User Evaluation (LUE) demonstrated promising results as compared to the Army's legacy rail. While the committee supports the Army's modernization strategy that calls for developing and fielding the Next Generation Squad Automatic Weapon (NGSAW) before developing and fielding the Next Generation Soldier Weapon (NGSW), the committee remains concerned that the Army is not planning to make modest upgrades to the M4 Carbine until the NGSAW and NGSW can be fielded. The committee is aware that soldier demand remains high for free-float, extended rails, and the Army has included funding for free-float extended rails from fiscal year 2021 through fiscal year 2023. The committee recommends the Army assess the cost-effectiveness and efficiency of accelerating the free-float extended rail program to retrofit the M4A1 rifle as part of a bridging strategy until the NGSAW and NGSW is fielded.

#### **Avoiding future work stoppages on EC-130H Compass Call Recapitalization**

The committee supports the Air Force's efforts to recapitalize the aging EC-130H Compass Call fleet with the EC-37 type aircraft. The committee notes that before it can carry on with the transition plan, the Department of Defense must first comply with the related provisions in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) and the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91). While the committee notes that Department has submitted the certification required by the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91), delays in satisfying the requirement has led to a work stoppage on the program lasting at least six weeks. The committee is concerned about the potential for further work stoppages should the Secretary of the Air Force fail to make a timely determination that the EC-37B has a high likelihood of meeting combatant requirements, as required by the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328). The committee encourages the Secretary of the Air Force to make

a timely determination for this requirement to avoid further program delays and cost overruns.

Therefore, the committee directs the Secretary of the Air Force, not more than 60 days after the determination required by the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328) is made, to provide a briefing to the congressional defense committees on the Compass Call transition plan. This plan should include:

- (1) Courses of action to accelerate the recapitalization of the EC–130H fleet and Baseline 4 development and deployment for incoming EC–37 aircraft;
  - (a) attendant timelines for each course of action;
  - (b) cost estimates for each course of action; and
- (2) Recommended course of action and a plan to manage both fleets while supporting combatant commander requirements.

### **B–2 modernization programs**

The committee is aware that, as noted in the Department of Defense’s fiscal year 2018 budget request, “modern communications are key enablers for the B–2 in the anti-access/area denial battlespace and directly enhance lethality and force multiplication.” The committee notes that the Department did not request any funding in its fiscal year 2019 budget for the B–2 Advanced Extremely High Frequency (AEHF) Satellite Communications program and has not proposed an alternative secure communications solution to replace the current communications suite.

The B–2 is currently the only stealth, long-range, penetrating bomber in the Air Force inventory. While the committee fully supports the recapitalization of the bomber fleet with at least 100 next-generation B–21 bombers, the committee is concerned about capability and capacity gaps in the near-to-mid-term.

Therefore, the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees by February 28, 2019, on potential line-of-sight and beyond line-of-sight communications upgrades for the B–2 that would provide the capabilities required for the B–2 to perform its critical strike missions in anti-access/area denial environments.

Additionally, the report should consider solutions that would enable automated transfer of data to the B–2 and enable the aircraft to operate in a networked fashion with other elements of the long-range strike family of systems and other Air Force and Joint systems. The report should provide estimated modernization costs and timelines, consider opportunities to exploit capabilities developed for other programs, and take into account timelines for introduction of future systems that will provide similar capabilities.

### **B–52 re-engining**

The committee recognizes the value and mission capabilities of the B–52 and supports platform modernization, specifically the effort to re-engine the fleet. The committee further recognizes the advances in engine performance and efficiency since the B–52’s current TF–33 engines were fielded. Accordingly, the committee supports efforts to accelerate fielding of the B–52 engine replacement

in order to maximize the benefits of increased efficiency over the B-52's remaining life.

#### **Briefing on tactical wheeled vehicle acquisition plans**

The committee notes the decreased funding profile for the Army's Family of Medium Tactical Vehicle program (FMTV), the Palletized Load System Extended Service Program (PLS ESP), and the Heavy Expanded Mobility Tactical Truck Extended Service Program (HEMTT ESP) over the future years defense program (FYDP). Predictable funding helps support minimum sustaining rates, and it avoids production breaks. In turn, this benefits Army readiness and modernization plans.

Therefore, the committee directs the Secretary of the Army to brief the committee not later than September 30, 2018, on the Army's procurement strategy for the FMTV program as well as the programs for HEMTT ESP and PLS ESP. The briefing should address how the proposed funding strategies are likely to impact the tactical wheeled vehicle industrial base, modernization and readiness goals, as well as surge capacity and future acquisition needs.

#### **CH-53K Heavy Lift Replacement**

The Navy's MH-53E helicopter's primary mission of providing airborne mine countermeasures is more important than ever, as the Navy faces an ever increasing number of threats across the maritime domain today, including anti-ship mines that are widespread, deadly, and difficult to locate.

Since the committee has been concerned about maintaining mine countermeasures capability, the committee has recommended legislation that has continued to delay the retirements of the MCM-1 mine countermeasures ships and the MH-53E helicopters until the Secretary of the Navy can identify a replacement capability and the necessary quantity of such systems that will meet all combatant commander mine countermeasures operational requirements.

In testimony before the Seapower Subcommittee of the Senate Armed Services Committee in March 2018 on Navy and Marine Corps Aviation Programs, Vice Admiral Paul A. Grosklags, USN, stated, "The MH-53E will continue to perform its primary mission of airborne mine countermeasures as well as transport of cargo and personnel until it is replaced by the Littoral Combat Ship (LCS)."

With a reduction in the inventory objective for LCSs subsequent to the Navy's announcement of the Force Structure Assessment recommending a 355-ship Navy, the Committee is concerned about a capability gap for mine countermeasures missions. The Committee requests the Navy submit a report not later than 90 days following the date of enactment of this Act on the feasibility and impact of recapitalizing the MH-53E fleet with a derivative of CH-53K that would address its use in airborne mine countermeasures missions and additional missions of conducting vertical onboard delivery and transporting personnel and cargo. The Committee recognizes that the CH-53K helicopter currently being built for the Marine Corps would be a logical option that might replace the capability that would be lost with the retirement of the Navy's MH-53E fleet.

### **Continued F-15 C/D fleet modernization**

The committee is aware that the U.S. Air Force is undertaking a review of its aircraft force mix and structure, including the appropriate balance between 4th and 5th generation aircraft in the Active-Duty and reserve force, and that the Air Force expects to complete that review in August 2018. Therefore, the committee requests a briefing on the results of this review no later than September 1, 2018.

The committee remains concerned that retiring entire fighter fleets, like the F-15C, without acquiring sufficient replacement aircraft, will drive the number of fighter aircraft below the levels required by the National Defense Strategy and below the floor established by Section 131 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91). Until the Air Force makes a final determination on the future of the F-15C/D fleet, the committee encourages the Air Force to continue investment in the modernization of the F-15 C/D, including the Active Electronically Scanned Array (AESA) radar, the Electronic Warning Warfare System (EWWS), and the Eagle Passive Active Warning and Survivability System (EPAWSS), which provides radar warning, geo-location, situational awareness, and self-protection solutions to detect and defeat surface and airborne threats in contested environments. The committee notes the Air Force has funded procurement of EPAWSS for its F-15E fleet and the necessary research and development to outfit the F-15C/D fleet.

### **Explosive Ordnance Disposal technology development**

The committee notes that conventional Explosive Ordnance Disposal (EOD) units across the military services require upgraded equipment and technology enhancements, particularly for routine inspection and search activities. The committee believes that conventional Joint Service EOD units may benefit from rapid acquisition of EOD equipment, which have high-definition resolution and encrypted signals, among other upgraded capabilities. The committee understands that the Department of Defense canceled the Explosive Ordnance Disposal/Low Intensity Conflict program element which formerly developed and delivered Joint Service EOD advanced capabilities. The committee understands the Combating Terrorism Technical Support Office (CTTSO) will absorb this mission area within the Improvised Defeat Device and Explosive Countermeasures subgroup activity.

The committee encourages the Director of the CTTSO to appropriately prioritize funding toward delivering advanced capabilities for conventional Joint-Service EOD units.

### **F-35 modifications to Block 4 configuration**

To date, the committee notes neither the Air Force, the Navy, nor the Marine Corps has made a decision on what portion of the current fleet of F-35 aircraft will be brought up to a Block 4 configuration.

Pursuant to section 224(b) of the National Defense Authorization Act for FY2017 (Public Law 114-328), the Secretary of Defense submitted a report to the congressional defense committees that contained the basic elements of an acquisition program baseline for

F-35 Follow-on Modernization (FOM) Block 4. Within the report, per aircraft cost estimates to retrofit Low Rate Initial Production (LRIP) Lots 2–8 aircraft to a Block 4 configuration are roughly \$16.0 million, and per aircraft cost estimates to retrofit LRIP 9–10 aircraft to Block 4 configuration are roughly \$13.0 million. With more than 350 F-35s already procured that could require modification to Block 4 and the substantial cost to modify each aircraft to the most advanced configuration to provide the best capability to the warfighter, considerable affordability issues face the Department.

Accordingly, the committee directs the Secretary of the Defense to submit a report not later than 180 days after the enactment of this Act, to identify which F-35 aircraft will be brought up to a Block 4 configuration and a timeline to complete modernization to Block 4.

#### **Ford-class sustainment and product support**

The committee notes that with the delivery of the USS *Gerald R. Ford* (CVN-78) in May 2017, sustainment and product support of this new class of aircraft carriers will be critical to mission effectiveness and operational availability. As the *Ford*-class program continues with testing and delivery of additional aircraft carriers, the committee believes life cycle sustainment planning must be properly funded to maintain hull, mechanical, electrical, and combat systems to the class' 50-year service life.

Accordingly, the committee is concerned that the budget request included no funding for maintaining Electromagnetic Aircraft Launch System software. The committee urges the Navy to plan for and appropriately fund sustainment and product support for *Ford*-class aircraft carriers, particularly systems critical to mission accomplishment.

#### **Guided missile frigate (FFG(X))**

The committee applauds the Navy's decision to procure a guided missile frigate (FFG(X)) with increased lethality, survivability, and endurance to meet the requirement for Small Surface Combatants within the most recent Navy Force Structure Assessment. While maintaining the Navy's "high/low" mix of ships, the FFG(X) program greatly expands upon the capabilities of the Littoral Combat Ship program, returning many of the multi-mission warfighting attributes of *Oliver Hazard Perry*-class frigates to the fleet and enabling operations in more contested environments.

As the Navy refines FFG(X) concept designs with industry through fiscal year 2019, the committee continues to support a full and open competition with a single source detail design and construction award in fiscal year 2020. The committee also supports the Navy's approach to commonality with existing Navy platforms, such as the Mark-41 Vertical Launch System and Enterprise Air Surveillance Radar, to reduce acquisition and sustainment costs. The committee encourages the Navy not to trade-off warfighting capability for other considerations.

**HH-60 Combat Rescue Helicopter program**

Air Force combat rescue forces and assets are among the most deployed in the Department of Defense, and the heroic efforts of Air Force combat rescue airmen and women have resulted in over 12,000 U.S. and allied lives saved, often under harrowing conditions. These demanding conditions have exacted a significant toll on this force, which has suffered significant combat losses of aircraft and personnel. The HH-60W Combat Rescue Helicopter (CRH) will replace the Air Force's rapidly aging HH-60G Pavehawk helicopters to continue to perform these critical combat search and rescue and personnel recovery operations. The current Air Force program of record is for a minimum of 112 HH-60W CRH aircraft. The committee notes that numerous force structure studies have documented the need for between 141 (USAF CSAR-X Analysis of Alternatives) and 171 (Joint Forces Command Joint CSAR Study) aircraft to meet the rescue requirement demands. Therefore, the committee supports 112 as the minimum number of HH-60W CRH aircraft to support the validated requirement.

**Immersive virtual shipboard environment training**

The committee understands that the Navy has used game-based learning concepts to develop immersive virtual shipboard environment (IVSE) training for select watchstations aboard Littoral Combat Ships (LCS) since 2013. The committee further understands that this IVSE training may have contributed to faster qualifications and certification timelines, higher degrees of proficiency, and increased knowledge retention. The committee believes that other programs may be able to benefit from IVSE training.

Accordingly, not later than November 1, 2018, the committee directs the Secretary of the Navy to provide to the congressional defense committees a report on IVSE training. This report shall include: (1) An assessment of IVSE training effectiveness compared to other training methods, including training benefits and lessons learned with IVSE training for LCS watchstations; (2) Future plans to incorporate game-based learning concepts and IVSE training to improve Navy and Marine Corps training for other naval platforms; (3) Other potential opportunities to incorporate game-based learning concepts and IVSE training to improve Navy and Marine Corps training for naval platforms; and (4) Any other related matters the Secretary deems appropriate.

**Intermediary Low-Cost Tactical Extended Range Missile**

The committee is concerned that the Army and Marine Corps have a capability gap in rocket and missile artillery, specifically an inability to engage targets at long ranges. The current inventory of mobile surface-to-surface missiles is not adequate to provide timely and accurate all-weather fire support in a Global Positioning System-denied environment to the joint force at ranges between 60 and 499 kilometers. The committee notes that current initial operational capability for the Long Range Precision Fires (LRPF) program is not until 2025. The committee encourages collaboration between the Army and Marine Corps in finding an intermediary solution, which could be procured and fielded rapidly to provide U.S.

ground forces with the capability to engage targets beyond 200 kilometers until LRPF is operational.

#### **John Lewis-class fleet oiler multiyear procurement strategy**

The committee notes the fiscal year 2019 Navy shipbuilding plan includes seven *John Lewis*-class fleet oilers (T-AO) procured in fiscal years 2020 through 2024 at a cost of more than \$3.6 billion. The committee further notes that the first ship of this class, USS *John Lewis* (T-AO-205), was awarded in fiscal year 2016 and will be delivered to the Navy in November 2020.

The committee believes sufficient design maturity and cost-estimating precision have been achieved to merit consideration of a multiyear procurement contract for *John Lewis*-class fleet oilers in future budget requests.

The committee also notes recent shipbuilding multiyear procurement contract proposals projected savings in excess of 10 percent, as compared to annual procurement.

Therefore, the committee urges the Secretary of the Navy to consider a multiyear procurement strategy for *John Lewis*-class fleet oilers in future budget requests.

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

The committee continues to support the Department's efforts to decrease the weight of metal cartridge cases for ammunition in order to decrease the load burdens on the warfighter. Notable improvements include the potential for improved accuracy and consistency, increased individual mobility, decreased logistical resupply burdens, and reduced fuel consumption in operations.

The committee is supportive of recent efforts at the Naval Surface Warfare Center Crane Division to test and qualify 0.50 caliber ammunition with polymer cartridge cases, which resulted in greater accuracy and more consistent rates of fire.

Notably, the committee understands that efforts to lighten the weight of ammunition boxes with different materials can decrease weight by 33 percent, and when combined with the 25 to 35 percent weight reduction from polymer cartridge cases and other efforts, can reduce the weight of a 0.50 caliber ammunition box by roughly 75 percent.

Additionally, the committee is encouraged by efforts to replace the metal of linked ammunition with polymer links, which can reduce weight by nine pounds per ammunition box, or 1,000 pounds per pallet.

Accordingly, the committee encourages the Department to continue and expand its efforts to explore polymer and other material weight reductions to other types of ammunition that could further reduce burdens on the warfighter.

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.

### **Maneuver Short Range Air Defense to counter Unmanned Aircraft Systems**

The committee is aware of the threat that small, agile, and low altitude Unmanned Aircraft Systems (UAS) pose to military ground forces in the field. The committee understands that the Army is seeking a cross-domain, multi-dimensional solution that can address both the evolving UAS threat that is becoming more difficult to detect, identify, and defeat as well as the ability to provide short-range air defense against low flying UAS and cruise missiles for Army maneuver units.

Therefore, the committee directs the Army to provide a briefing not later than September 30, 2018, identifying what requirements are similar to both the maneuver short-range air defense (MSHORAD) mission areas and the Counter-Unmanned Aircraft System (C-UAS) mission. Furthermore, the Army should identify what capabilities have been deployed, or are in development, that could be considered for use with Army ground mobile platforms to simultaneously address the C-UAS and M-SHORAD mission areas.

### **Navy equipment for the Heavy Polar Icebreaker program**

The committee notes the Government Accountability Office (GAO) published a report on April 13, 2017, titled "Status of Coast Guard's Heavy Polar Icebreaker Acquisition" (GAO-18-385R), which noted added space, weight, and power reservations for Navy equipment, such as a multi-mode radar and minor caliber weapons, were incorporated in the Department of Homeland Security-approved Operational Requirements Document for the Heavy Polar Icebreaker (HPIB) in January 2018. The committee is interested in better understanding the plan for Navy equipment to be incorporated on HPIBs.

Accordingly, not later than December 1, 2018, the Secretary of the Navy, in consultation with the Under Secretary of Homeland Security for Management, shall submit to the Committees on Armed Services of the Senate and the House of Representatives an unclassified report, which may include a classified annex, containing the following: (1) A detailed description of Navy equipment planned to be included in HPIBs, including Navy-Type, Navy-Owned equipment; (2) The estimated space, weight, power, and cost for the equipment described in paragraph (1); (3) A description of Navy equipment under consideration to be included in HPIBs; (4) The estimated space, weight, power, and cost for the equipment described in paragraph (3); (5) An explanation of the capability of the equipment listed in paragraphs (1) and (3) to assist or augment the missions of the Combatant Commanders and the execution of the Department of Defense's 2016 Arctic Strategy; and (6) A description of how the equipment listed in paragraphs (1) and (3) will meet a modular open systems approach to allow for future mission expansion.

### **Navy small arms weapons training**

The committee understands that the Navy Expeditionary Combat Command (NECC) and the Navy Strategic Systems Program (SSP) have successfully demonstrated an innovative synthetic small arms

training approach. The committee further understands this approach provides realistic metrics-based skills for a variety of individual and crew-served training courses of instruction. The committee believes other Navy commands could benefit from similar innovative synthetic small arms training approaches. Therefore, the committee urges the Secretary of the Navy to consider expanding innovative synthetic small arms training approaches beyond the NECC and Navy SSP.

#### **Preservation of F-117 aircraft with certified combat sorties**

The committee is aware that there are currently no F-117A aircraft with certified combat sorties on permanent display at either the National Museum of the United States Air Force in Dayton, Ohio or the National Air and Space Museum of the Smithsonian Institution. Following its first flight in 1981, the F-117A ably served in combat during Operations Just Cause, Desert Storm, Allied Force, Enduring Freedom, and Iraqi Freedom before being retired from front line service in 2007. The committee recognizes the F-117A's unique importance in aviation history as the world's first operational stealth aircraft and believes the Air Force should take appropriate steps to ensure future generations have the opportunity to experience first-hand combat-proven F-117As.

Therefore, the committee strongly encourages the Secretary of the Air Force to make the first two retiring F-117A aircraft with documented combat sorties available to the National Museum of the United States Air Force and the National Air and Space Museum of the Smithsonian Institution. The committee also notes the current presence at the National Museum of the United States Air Force of the existing prototype F-117 and encourages the Secretary of the Air Force to consider its transfer to an accredited affiliate of the National Museum of the United States Air Force or the National Air and Space Museum of the Smithsonian Institution.

#### **Presidential protection**

The committee recognizes the vital importance of the presidential protection mission. The airborne component is critical to ensuring safe airspace around the President. However, the committee is concerned with the inefficient use of national assets, such as the F-22, to accomplish the presidential protection mission. The committee believes this mission could be ably accomplished by a number of assets, including those from the Navy and Marine Corps, thereby relieving the stress on our most capable assets so they can focus on training to rebuild readiness and deter peer competitors. The committee understands that Air Combat Command is pursuing different options to provide better and more efficient presidential support. However, the committee believes that the Chairman of the Joint Chiefs of Staff should examine how to provide presidential support most efficiently, using all available Department of Defense assets.

Therefore, the committee directs the Chairman of the Joint Chiefs of Staff to reassess presidential support tasking and options for improving the efficiency of support with an emphasis on freeing the most capable aircraft assets to focus on training for the most

stressing operational requirements, in line with National Defense Strategy.

#### **Report on Air Force plan for fighter aircraft**

The committee understands that Air Combat Command is developing a Fighter Roadmap which will detail the Air Force's plans for the fighter aircraft fleet.

The Secretary of the Air Force shall provide a report to the Committees on Armed Services of the Senate and House of Representatives on the Air Combat Command Fighter Roadmap. The report shall describe the Air Force's plans for the fourth-generation fighter fleet and plans for converting fighter units to the F-35. To the extent feasible, the report should discuss the criteria to be used for future basing operations of F-35 aircraft.

#### **Report on Navy's current and future state of long range strike capability**

The Secretary of the Navy is directed to submit a report to the congressional defense committees not later than February 1st, 2019 that describes the current and future state of the Navy's long range strike strategy. This report should include a comprehensive description of the Navy's plan to use all the various Navy munitions programs to meet operational requirements for land and maritime strike. The report should include discussion of the Next Generation Long-Range Attack Weapon (NGLAW), the Tomahawk and follow-on upgrades like the Maritime Strike Tomahawk and the Joint Multi-Effects Warhead System (JMEWS), Conventional Prompt Strike, Over-the-Horizon missile, SM-6, the Long Range Anti-Ship Missile (LRASM), and any follow-on programs. The report should include how the Navy strategy will impact to the missile industrial base.

#### **Rifle Marksmanship Training**

The committee notes that the service branches utilize traditional M4/M16 marksman training practices in connection with both basic marksmanship instruction and in maintaining marksmanship proficiency of seasoned personnel. Current dry firing techniques, an essential rifle training element, require servicemembers to re-charge their weapons after each trigger pull. The committee is aware that a new rifle dry fire device (RDFD) technology exists that simulates a live fire session. This technology has the ability to improve proper marksmanship fundamentals and weapon manipulation skills, which can lead to increased lethality and combat survival rates. During dry fire sessions RDFD replaces the lower receiver of the M4/M16, thereby allowing for simultaneous training with sights, lasers, lights, switches, and hand placement while diminishing the possibility of negligent discharge. Improved M4/M16 marksmanship proficiency may be increased through RDFD, which in turn could lead to reduced costs associated with ammunition (live and blank), range time, and other expense items. The committee directs the Secretary of Defense to provide a briefing to the congressional defense committees by December 31, 2018, regarding the feasibility of utilizing RDFD technology for use with the M4/M16 rifle and any next generation rifle platform.

### **San Antonio-class Flight II amphibious transport ship multiyear procurement strategy**

The committee notes the fiscal year 2019 Navy shipbuilding plan includes four *San Antonio*-class Flight II amphibious transport ships (LPD) procured in fiscal years 2020 through 2024 at a cost of approximately \$7.0 billion. The committee further notes the Navy has identified LPD-30, which was authorized and appropriated in fiscal year 2018, as the first Flight II LPD.

The committee believes sufficient design maturity and cost-estimating precision have been achieved to merit consideration of a multiyear procurement contract for *San Antonio*-class Flight II amphibious transport ships, which will be procured in fiscal years 2020 through 2024. The committee further believes the Navy should maintain a procurement rate of one Flight II LPD per year to meet Navy requirements faster, as well as increase industrial base efficiency and stability.

The committee also notes recent shipbuilding multiyear procurement contract proposals projected savings in excess of 10 percent, as compared to annual procurements.

Therefore, the committee urges the Secretary of the Navy to utilize a multiyear procurement strategy for *San Antonio*-class Flight II amphibious transport ships in the President's Budget request for fiscal year 2020.

### **Small Unit Support Vehicle report**

The committee notes that the Small Unit Support Vehicle (SUSV) is the only vehicle that units can use to operate in deep snow conditions. The SUSV was designed to be air-droppable and able to operate in almost any condition. From a fleet of nearly 600 vehicles, there are fewer than 100 working SUSVs left. The SUSV is no longer a program of record, and as a result many SUSVs in the fleet are being cannibalized to keep a small number of SUSVs running.

Recently, the U.S. Army identified requirements for a Joint All-Weather/All-Terrain Support Vehicle (JAASV). Furthermore, the House and Senate reports accompanying H.R. 2810 (H. Rpt. 115-200) and S. 1519 (S. Rpt. 115-125) of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91) required the Department of Defense to conduct a Business Case Analysis to develop or procure a replacement for the SUSV. This analysis concluded that the replacement for the SUSV "will compete for resourcing during POM 20-24, United States Army Training and Doctrine Command (TRADOC) will define the Total Army requirement for both the Active and Reserve components, and Headquarters, Department of the Army will consider pursuing a SUSV/JAASV using Rapid Acquisition Authorities to quickly procure a Commercial Off the Shelf (COTS), Non Developmental Item solution."

Therefore, the committee encourages the Department of Defense to conduct a Department-wide operational needs review for the JAASV and subsequently consider granting rapid acquisition authorities needed to begin quick procurement of a COTS solution to this capability shortfall.

### **Stryker A1 Production**

The committee is concerned about the Army's funding strategy for Stryker A1 production. The Stryker A1 configuration includes the Double-V Hull (DVH) upgrade and Engineering Change Proposal 1 to provide enhanced mobility and power.

The fiscal year 2019 Army budget request included \$21.9 million for Stryker upgrades to convert three flat bottom vehicles into the Double V Hull (DVH) A1 configuration. However, the committee is concerned that this does not resource the Stryker program sufficiently given the National Defense Strategy and long-term plans for the Stryker vehicle fleet. Therefore, the committee included a \$149.0 million zero-sum movement of funds within the Stryker program, authorizing a total of \$171.0 million.

The committee understands that the Army made a decision at a Requirements Oversight Council meeting to upgrade the entire Stryker legacy fleet to the Stryker A1 configuration. This decision was made after the Army submitted the fiscal year 2019 budget request. The Army has a total of 9 Stryker Brigade Combat Teams, and over 2,700 Stryker vehicles do not have both the DVH and engineering upgrades. In addition, the Army intends to use the Stryker A1 chassis for the Maneuver Short Range Air Defense capability which will likely require additional Stryker vehicles.

Therefore, as the Army considers funding levels for future budget requests, the committee encourages the Army to provide the necessary resources to support the decision to modernize the Stryker fleet to the A1 configuration, which may include modernizing at least one half of a brigade per year. Finally, the committee urges the Army to evaluate the potential cost savings and schedule acceleration that could be achieved by a multi-year procurement strategy.

### **Swarm attack defense of Navy ships**

The committee recognizes the growing threat of small boat swarm attacks, in which an enemy seeks to overwhelm a ship's layered defenses by attacking in large numbers from different directions. The committee is concerned that some Navy vessels may lack sufficient self-defense capability against such threats. For example, as noted in the fiscal year 2017 annual report by the Office of the Director, Operational Test & Evaluation, the Expeditionary Sea Base (T-ESB) "self-defense capability is limited to crew-served weapons only. The T-ESB was designed to operate in a non-hostile environment with low/negligible threats to the ship. However, mine countermeasure operations may require the ship to operate close to littoral threat areas. The lack of self-defense capability renders the ship dependent upon other naval combatants and joint forces for protection in the littoral operating environment."

In order to ensure ships are sufficiently protected against swarm raids and other small boat attacks, the committee urges the Secretary of the Navy to ensure adequate self-defense capability requirements are in place for the mission scenarios such ships may be called upon to undertake.