

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

Subtitle A—Authorization of Appropriations

Authorization of appropriations (sec. 101)

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

Subtitle B—Army Programs

Integrated Air and Missile Defense assessment (sec. 111)

The committee recommends a provision that would require the Secretary of the Army to carry out an assessment of Integrated Air and Missile Defense (IAMD) capabilities and capacity to address existing and emerging air, missile, and other indirect fire threats in support of combatant command requirements. The provision would require a classified report of the assessment to be delivered to the Committees on Armed Services of the Senate and the House of Representatives no later than February 15, 2021.

The committee notes that recent attacks on deployed U.S. forces, as well as advanced capabilities emerging from China and Russia, demonstrate the increasing sophistication and proliferation of threats from missiles, unmanned aircraft systems, and rockets. Great-power competitors have invested heavily in long range missiles, both in quantity and in advanced technologies such as hypersonics, and rockets and mortars remain weapons of choice against U.S. and partner security forces in non-conventional operations.

The committee notes that the Army is responsible for “conduct[ing] air and missile defense to support joint campaigns,” per Department of Defense directive 5100.01, and operates the majority of the ground-based air and missile defense capabilities in the Joint Force. Additionally, the Army was designated Executive Agent for Counter Small Unmanned Aircraft Systems (C-sUAS) in November 2019, and stood up the Joint C-sUAS Office in January 2020.

Report and limitation on Integrated Visual Augmentation System acquisition (sec. 112)

The committee recommends a provision that would require the Secretary of the Army to submit a report to the congressional defense committees, no later than August 15, 2021, on the Integrated Visual Augmentation System (IVAS). The report would certify the

acquisition strategy, system technology level, production model cost, operational suitability, and soldier acceptability, subsequent to completion of operational testing. The provision would prohibit the obligation of expenditure of more than 50 percent of fiscal year 2021 funds authorized for the procurement of IVAS until the required report is submitted.

The committee commends the Army for the developmental approach that it is pursuing and its effective collaboration with non-traditional contractors. Furthermore, the Army has prioritized the use of rapid prototyping, rapid fielding, and a soldier-centered design approach that has facilitated the delivery of cutting-edge solutions necessary to ensure that the Army maintains its technological superiority and achieves overmatch in future conflicts.

The committee is encouraged by the results of previous soldier touch point events and is optimistic that those successes will be further realized in future user evaluations. The committee also notes that operational testing that is essential to ensuring operational suitability and soldier acceptability in operational conditions has not yet occurred. Certification of the acquisition strategy subsequent to operational testing will validate the acquisition approach, the full rate production decision, and the commitment of substantial resources. A successful IVAS program can serve as a model for Army modernization efforts going forward.

Modifications to requirement for an interim cruise missile defense capability (sec. 113)

The committee recommends a provision that would require the Secretary of Army to submit to the congressional defense committees the plan to operationally deploy or forward station in an operational theater or theaters the two batteries of interim cruise missile defense capability required by section 112(b)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232). The provision would also modify the terms of the waiver for the requirement for two additional batteries by September 30, 2023.

The committee notes that the Secretary of the Army has exercised the waiver for the first two batteries since the Army will not meet the deployment deadline of September 30, 2020. While the committee understands the requirements for testing and training prior to deployment, the committee still expects the Secretary to meet the original intent of section 112—forward stationing an interim cruise missile defense capability to protect fixed sites from cruise missile threats with prioritization to locations in Europe and Asia.

Subtitle C—Navy Programs

Contract authority for *Columbia*-class submarine program (sec. 121)

The committee recommends a provision that would permit the Secretary of the Navy to enter into one contract for up to two *Columbia*-class submarines (SSBN–826 and SSBN–827) and incrementally fund such submarines.

Limitation on Navy medium and large unmanned surface vessels (sec. 122)

The committee recommends a provision that would require that certain technical conditions be met prior to Milestone B approval for medium and large unmanned surface vessels.

The committee notes that the budget request provides for the prototyping and testing of Medium and Large Unmanned Surface Vessels (MUSVs and LUSVs), including procurement of up to two additional LUSVs in conjunction with a Strategic Capabilities Office (SCO) initiative. The committee understands that the four LUSVs procured by the SCO beginning in fiscal year 2018, at a cost of more than \$510 million, are sufficient to achieve the objectives of the SCO initiative, which is scheduled to be completed in the fourth quarter of fiscal year 2021.

The committee further notes that the budget request includes plans to award the LUSV Detail Design and Construction (DD&C) contract in fiscal year 2022 and transition LUSV to a program of record in fiscal year 2023.

The committee remains concerned that the budget request's concurrent approach to LUSV design, technology development, and integration as well as a limited understanding of the LUSV concept of employment, requirements, and reliability for envisioned missions pose excessive acquisition risk for additional LUSV procurement in fiscal year 2021. The committee is also concerned by the unclear policy implications of LUSVs, including ill-defined international unmanned surface vessel standards and the legal status of armed or potentially armed LUSVs.

Additionally, the committee notes that the Navy's most recent shipbuilding plan, "Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2020," acknowledges similar issues: "Unmanned and optionally-manned systems are not accounted for in the overall battle force[.] . . . The physical challenges of extended operations at sea across the spectrum of competition and conflict, the concepts of operations for these platforms, and the policy challenges associated with employing deadly force from autonomous vehicles must be well understood prior to replacing accountable battle force ships."

The committee believes that further procurement of MUSVs and LUSVs should occur only after the lessons learned from the current SCO initiative have been incorporated into the system specification and additional risk reduction actions are taken.

A specific area of technical concern for the committee is the Navy requirement for MUSVs and LUSVs to operate continuously at sea for at least 30 days without preventative maintenance, corrective maintenance, or emergent repairs. The committee is unaware of any unmanned vessel of the size or complexity envisioned for MUSV or LUSV that has demonstrated at least 30 days of such operation.

The committee understands that the SCO prototype vessels that are intended to provide risk reduction for this program have demonstrated between 2 to 3 days of continuous operation. The committee also understands that the SCO vessels are approximately 25 percent the size by tonnage of a LUSV, which may limit the applicability of lessons learned and risk reduction from the SCO vessels

to the MUSV and LUSV programs. Among other critical subsystems, the committee views the main engines and electrical generators as key USV mechanical and electrical subsystems whose reliability is critical to ensuring successful operations at sea for at least 30 continuous days.

Accordingly, this provision would require at least two main engines and electrical generators, including ancillary equipment, to be formally qualified by the Navy, including a successful demonstration of at least 30 days of continuous operation prior to the LUSV or MUSV Milestone B approval and would require the use of such engines and generators in future USVs. The provision would also require the Senior Technical Authority and Milestone Decision Authority to take additional actions related to reducing the technical risk of these programs prior to a Milestone B approval.

The committee views the qualification of these critical subsystems as an essential prototyping step necessary to provide a solid technical foundation for the MUSV and LUSV programs. Rather than delaying these programs, the committee believes that qualified engines and generators will enable the delivery of capable, reliable, and sustainable USVs that meet the needs of fleet commanders faster than the plan contained in the budget request.

Extension of prohibition on availability of funds for Navy waterborne security barriers (sec. 123)

The committee recommends a provision that would extend the prohibition on availability of funds for Navy waterborne security barriers.

Procurement authorities for certain amphibious shipbuilding programs (sec. 124)

The committee recommends a provision that would allow the Secretary of the Navy to enter into one or more contracts for the procurement of three *San Antonio*-class amphibious ships and one *America*-class amphibious ship.

The committee notes that the Assistant Secretary of the Navy for Research, Development, and Acquisition testified on March 4, 2020, that the authorities provided in this provision would be “tremendously beneficial” and added, “[W]e will look forward to those authorities, should they come in the [National Defense Authorization Act for Fiscal Year 2021].”

The committee further notes that the Navy is estimating savings of 8 to 12 percent, or roughly \$1 billion, for the multiple ship procurement of these 4 ships as compared to 4 separate ship procurement contracts.

Accordingly, this provision would provide the necessary authorities for implementing such an approach.

Fighter force structure acquisition strategy (sec. 125)

The committee recommends a provision that would require the Secretary of the Navy to align the Department’s fighter force structure acquisition strategy with the results of the various independent studies required by section 1064 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91), and

not later than March 1, 2021, to transmit the new strategy in a report to the congressional defense committees. The committee commends the Navy on transitioning to a strategy focused on the acquisition of 5th generation aircraft but remains concerned that the current strike fighter shortage data demand an increase in the annual total acquisition of fighter aircraft. The provision would establish a minimum number of F-35 and Next Generation Air Dominance (NGAD) aircraft that the Navy and Marine Corps would be required to purchase each year to mitigate or manage strike fighter shortfalls. Finally, the provision would also prohibit the Department of the Navy's deviation from this strategy in its acquisition programs and related force structure until the Secretary of the Navy receives a waiver and justification from the Secretary of Defense and until 30 days after notifying the congressional defense committees of the proposed deviation.

Treatment of weapon systems added by Congress in future President's budget requests (sec. 126)

The committee recommends a provision that would preclude the inclusion in future annual budget requests of a procurement quantity of a system previously authorized and appropriated by the Congress that was greater than the quantity of such system requested in the President's budget request.

The committee is concerned that by presenting CVN-81 as a ship that was procured in fiscal year 2020 (instead of as a ship that was procured in fiscal year 2019), LPD-31 as a ship requested for procurement in fiscal year 2021 (instead of as a ship that was procured in fiscal year 2020), and LHA-9 as a ship projected for procurement in fiscal year 2023 (instead of as a ship that was procured in fiscal year 2020), the Department of Defense, in its fiscal year 2021 budget submission, is disregarding or mischaracterizing the actions of Congress regarding the procurement dates of these three ships.

Report on carrier wing composition (sec. 127)

The committee recommends a provision that would direct the Secretary of the Navy, in consultation with the Chief of Naval Operations and Commandant of the Marine Corps, to submit a report to the congressional defense committees, not later than May 1, 2021, on the optimal compositions of the carrier air wing in 2030 and 2040 as well as alternative force design concepts. In conjunction with completing the report required by this provision, the Secretary shall provide a briefing on the report's findings to the congressional defense committees, not later than March 1, 2021.

The committee is encouraged by the Department of Defense's recent decision to cease the procurement of legacy strike fighters but remains concerned, based on a number of independent analyses, that the Navy's current stated goal of a 50-50 mix of 4th and 5th generation aircraft for the future carrier air wing will not be sufficient to meet the requirements of the National Defense Strategy. Additionally, the committee is concerned that the Navy lacks a strategy on the use of unmanned aircraft and manned-unmanned teaming.

Therefore, the report required by this provision would include: (1) The analysis and justification used by the Navy to reach the 50–50 mix of 4th and 5th generation aircraft for 2030; (2) Analysis and justification for the optimal mix of carrier aircraft for 2040; and (3) A plan for incorporating unmanned aerial vehicles and associated communication capabilities to effectively implement the future force design.

Report on strategy to use ALQ–249 Next Generation Jammer to ensure full spectrum electromagnetic superiority (sec. 128)

The committee recommends a provision that would require the Secretary of the Navy, in consultation with the Vice Chairman of the Joint Chiefs, to provide a report to the congressional defense committees, no later than July 30, 2021, defining a strategy to ensure full spectrum electromagnetic superiority using the ALQ–249 Next Generation Jammer.

The committee notes that the ALQ–249 is the only standoff jamming capability in the Joint Force that is capable of providing electronic warfare support in a conflict envisioned by the National Defense Strategy (NDS). The committee is concerned that the current strategy and force structure of naval electronic warfare forces will not be sufficient to meeting the needs of the joint warfighting concept.

Therefore, the committee directs the Secretary, using analysis provided by the Joint Staff and in consultation with the Vice Chairman, to provide a report detailing: (1) The current procurement strategy of the ALQ–249 and an analysis of its capability to meet the radio frequency ranges required in a NDS conflict; (2) Its compatibility and ability to synchronize non-kinetic fires with other joint electronic warfare platforms; (3) A future model of an interlinked/interdependent electronic warfare menu of options for commanders at the tactical, operational, and strategic levels.

Subtitle D—Air Force Programs

Economic order quantity contracting authority for F–35 Joint Strike Fighter program (sec. 141)

The committee recommends a provision that would authorize the Secretary of Defense to award F–35 contracts to procure material and equipment in economic order quantities for fiscal year 2021 (Lot 15) through fiscal year 2023 (Lot 17).

Minimum aircraft levels for major mission areas (sec. 142)

The committee recommends a provision that would establish a minimum number of aircraft for each major mission area in the United States Air Force and prohibit divestment of aircraft such that these minima are breached. The committee understands that the Air Force is divesting legacy aircraft in order to modernize its various fleets with modern aircraft relevant to the National Defense Strategy. The committee remains concerned that, historically, the divestment of legacy aircraft has not yielded additional resources to fund modernization. As such, the committee cautions the

Air Force in taking near-term risk with capacity and seeks the establishment of these aircraft floors to mitigate its concern.

Minimum operational squadron level (sec. 143)

The committee recommends a provision that would require the Air Force to seek to achieve, as soon as practicable after the date of the enactment of this Act and subject to the availability of appropriations, no fewer than 386 available operational squadrons, or equivalent organizational units, within the Air Force.

Minimum Air Force bomber aircraft level (sec. 144)

The committee recommends a provision that would require the Secretary of Defense to submit to the congressional defense committees, no later than 1 December, 2020, recommendations for a minimum number of bomber aircraft, including penetrating bombers in addition to B-52H aircraft to enable the Air Force to carry out its long-range penetrating strike mission. The Department should determine this floor, in part, based on what the Air Force can uniquely provide in future conflicts—long-range penetrating strike capability that cannot be matched by other military services' standoff strike systems.

Despite the significant increase in individual bomber capability, the committee remains concerned about the Nation's overall bomber capacity shortfall. The Air Force has a total inventory of 157 bombers, the smallest and oldest fleet of bomber aircraft in its history. Three 2019 independent studies of future Air Force aircraft inventory requirements, conducted pursuant to section 1064 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91), determined that increases in the size of the bomber fleet are needed to support the National Defense Strategy (NDS). The Air Force's own assessment concluded: "We require a larger proportional increase for bombers," with a 56 percent increase in the number of Air Force bomber squadrons, to execute the NDS. The Commander of Air Force Global Strike Command has said that the future bomber force inventory should be greater than 225.

Additionally, while Air Force standoff strike capabilities support the NDS, the committee believes that the Department of Defense needs to carefully assess alternatives and the cost effectiveness of relative numbers of such standoff systems and procuring a larger penetrating bomber force with its capacity to carry more and less costly weapons per sortie.

F-35 gun system (sec. 145)

The committee recommends a provision that would require the Secretary of the Air Force to begin the acquisition process for an alternate 25mm ammunition solution that provides a true full-spectrum target engagement capability for the F-35A. The committee is aware of known deficiencies with the system as well as ongoing efforts to improve the accuracy and lethality of the gun. However, the anticipated hardware and software solutions do not adequately address the lethality limitation of the F-35A gun. Improvements are necessary in ammunition performance, including the ability to penetrate hard targets as well as the ability to achieve combined explosive, fragmentation, and incendiary effects. The committee

further understands that the currently qualified 25mm ammunition effectively penetrates semi-hardened armor; however, the ammunition has limited capability against a broader range of target sets. Additionally, the limited carriage capacity of the F-35A gun system ammunition magazine strongly suggests that improved performance ammunition is required for mission success, both in air-to-ground as well as air-to-air missions. Consequently, the committee is concerned that the current 25mm ammunition is not effective enough to allow for successful engagement of the full spectrum of target sets anticipated on a typical F-35A mission.

Prohibition on funding for Close Air Support Integration Group (sec. 146)

The committee recommends a provision that would prohibit the obligation or expenditure of funds for the Close Air Support Integration Group (CIG) or its subordinate units at Nellis Air Force Base, Nevada. The committee is aware that the CIG was an attempt to establish a center of excellence for close air support at a time when the A-10 was being considered for divestment. Given the Air Force's strategy for the long-term retention of the A-10, the CIG's mission is unclear and its resources, both in manpower and aircraft currently assigned to the CIG and its subordinate units, are better utilized elsewhere.

Limitation on divestment of KC-10 and KC-135 aircraft (sec. 147)

The committee recommends a provision that would prohibit the divestment of KC-10 and KC-135 aircraft in excess of the following: in fiscal year 2021, 6 KC-10s; in fiscal year 2022, 12 KC-10s; and, in fiscal year 2023, 12 KC-10s and 14 KC-135s.

Limitation on retirement of U-2 and RQ-4 aircraft (sec. 148)

The committee recommends a provision that would limit the retirement of any U-2 or RQ-4 aircraft until the Chairman of the Joint Requirements Oversight Council certifies to the congressional defense and intelligence committees that the operational capabilities available to the combatant commanders would not be affected by such a decision.

Limitation on divestment of F-15C aircraft in the European theater (sec. 149)

The committee recommends a provision that would restrict the divestment of F-15Cs in the European theater until the F-15EX is integrated into the Air Force and has begun bed down actions in the theater. The provision would also provide a waiver from the limitation if the Secretary of Defense notifies the congressional defense committees with appropriate justification.

Air base defense development and acquisition strategy (sec. 150)

The committee recommends a provision that would require the Chief of Staff of the Air Force (CSAF), in consultation with the Chief of Staff of the Army (CSA), to produce a development and acquisition strategy to procure a capability to protect air bases and

prepositioned sites in the contested environments highlighted in the National Defense Strategy. The strategy should ensure a solution that is effective against current and emerging cruise missiles and advanced hypersonic missiles. The provision would require the CSAF to submit the strategy to the congressional defense committees no later than March 1, 2021.

Additionally, the provision would limit the obligation or expenditure of fiscal year 2021 funds for operation and maintenance for the Office of the Secretary of the Air Force and the Office of the Secretary of the Army to 50 percent of those funds until 15 days after submission of the strategy required by the provision.

Required solution for KC-46 aircraft remote visual system limitations (sec. 151)

The committee recommends a provision that would require the Secretary of the Air Force to develop and implement a solution to the KC-46 remote visual system (RVS) operational limitations. The committee is aware that the manufacturer and the Air Force have developed a complete solution for the KC-46 RVS issue that would remove all operational limitations for refueling operations of the aircraft. However, the committee is concerned about the duration of time that has already elapsed and the lack of an implementation strategy. Furthermore, the committee is concerned regarding the potential of implementing a phased approach to solving the RVS issue. This approach would put unnecessary delays in a final fix and delay full operation of the KC-46 fleet until after 2025. Therefore, the committee directs the Secretary of the Air Force to reach an agreement with the manufacturer for a complete, one-time solution to the KC-46 RVS issue, and to present an accompanying implementation strategy to the congressional defense committees no later than October 1, 2020.

Analysis of requirements and Advanced Battle Management System capabilities (sec. 152)

The committee recommends a provision regarding the applicability of the Advanced Battle Management System (ABMS) to the broader Joint All-Domain Command and Control (JADC2) effort. The committee is encouraged by the Air Force's effort to link disaggregated sensors into a network of survivable and persistent intelligence, surveillance, and reconnaissance capabilities. The committee also commends the Air Force for leading the Department of Defense in the development of an architecture for the broader JADC2 effort.

However, the committee remains concerned regarding the progress of the ABMS effort and the speed at which the ground moving target indicator capability of the E-8 is being replaced. Therefore, the committee recommends a provision that would require the Secretary of the Air Force to develop an analysis of current ground moving target indicator requirements across the combatant commands and the capability that the ABMS will require when fielded.

Studies on measures to assess cost-per-effect for key mission areas (sec. 153)

The committee recommends a provision that would require the Secretary of the Air Force to conduct, or provide for the conduct of, two studies no later than January 1, 2021, to provide a better understanding of the cost of sustainment of aircraft based on combat effects.

Plan for operational test and utility evaluation of systems for Low-Cost Attributable Aircraft Technology program (sec. 154)

The committee recommends a provision that would require the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics to provide to the congressional defense committees an executable plan for the operational test and utility evaluation of the Low-Cost Attributable Aircraft Technology (LCAAT) systems no later than October 1, 2020, and to brief the committees on the plan by the same date. The committee intends for this provision to support the Assistant Secretary's intent to accelerate the LCAAT program for collaborative pairing with manned platforms, potentially including the F-35. The committee views the combined application of commercial technology, autonomy, and artificial intelligence as an innovative solution to meeting the demands of the National Defense Strategy.

Prohibition on retirement or divestment of A-10 aircraft (sec. 155)

The committee recommends a provision that would prohibit the divestment of A-10 aircraft for fiscal year 2021. The committee is aware that there is a growing demand for low cost, survivable aircraft to support disaggregated operations in support of efforts in countering violent extremism (CVE) and to provide close air support and combat search and rescue capability in accordance with the National Defense Strategy. The A-10 aircraft appears to meet all the requirements set forth in various requests to industry. The committee understands the fiscal need to divest legacy aircraft as new aircraft are integrated into the Air Force but supports a 1-year suspension on plans to retire or divest A-10s to ensure that these aircraft support ongoing CVE efforts and provide close air support and combat search and rescue capability.

Subtitle E—Defense-Wide, Joint, and Multiservice Matters**Budgeting for life-cycle cost of aircraft for the Navy, Army, and Air Force: annual plan and certification (sec. 171)**

The committee recommends a provision that would require the Secretary of Defense to submit an annual plan for the procurement of the aircraft in the Department of the Navy, the Department of the Army, and the Department of the Air Force in order to meet the requirements of the National Defense Strategy.

Authority to use F-35 aircraft withheld from delivery to Government of Turkey (sec. 172)

The committee recommends a provision that would authorize the Air Force to utilize, modify, and operate the 6 Turkish aircraft that were accepted by the Government of Turkey but never delivered because Turkey was suspended from the F-35 program.

Transfer from Commander of United States Strategic Command to Chairman of the Joint Chiefs of Staff of responsibilities and functions relating to electromagnetic spectrum operations (sec. 173)

The committee recommends a provision that would: (1) require the Secretary of Defense to transition to the Chairman of the Joint Chiefs of Staff (CJCS) as a Chairman's Controlled Activity all of the responsibilities and functions of the Commander of United States Strategic Command that are germane to electromagnetic spectrum operations; (2) define additional responsibilities related to EMSO for the VCJCS; and (3) require the combatant commanders and service chiefs to assess their plans and programs for consistency with the Electromagnetic Spectrum Superiority Strategy, the Joint Staff-developed concept of operations, and operational requirements.

The committee's oversight priorities in electronic warfare (EW) to date have been in correcting the Department of Defense's governance gaps and in addressing its acquisition activities. The committee recognizes, however, that the military services and combatant commanders face operational and tactical challenges today that have exposed the inadequacy of the Department's concept of operations, tactics, techniques, and procedures (TTPs), and associated capabilities, forces, and training for electromagnetic spectrum operations (EMSO). These issues, highlighted in a Center for Strategic and Budgetary Assessment study conducted pursuant to section 255 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232), demand the formulation of a new way of "maneuvering within the electromagnetic spectrum," to use the Department's terminology—new doctrine, operational plans, training, capabilities, and TTPs for fighting with, against, and through electronic warfare capabilities. This assessment was amplified by the March 2019 report by the Institute for Defense Analysis, "Independent Assessment of EMS Organization Alternatives," which considered a number of options to further the Department's focus on spectrum operations from both military service and joint commander perspectives. This report noted, "The panel judges this crisis [in electromagnetic spectrum operations] to be urgent and enduring—requiring immediate actions from the Department's top leadership to address the urgent problem and a systemic institutional response to address the enduring competitive challenge."

The committee believes that the only appropriate body for managing this modernization is the Joint Staff and thus supports the Department's designation of the Vice Chairman of the Joint Chiefs of Staff (VCJCS) as the senior designated official for EW and EMSO. The VCJCS, as chairman of the Joint Requirements Oversight Council and as a senior advisor to the President and Sec-

retary of Defense, possesses the seniority and vantage point to effectively provide that critical oversight and advocacy. In particular, the committee believes that the VCJCS must lead the development of EMSO concepts of operations and oversee their integration into the joint warfighting concept, the warfighting plans of the combatant commands, and the programs of the military services.

Cryptographic modernization schedules (sec. 174)

The committee recommends a provision that would require each of the Secretaries of the military departments and the heads of relevant defense agencies and field activities to establish and maintain a cryptographic modernization schedule that specifies, for each pertinent weapon system, command and control system, or data link: (1) The expiration date for applicable cryptographic algorithms; (2) Anticipated key extension requests; and (3) The funding and deployment schedule for modernized cryptographic algorithms, keys, and equipment over the future years defense program. The provision would also require the Department of Defense (DOD) Chief Information Officer (CIO) to oversee the implementation of these scheduled investments and amend these plans, should they pose unacceptable risk to military operations. Finally, the provision would require the CIO to annually notify the congressional defense committees of any failures to meet these planned schedules.

The committee is encouraged by the Department's recent focus on cryptographic modernization and, in particular, the priority placed on updating cryptographic equipment, keys, and algorithms by the CIO, the Under Secretary of Defense for Acquisition and Sustainment, and the Joint Staff. For too long, the National Security Agency's warnings about obsolete cryptography have fallen on deaf ears and the military services have been allowed to continuously delay much-needed modernization. The committee seeks to reinforce this priority and ensure that it does not prove to be ephemeral. This provision would do so by forcing the military services to maintain schedules for cryptographic upgrades and establishing DOD and congressional accountability mechanisms to deter and correct schedule slips.

Prohibition on purchase of armed overwatch aircraft (sec. 175)

The committee recommends a provision that would prohibit the purchase of aircraft for the Air Force Special Operations Command used for the purpose of "armed overwatch" until such time as the Chief of Staff of the Air Force certifies to the congressional defense committees that general purpose forces of the Air Force have neither the skill nor the capacity to provide close air support and armed overwatch to U.S. forces deployed operationally.

Special Operations armed overwatch (sec. 176)

The committee recommends a provision that would prohibit the acquisition of armed overwatch aircraft for the United States Special Operations Command (SOCOM) in fiscal year 2021. The provision would require the Secretary of Defense, in coordination with the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict and the Commander, SOCOM, to conduct, not

later than July 1, 2021, an analysis to define the special operations-peculiar requirements for armed overwatch aircraft and determine whether acquisition of a new special operations-peculiar platform is the most effective means of fulfilling such requirements.

The committee is concerned that the acquisition strategy for an armed overwatch aircraft for SOCOM lacks a validated requirement and an appropriate analysis of the cost-effectiveness of acquiring a new special operations-peculiar platform. Furthermore, the committee is concerned that the rapid acquisition timeline being pursued by SOCOM does not allow for adequate consideration of: the cost of operating and sustaining the aircraft; the potential negative impacts on an already stressed community of pilots, aircrews, and maintainers; and how such a costly addition fits into SOCOM's medium-to-long-term airborne intelligence, surveillance and reconnaissance capability roadmap.

Autonomic Logistics Information System redesign strategy (sec. 177)

The committee recommends a provision that would address the lack of strategy for the redesign of the Autonomic Logistics Information System (ALIS) by requiring the Under Secretary of Defense for Acquisition and Sustainment, in consultation with the F-35 Program Executive Officer, no later than October 1, 2020, to: (1) Develop a program-wide process for measuring, collecting, and tracking information on how the ALIS is affecting the performance of the F-35 fleet, to include, but not be limited to, its effects on mission capability rates; and (2) Implement a strategy for the redesign of the ALIS. The strategy should be detailed enough to clearly identify and assess the goals, key risks or uncertainties, and costs of redesigning the system.

The committee is encouraged at the progress that the Joint Program Office has made through various initiatives in improving and redesigning the ALIS and the transition to the Operational Data Integrated Network (ODIN) but is concerned that these initiatives and the transition to ODIN involve differing approaches and that technical and programmatic uncertainties are hindering the redesign effort.

Contract aviation services in a country or in airspace in which a Special Federal Aviation Regulation applies (sec. 178)

The committee recommends a provision that would require the Secretary of Defense, or a designee of the Secretary of Defense, to designate aircraft fulfilling urgent operational needs for the Department of Defense as State Aircraft if there exist Special Federal Aviation Regulations that would impact their ability to perform these missions. These aircraft are performing military functions, and the committee therefore believes that they should be afforded the status of State Aircraft if required to carry out their missions.

F-35 aircraft munitions (sec. 179)

The committee recommends a provision would require the Secretary of the Air Force and Secretary of the Navy to qualify and

certify, for the use by the U.S. military, additional munitions for the F-35 aircraft that are already qualified for North Atlantic Treaty Organization member F-35 partner aircraft.

Airborne intelligence, surveillance, and reconnaissance acquisition roadmap for United States Special Operations Command (sec. 180)

The committee recommends a provision that would require, not later than December 1, 2021, the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict (ASD SOLIC) and the Commander, United States Special Operations Command (SOCOM), to jointly submit to the congressional defense committees an acquisition roadmap to meet the manned and unmanned airborne intelligence, surveillance, and reconnaissance (ISR) requirements of United States Special Operations Forces (SOF).

SOCOM's budget request for fiscal year 2021 and the future years defense program includes proposals to modify the composition of its airborne ISR fleet through the acquisition of new platforms and the divestment of platforms currently in its inventory. The committee is concerned that there does not exist an overarching strategy to guide SOCOM's airborne ISR acquisition efforts, particularly one that clearly: identifies current or anticipated special operations-peculiar capability gaps; describes future manned and unmanned ISR requirements, especially those related to the ability to operate in contested environments; describes the anticipated mix of manned and unmanned aircraft and associated manning requirements; and describes the extent to which service-provided manned and unmanned airborne ISR capabilities will be required to support SOF requirements.

The committee strongly believes that clear explanation of the path forward is fundamental to ensuring that SOCOM's airborne ISR capabilities are appropriate for meeting its requirements over the mid- and long-term and to ensuring that such acquisition programs meet the intent of the National Defense Strategy in pursuing a more resource-efficient approach to countering violent extremist organizations. The committee believes that rigorous analysis and the submission of the roadmap required by this section should precede the initiation of any new start acquisition programs for airborne manned and unmanned ISR capabilities for SOCOM.

Requirement to accelerate the fielding and development of counter unmanned aerial system efforts across the Joint Force (sec. 181)

The committee recommends a provision that would require the executive agent of the Joint Counter Small Unmanned Aerial Systems office to prioritize counter-unmanned aerial systems (CUAS) that can be fielded in fiscal year 2021 and develop a near-term plan to effect that fielding. As part of the Secretary of the Army's review of CUAS efforts, the committee encourages the Secretary to consider establishing a CUAS center of excellence for the executive agent to coordinate service research and development for counter-drone technologies.

Joint All-Domain Command and Control requirements (sec. 182)

The committee recommends a provision that would require the Joint Requirements Oversight Council (JROC) to produce Joint All Domain Command and Control (JADC2) requirements no later than October 1, 2020. The provision would also require, immediately after the certification of requirements, the Chief of Staff of the Air Force to provide a certification to the congressional defense committees that the current JADC2 efforts, including programmatic and architecture efforts, being led by the Air Force will meet the requirements laid out by the JROC. Additionally, each service chief would be required to certify to the congressional defense committees that his or her respective service efforts in multi-domain command and control are compatible with the Air Force-led architecture no later than January 1, 2021. Finally, the Secretary of Defense would be required to incorporate the expected costs for full development and implementation across the Department of Defense in the fiscal year 2022 budget request.

The committee commends the Department of Defense on its efforts to date on JADC2. The committee recognizes that, in order for JADC2 to be successful, there must be leadership and alignment from the Office of the Secretary of Defense (OSD), the Joint Staff, and all the military services. The committee is encouraged that the OSD has designated the Air Force as the lead for design and experimentation in order to develop an architecture that will meet the requirements set forth by the Vice Chairman of the Joint Chiefs of Staff in his role as the Chairman of the JROC. The committee remains concerned that the actual requirements are not clear and, as such, that the Air Force will not be able to coordinate with the other military services to ensure that their own multi-domain command and control-relevant capabilities will be compatible with the eventual network and architecture.

Budget Items

Army

MQ-1

The budget request included \$0.0 in line number 2 of Aircraft Procurement, Army (APA), for MQ-1 procurement.

The committee is concerned that the temporary termination of procurement of MQ-1s will result in significantly increased cost in the long run and will delay the Army's meeting of its stated requirements for unmanned fixed wing intelligence, surveillance, and reconnaissance aircraft.

Therefore, the committee recommends an increase of \$165.0 million in line number 2 of APA for the purchase of additional MQ-1 aircraft.

CH-47 Cargo Helicopter Modifications

The budget request included \$15.5 million in line number 22 of Aircraft Procurement, Army (APA), for CH-47 Cargo Helicopter Mods.

The committee recognizes that installation of Improved Vibration Control System on the CH-47 minimizes vibration generated by the rotor system, improving aircraft and crew performance and extending component service life.

Accordingly, the committee recommends an increase of \$20.0 million in line number 22 of APA for CH-47 Cargo Helicopter Mods.

Procurement of PAC-3 MSE missiles

The budget request included \$779.8 million in line number 3 of Missile Procurement, Army (MPA), for MSE Missiles, of which \$603.2 million was included in the Army's base budget account and \$176.6 million was included in the Overseas Contingency Operations account for the European Deterrence Initiative (EDI).

While the committee strongly supports procurement of additional MSE missiles to meet the global requirement, activities funded through EDI should directly support requirements in the U.S. European Command (EUCOM) area of responsibility. The committee understands that the 46 MSE missiles requested in EDI would be subject to global allocation to the combatant commands at the discretion of the Secretary of Defense, just as the 122 missiles requested under the Army's base budget would be so distributed. The committee does not believe that procurement of globally interchangeable assets, like munitions, without a commitment that they would be prepositioned at locations in Europe or otherwise allocated to EUCOM upon delivery, is an appropriate use of EDI funding.

Accordingly, the committee recommends an increase of \$176.6 million, for a total of \$779.8 million, in line number 3 of MPA in the base budget account.

Indirect Fire Protection Capability Increment 2

The budget request included \$106.3 million in Missile Procurement, Army, line number 5 for Indirect Fire Protection Capability Increment 2 (IFPC Inc 2).

The committee understands that a lower level of funding would be sufficient to execute all planned fiscal year 2021 activities for this program.

Accordingly, the committee recommends a decrease of \$40.5 million in Missile Procurement, Army, line number 5 for IFPC Inc 2.

Armored Multi-Purpose Vehicle

The budget request included \$193.0 million in line number 2 of Procurement of Weapons and Tracked Combat Vehicles (WTCV), Army, for the Armored Multi-Purpose Vehicle (AMPV).

The committee supports the AMPV program but notes significant projected carryover from fiscal year 2020 and a delayed full rate production decision.

Accordingly, the committee recommends a reduction of \$20.0 million in line number 2 of Procurement of WTCV, Army, for the AMPV.

Bradley Program Modifications

The budget request included \$40.0 million in line number 5 of Procurement of Weapons and Tracked Combat Vehicle (WTCV), Army, for Bradley Program (MOD 10) Survivability Enhancements.

The committee notes substantial prior year carryover and late fiscal year 2021 live fire testing for Underbelly Interim Solution elements of MOD 10.

Accordingly, the committee recommends a reduction of \$20.0 million in line number 5 of Procurement of WTCV, Army, for Bradley Program (MOD 10) Survivability Enhancements.

M88 Family of Vehicle Modification

The budget request included \$18.4 million in line number 11 of Procurement of Weapons and Tracked Combat Vehicle (WTCV), Army, for M88 FOV Modifications.

The committee notes an unjustified growth of government and contractor program support costs.

Accordingly, the committee recommends a decrease of \$5.0 million in line number 11 of Procurement of WTCV, Army, for M88 FOV Modifications.

Joint Assault Bridge

The budget request included \$72.2 million in line number 12 of Procurement of Weapons and Tracked Combat Vehicle (WTCV), Army, for the Joint Assault Bridge.

The committee notes a 1 year contract slip that will delay execution of fiscal year 2021 funds.

Accordingly, the committee recommends a reduction of \$10.5 million in line number 12 of Procurement of WTCV, Army, for the Joint Assault Bridge.

Multi-Domain Task Force Tactical Network Technology

The budget request included \$360.4 million in line number 23 of Other Procurement, Army (OPA), for Tactical Network Technology Mod in Svc.

The unfunded priorities list of the Chief of Staff of the Army identified non-program of record procurement requirements to enable intelligence, cyber, electronic warfare, and space operations within the Multi-Domain Task Force, including \$5.0 million for scalable network node equipment.

Accordingly, the committee recommends an increase of \$5.0 million in line number 23 of OPA for Tactical Network Technology Mod in Svc.

U.S. Africa Command force protection upgrades transportable tactical command communications

The budget request included \$75.2 million in line number 30 of Other Procurement, Army (OPA), for Transportable Tactical Command Communications.

The committee notes that U.S. Africa Command (AFRICOM) identified as an unfunded requirement the need for emergent force protection upgrades following the terrorist attack against U.S. personnel in Manda Bay, Kenya, and after a theater-wide review of force protection at multiple locations in Africa. AFRICOM identi-

fied the most immediate priorities as establishing and upgrading fencing, communications systems, and shelters to provide protection for Department of Defense personnel.

Therefore, the committee recommends an increase of \$1.0 million in line number 30 of OPA for Transportable Tactical Command Communications.

Multi-Domain Task Force Tactical Command Communications

The budget request included \$72.5 million in line number 30 of Other Procurement, Army (OPA), for Transportable Tactical Command Communications.

The unfunded priorities list of the Chief of Staff of the Army identified non-program of record procurement requirements to enable intelligence, cyber, electronic warfare, and space operations within the Multi-Domain Task Force, including \$1.4 million for scalable network node equipment.

Accordingly, the committee recommends an increase of \$1.4 million in line number 30 of OPA for Transportable Tactical Command Communications.

U.S. Africa Command force protection upgrades combat communications

The budget request included \$550.8 million in line number 37 of Other Procurement, Army (OPA), for Combat Communications Handheld Manpack Small Form Fit.

The committee notes that U.S. Africa Command (AFRICOM) identified as an unfunded requirement the need for emergent force protection upgrades following the terrorist attack against U.S. personnel in Manda Bay, Kenya, and after a theater-wide review of force protection at multiple locations in Africa. AFRICOM identified the most immediate priorities as establishing and upgrading fencing, communications systems, and shelters to provide protection for Department of Defense personnel serving in select locations.

The committee recommends an increase of \$1.5 million in line number 37 of OPA for Combat Communications Handheld Manpack Small Form Fit.

Spider Anti-Personnel Munition

The budget request included \$14.0 million in line number 41 of Other Procurement, Army (OPA), for the Spider Family of Networked Munitions.

The committee notes the Army's cancellation of the program subsequent to preparation and submission of the budget request.

Accordingly, the committee recommends a reduction of \$14.0 million in line number 41 of OPA for the Spider Family of Networked Munitions.

Multi-Domain Task Force Defensive Cyber Operations

The budget request included \$54.8 million in line number 53 of Other Procurement, Army (OPA), for Defensive Cyber Operations.

The unfunded priorities list of the Chief of Staff of the Army identified non-program of record procurement requirements to en-

able intelligence, cyber, electronic warfare, and space operations within the Multi-Domain Task Force, including \$900,000 for cyber defense and electronic warfare tools.

Accordingly, the committee recommends an increase of \$900,000 in line number 53 of OPA for Defensive Cyber Operations.

U.S. Africa Command unfunded requirement force protection upgrades long haul communications

The budget request included \$29.8 million in line number 57 of Other Procurement, Army (OPA), for Long Haul Communications Base Support Communications.

The committee notes that U.S. Africa Command (AFRICOM) identified as an unfunded requirement the need for emergent force protection upgrades following the terrorist attack against U.S. personnel in Manda Bay, Kenya, and after a theater-wide review of force protection at multiple locations in Africa. AFRICOM identified the most immediate priorities as establishing and upgrading fencing, communications systems, and shelters to provide protection for Department of Defense personnel serving in select locations.

Therefore, the committee recommends an increase of \$1.0 million in line number 57 of OPA for Long Haul Communications Base Support Communications.

Multi-Domain Task Force Counterintelligence/Security Countermeasures

The budget request included \$360.4 million in line number 81 of Other Procurement, Army (OPA), for Counterintelligence/Security Countermeasures.

The unfunded priorities list of the Chief of Staff of the Army identified non-program of record procurement requirements to enable intelligence, cyber, electronic warfare, and space operations within the Multi-Domain Task Force, including \$13.4 million for advanced intelligence systems for remote collection.

Accordingly, the committee recommends an increase of \$13.4 million in line number 81 of OPA for Counterintelligence/Security Countermeasures.

U.S. Africa Command force protection upgrades indirect fire protection

The budget request included \$37.0 million in line number 88 of Other Procurement, Army (OPA), for Indirect Fire Protection Family of Systems.

The committee notes that U.S. Africa Command (AFRICOM) identified as an unfunded requirement the need for emergent force protection upgrades following the terrorist attack against U.S. personnel in Manda Bay, Kenya, and after a theater-wide review of force protection at multiple locations in Africa. AFRICOM identified the most immediate priorities as establishing and upgrading fencing, communications systems, and shelters to provide protection for Department of Defense personnel serving in select locations.

Therefore, the committee recommends an increase of \$4.0 million in line number 88 of OPA for Indirect Fire Protection Family of Systems.

Multi-Domain Task Force Electronic Warfare Tools

The budget request included \$17.0 million in line number 119 of Other Procurement, Army (OPA), for BCT Emerging Technologies.

The unfunded priorities list of the Chief of Staff of the Army identified non-program of record procurement requirements to enable intelligence, cyber, electronic warfare, and space operations within the Multi-Domain Task Force, including \$3.9 million for electronic warfare tools and cyber defense.

Accordingly, the committee recommends an increase of \$3.9 million in line number 119 of OPA for BCT Emerging Technologies.

WMD Civil Support Team Equipping

The budget request included \$28.5 million in line number 123 of Other Procurement, Army (OPA), for Chemical, Biological, Radiological, and Nuclear (CBRN) defense.

The committee recognizes the critical role that Weapons of Mass Destruction Civil Support Teams (CSTs) play in both homeland defense and overseas contingency operations and the importance of equipping CSTs for radiological and nuclear hazards detection and identification.

Accordingly, the committee recommends an increase of \$14.0 million in line number 123 of OPA for CBRN defense.

U.S. Africa Command force protection upgrades physical security systems

The budget request included \$75.5 million in line number 181 of Other Procurement, Army (OPA), for Physical Security Systems (OPA3).

The committee notes that U.S. Africa Command (AFRICOM) identified as an unfunded requirement the need for emergent force protection upgrades following the terrorist attack against U.S. personnel in Manda Bay, Kenya, and after a theater-wide review of force protection at multiple locations in Africa. AFRICOM identified the most immediate priorities as establishing and upgrading fencing, communications systems, and shelters to provide protection for Department of Defense personnel serving in select locations.

Therefore, the committee recommends an increase of \$12.0 million in line number 181 of OPA for Physical Security Systems (OPA3).

Expeditionary Solid Waste Disposal System

The budget request included \$32.4 million in line number 183 of Other Procurement, Army (OPA), for Other Support Equipment for modification of in-service equipment (OPA-3).

The committee concurs with the Army's budget justification documents, which stated that the Expeditionary Solid Waste Disposal System (ESWDS) "will reduce the use of burn pits by providing a cleaner solution for onsite disposal of 1,000 pounds of solid waste per day. The ESWDS will also reduce Soldier, civilian, and local

population exposure to pollutants from open air burn pits; reduce the amount of trash that must be backhauled, reducing Soldiers' exposure and attacks during convoy operations; reduce the waste held onsite [which] also deters potential vermin that could spread disease and disrupt mission[;] and eliminate the security risk from uncontrolled access to trash." However, despite this justification, the Army requested no funds for ESWDS. The committee notes that ESWDS could also provide a capability during pandemics to rapidly incinerate contaminated personal protective equipment, thereby decreasing exposure to servicemembers.

Accordingly, the committee recommends an increase of \$15.9 million in line number 183 of OPA for ESWDS in OPA-3.

Navy

F-35C

The budget request included \$2.2 billion in line number 3 of Aircraft Procurement, Navy (APN), for F-35C procurement.

The committee commends the Navy and Marine Corps for transitioning to a greater acquisition rate of 5th generation aircraft with the planned purchase of 21 aircraft but still believes that a higher number is required to meet the needs of the National Defense Strategy.

Therefore, the committee recommends an increase of \$200.0 million in line number 3 of APN for the purchase of 2 additional F-35Cs: 1 for the Navy and 1 for the Marine Corps.

F-35B

The budget request included \$1.1 billion in line number 5 of Aircraft Procurement, Navy (APN), for F-35B procurement.

The committee commends the Marine Corps for transitioning to a greater acquisition rate of 5th generation aircraft with the planned purchase of 10 aircraft but still believes that a higher number is required to meet the requirements of the National Defense Strategy.

Therefore, the committee recommends an increase of \$125.5 million in line number 5 of APN for the purchase of 2 additional F-35Bs.

CH-53K

The budget request included \$813.3 million in line number 7 of Aircraft Procurement, Navy (APN), for CH-53K procurement.

The Marine Corps has conducted a force design review that includes plans to reduce the number of heavy lift squadrons by three, and, as such, the committee is concerned that the corresponding reduction in procurement will significantly affect the acquisition program unit cost of the CH-53K. Additionally, the committee is aware of potential program delays and restructuring decisions germane to the CH-53K. Based on the reduced total numbers, the committee is concerned about additional non-recurring engineering costs and cost growth in government furnished equipment.

Therefore, the committee recommends a decrease of \$20.0 million in line number 7 of APN for CH-53K.

CH-53 Advanced Procurement

The budget request included \$201.2 million in line number 8 of Aircraft Procurement, Navy (APN), for CH-53K procurement.

The Marine Corps has conducted a force design review that includes plans to reduce the number of heavy lift squadrons by three, and, as such, the committee is concerned that the corresponding reduction in procurement will significantly affect the acquisition program unit cost of the CH-53K. Additionally, the committee is aware of potential program delays and restructuring decisions germane to the CH-53K and potential acquisition reductions next year.

Therefore, the committee recommends a decrease of \$10.0 million in line number 8 of APN for CH-53K.

MQ-4

The budget request included \$813.3 million in line number 21 of Aircraft Procurement, Navy (APN), for MQ-4 Triton procurement.

The Navy plans to take pause procurement until 2023. While the committee is concerned with that decision, the Navy has articulated the risk and mitigation efforts underway. Given the pause, the committee believes that the current budget request is greater than what it required to meet program requirements.

Therefore, the committee recommends a decrease of \$50.0 million in line number 21 of APN for MQ-4 Triton.

Marine Corps aviator body armor vest

The budget request included \$40.4 million in line number 52 of Aircraft Procurement, Navy (APN), for Aviation Life Support Mods.

The committee is aware that the Marine Corps has a requirement to replace the aviation life support equipment (ALSE) vest system currently worn by MV-22 and CH-53 aircrews with an aviator body armor vest (ABAV) system that improves mobility and performance while enhancing survivability. The committee encourages the Marine Corps to compete both commercial off-the-shelf and government-owned designs of ABAV systems in order to identify a system that fully meets the Marine Corps requirement to enable and protect MV-22 and CH-53 aircrews while minimizing development costs and delays to procurement.

Therefore, the committee recommends an increase of \$5.0 million in line number 52 of APN for Aviation Life Support Mods.

F-35B/C Spares

The budget request included \$2.2 billion in line number 70 of Aircraft Procurement, Navy (APN), for Spares and Repair Parts.

The committee commends the Navy and Marine Corps for acquiring 5th generation aircraft at a higher rate with the planned purchase of 31 aircraft but still believes that a higher number is required to meet the needs of the National Defense Strategy.

Therefore, the committee recommends an increase of \$30.0 million in line number 70 of APN for the purchase of initial spares packages for the F-35B/C aircraft.

Tomahawk

The budget request included \$277.7 million in line number 3 of Weapons Procurement, Navy (WPN), for Tomahawk missiles.

The committee notes that additional funding could be used to procure additional Tomahawk missiles for the Marine Corps in furtherance of the National Defense Strategy.

Therefore, the committee recommends an increase of \$26.0 million in line number 3 of WPN.

LRASM

The budget request included \$168.8 million in line number 17 of Weapons Procurement, Navy (WPN), for 48 Long Range Anti-Ship Missiles (LRASMs).

The committee understands that the LRASM's range, semi-autonomous targeting capability, survivability enhancements, and other unique features will significantly improve the carrier air wing's ability to reach and defeat enemy surface combatants located in contested environments while protecting itself against enemy countermeasures. The LRASM capability will be relevant in multiple theaters, but it will be especially useful in the Indo-Pacific, which the Department of Defense has named its priority theater. The LRASM provides a near-term capability enhancement that will allow the carrier air wing to contribute to blunting a Chinese offensive earlier in conflict, thereby directly advancing the objectives and priorities laid out in the National Defense Strategy.

Therefore, the committee recommends an increase of \$35.0 million in line number 17 of WPN for the purchase of 10 LRASMs.

Surface ship torpedo defense

The budget request included \$5.8 million in line number 28 of Weapons Procurement, Navy (WPN), for surface ship torpedo defense.

The committee notes insufficient justification for acoustic device countermeasure non-recurring costs.

Therefore, the committee recommends a decrease of \$2.2 million in line number 28 of WPN.

MK-54 torpedo modifications

The budget request included \$110.3 million in line number 31 of Weapons Procurement, Navy (WPN), for MK-54 torpedo modifications.

The committee notes Mk 54 Mod 0 production delays.

Therefore, the committee recommends a decrease of \$10.0 million in line number 31 of WPN.

Submarine supplier stability

The budget request included \$1.1 billion in line number 2 of Shipbuilding and Conversion, Navy (SCN), for Columbia-class submarine advance procurement.

The committee believes that expanding the capabilities of the second- and third-tier contractors in the submarine industrial base should lead to greater industrial base stability, cost savings, and improved efficiency as production increases to meet the Columbia-class construction schedule.

Therefore, the committee recommends an increase of \$175.0 million in line number 2 for Columbia-class submarine advance procurement.

The committee directs the Secretary of the Navy to notify the congressional defense committees, in writing, within 30 days of obligating funds provided for submarine supplier stability. The notification shall include: 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.

Virginia-class submarines

The budget request included \$2.3 billion in line number 5 of Shipbuilding and Conversion, Navy (SCN), for procurement of *Virginia*-class submarines.

The committee notes unjustified unit cost growth in plans (\$25.0 million), modular mast (\$8.8 million), propulsor (\$25.6 million), and command, control, communications and information (\$15.0 million) systems.

Therefore, the committee recommends a decrease of \$74.4 million in line number 5 of SCN.

Virginia-class submarine advance procurement

The budget request included \$1.9 billion in line number 6 of Shipbuilding and Conversion, Navy (SCN), for *Virginia*-class submarine advance procurement.

The committee notes that on December 2, 2019, the Navy awarded a contract modification to procure 9 *Virginia*-class submarines in fiscal years 2019 through 2023, as authorized by section 124 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91). This contract includes an option for one additional submarine.

The committee supports preserving the option to procure 10 *Virginia*-class attack submarines in fiscal years 2019 through 2023. The committee understands that construction on this additional submarine would not begin until March 2024, that the typical procurement funding profile for *Virginia*-class submarines consists of 2 years of advance procurement followed by 1 year of full funding procurement, and that \$272.0 million is the minimum amount of additional advance procurement funding required in fiscal year 2021.

The committee supports utilizing a typical procurement funding profile and believes doing so would also provide additional time to more fully assess previous concerns of Navy officials regarding the ability of the submarine industrial base to build 10 *Virginia*-class submarines, with 9 having the Virginia Payload Module in this time frame.

Additionally, as noted in the Senate report accompanying S. 1790 (S. Rept. 116–48) of the National Defense Authorization Act for Fiscal Year 2020, the committee still has insufficient clarity on the Navy's intentions regarding a significant *Virginia*-class submarine design change, which could occur in the same time frame.

The committee recognizes that this additional submarine was the Chief of Naval Operations' top unfunded priority for fiscal year 2021. If this level of support continues, the committee expects the Navy to budget accordingly in its fiscal year 2022 future years defense program submission.

Therefore, the committee recommends an increase of \$472.0 million in line number 6 of SCN.

***Arleigh Burke*-class destroyers**

The budget request included \$3.0 billion in line number 10 of Shipbuilding and Conversion, Navy (SCN), for procurement of *Arleigh Burke*-class destroyers.

The committee notes the available prior year funds in this line number.

Therefore, the committee recommends a decrease of \$30.0 million in line number 10 of SCN.

Surface ship supplier stability

The budget request included \$29.3 million in line number 11 of Shipbuilding and Conversion, Navy (SCN), for DDG-51 advance procurement.

The committee believes that expanding the capabilities of the second- and third-tier contractors in the surface ship industrial base should lead to greater industrial base stability, cost savings, and improved efficiency as production increases to build greater quantities of surface combatants.

The committee also notes that the Navy future years defense program includes procurement of two *Arleigh Burke*-class destroyers in fiscal year 2022, 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 improved ship construction intervals.

Therefore, the committee recommends an increase of \$435.0 million in line number 11 for DDG-51 advance procurement.

The committee directs the Secretary of the Navy to notify the congressional defense committees, in writing, within 30 days of obligating funds provided for surface ship supplier stability. The notification shall include: 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.

LPD Flight II

The budget request included \$1.2 billion in line number 14 of Shipbuilding and Conversion, Navy (SCN), for LPD Flight II ships.

The committee notes that the Navy received incremental funding authority in section 129 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) for the LPD-31, which would be fully funded in this request.

The committee further notes that additional funding is required in line number 15 of SCN to maximize the benefit of the amphibious ship procurement authorities provided elsewhere in this Act

through the procurement of long lead material for LPD-32 and LPD-33.

Therefore, the committee recommends a decrease of \$250.0 million in line number 14 of SCN. This sum is added to line number 15 of SCN elsewhere in this Report.

LPD Flight II advance procurement

The budget request included no funding in line number 15 of Shipbuilding and Conversion, Navy (SCN), for LPD Flight II advance procurement.

The committee notes that \$500.0 million is required in line number 15 of SCN to maximize the benefit of the amphibious ship procurement authorities provided elsewhere in this Act through the procurement of long lead material for LPD-32 and LPD-33.

Therefore, the committee recommends an increase of \$500.0 million in line number 15 of SCN, of which \$250.0 million is a transfer from line number 14.

LHA replacement amphibious assault ship

The budget request included no funding in line number 17 of Shipbuilding and Conversion, Navy (SCN), for the LHA replacement amphibious assault ship.

The committee remains concerned with the procurement profile for large deck amphibious assault ships, which includes a span of 6 years until the next large deck amphibious assault ship (LHA-9) would be procured in fiscal year 2023.

The committee notes that efficiencies could be gained by reducing this time span, including steadier workflow with an increased learning curve, material and equipment suppliers with more predictable delivery contracts, and a more effective continuous improvement schedule.

The committee urges the Secretary of the Navy to accelerate the construction of LHA-9, including putting the remainder of the \$350.0 million appropriated in fiscal year 2019 for this ship on contract as soon as possible, leveraging the incremental funding authority in section 127 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) to build LHA-9 as efficiently as possible and utilizing the amphibious ship procurement authorities provided elsewhere in this Act to further increase efficiency and stability in the shipbuilding industrial base.

Therefore, the committee recommends an increase of \$250.0 million in line number 17 of SCN.

Landing craft utility

The budget request included \$87.4 million in line number 23 of Shipbuilding and Conversion, Navy (SCN), for the procurement of landing craft utility (LCU 1700) vessels.

The committee notes insufficient justification to support an increase in quantities from 4 to 5 LCU 1700 vessels, as compared to the projection for fiscal year 2021 in the fiscal year 2020 future years defense program.

Therefore, the committee recommends a decrease of \$17.0 million in line number 23 of SCN.

Outfitting

The budget request included \$825.6 million in line number 24 of Shipbuilding and Conversion, Navy (SCN), for outfitting.

The committee notes unjustified cost growth on the Littoral Combat Ship (\$51.8 million) and *Zumwalt*-class destroyer (\$26.5 million) programs.

Therefore, the committee recommends a decrease of \$78.3 million in line number 24 of SCN.

Yard patrol craft

The budget request included \$249.8 million in line number 26 of Shipbuilding and Conversion, Navy (SCN), for service craft.

In order to increase training opportunities for Surface Warfare Officer candidates from all accession sources, the committee continues to believe that the Navy should replace the six YP-676 class craft slated for disposal with upgraded YP-703 class 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 2021. The committee notes that the Navy's latest cost estimate for acquisition of the first upgraded YP-703 class craft is \$25.5 million.

Therefore, the committee recommends an increase of \$25.5 million in line number 26 of SCN.

LCAC service life extension

The budget request included \$56.5 million in line number 27 of Shipbuilding and Conversion, Navy (SCN), for LCAC service life extensions.

The committee notes insufficient justification to support an increase in funding, as compared to the projection for fiscal year 2021 in the fiscal year 2020 future years defense program.

Therefore, the committee recommends a decrease of \$56.5 million in line number 27 of SCN.

Hybrid electric drive

The budget request included \$58.5 million in line number 2 of Other Procurement, Navy (OPN), for surface combatant hull, mechanical, and electrical equipment.

The committee notes that the Consolidated Appropriations Act, 2020 (Public Law 116-93) included \$35.0 million for "program increase—hybrid electric drive" in this line number. The committee understands that the purpose of this funding was to provide for the installation of the five previously procured hybrid electric drive (HED) ship sets.

The committee further understands that the earliest the Navy can execute an HED installation is in fiscal year 2023 and that, prior to installation, approximately \$15 million is required to implement engineering changes and software updates on the 5 previously procured HED ship sets.

Therefore, the committee recommends a decrease of \$20.0 million in line number 2 of OPN.

DDG modernization

The budget request included \$547.6 million in line number 5 of Other Procurement, Navy (OPN), for DDG modernization.

The committee notes unjustified excess unit cost growth for installation of modernized hardware and software.

Therefore, the committee recommends a decrease of \$50.0 million in line number 5 of OPN.

LCS common mission module equipment

The budget request included \$39.70 in line number 30 of Other Procurement, Navy (OPN), for LCS common mission module equipment.

The committee notes insufficient justification for Mine Countermeasures containers (\$13.4 million) and Mission Package Computing Environment sonar signal processing (\$8.9 million).

Therefore, the committee recommends a decrease of \$22.3 million in line number 30 of OPN.

LCS mine countermeasures mission modules

The budget request included \$218.8 million in line number 31 of Other Procurement, Navy (OPN), for LCS mine countermeasures mission modules.

The committee notes that procurement of the buried minehunting module and remote minehunting module would occur prior to operational testing, which is planned to be completed in fiscal year 2022. The committee seeks to avoid excess procurement of these systems in advance of satisfactory testing.

Therefore, the committee recommends a decrease of \$123.5 million in line number 31 of OPN.

LCS anti-submarine warfare mission modules

The budget request included \$61.8 million in line number 32 of Other Procurement, Navy (OPN), for LCS anti-submarine mission modules.

The committee notes recent variable depth sonar testing delays necessary to correct deficiencies and that the initial operational test and evaluation period for the littoral combat ship anti-submarine warfare mission package is scheduled for fiscal year 2021. The committee seeks to avoid excess procurement of these systems in advance of satisfactory testing.

Therefore, the committee recommends a decrease of \$57.0 million in line number 32 of OPN.

Small and medium unmanned underwater vehicles

The budget request included \$67.7 million in line number 35 of Other Procurement, Navy (OPN), for small and medium unmanned underwater vehicles.

The committee notes that the procurement of 2 Knifefish surface mine countermeasure unmanned undersea vehicle systems would occur prior to operational testing, which is planned to be completed in fiscal year 2022. The committee seeks to avoid excess procurement of these systems in advance of satisfactory testing.

Therefore, the committee recommends a decrease of \$30.1 million in line number 35 of OPN.

Surface electronic warfare improvement program

The budget request included \$387.2 million in line number 45 of Other Procurement, Navy (OPN), for the surface electronic warfare improvement program.

The committee notes that the following funding is early to need: installation (\$5.0 million), 2 Blocks 1B3 & 2 systems (\$32.0 million), and 3 SEWIP Lite & 1B2 systems (\$19.4 million).

Therefore, the committee recommends a decrease of \$56.4 million in line number 45 of OPN.

Cooperative engagement capability

The budget request included \$26.0 million in line number 48 of Other Procurement, Navy (OPN), for procurement of cooperative engagement capability systems.

The committee notes program delays with the Common Array Block antenna.

Therefore, the committee recommends a decrease of \$7.3 million in line number 48 of OPN.

Next generation surface search radar

The budget request included \$159.8 million in line number 72 of Other Procurement, Navy (OPN), for procurement of items for less than \$5.0 million.

The committee notes that the next generation surface search radar program has available funds due to available prior year installation funding (\$15.6 million), late production contract award (\$33.9 million), and excess engineering change proposal funding (\$5.3 million).

Therefore, the committee recommends a decrease of \$54.8 million in line number 72 of OPN.

Sonobuoys

The budget request included \$237.6 million in line number 92 of Other Procurement, Navy (OPN), for the procurement of sonobuoys.

The committee notes that greater-than-expected sonobuoy expenditures in fiscal year 2019 resulted in the Chief of Naval Operations' requesting procurement of additional sonobuoys as a fiscal year 2021 unfunded priority.

Therefore, the committee recommends an increase of \$49.1 million in line number 92 of OPN.

Ground-Based Anti-Ship Missile

The budget request included \$174.7 million in line number 5 of Procurement, Marine Corps (PMC), for Artillery Weapons Systems.

The committee recognizes that Naval Strike Missiles (NSMs) form the initial basis for the Ground-Based Anti-Ship Missile (GBASM) program, which will significantly enhance the Marine Corps' ability to perform sea denial operations. In his unfunded priorities list, the Commandant of the Marine Corps identified an unfunded requirement of \$59.6 million for procurement of NSMs to support the GBASM program.

Accordingly, the committee recommends an increase of \$59.6 million in line number 5 of PMC for GBASM.

Air Force

F-35A

The budget request included \$4.6 billion in line number 1 of Aircraft Procurement, Air Force (APAF), for F-35A procurement.

The committee is concerned that, after repeated Congressional plus-ups and support for increased production, the Air Force still budgets for a quantity below the stated production objectives of the F-35 program. Further, the committee is concerned that the Air Force has squandered an opportunity to capitalize on advanced procurement appropriations by only budgeting for 48 aircraft this year instead of the 60 aircraft that were planned and that the advanced procurement was previously provided for by the Congress. The committee expects the Department to execute proper forecasting and propose appropriate budget requests rather than to continue to rely on Congressional plus-ups.

Therefore, the committee recommends an increase of \$976.7 million in line number 1 of APAF for the purchase of 10 additional F-35As.

MQ-9

The budget request included \$171.9 million in line number 20 of Aircraft Procurement, Air Force (APAF), for MQ-9 procurement.

The committee is concerned about terminating procurement of MQ-9s without replacement. Further, the committee is worried that, with a reduction of MQ-9s, the Department will incur a significantly increased cost in the long run and the Air Force will be unable to meet combatant command requirements for unmanned fixed wing intelligence, surveillance, and reconnaissance.

Therefore, the committee recommends an increase of \$50.0 million in line number 20 of APAF and the use of the production shutdown funds totaling \$120.6 million from Overseas Contingency Operations funds for the purchase of additional MQ-9s in order to maintain the production line for another year.

B-1

The budget request included \$3.9 million in line number 22 of Aircraft Procurement, Air Force (APAF), for B-1.

The committee supports the Air Force's request to realign funds to support certain B-1 radio cryptographic modernization requirements within the associated Research, Development, Test, and Evaluation account rather than using procurement dollars.

Accordingly, the committee recommends a decrease of \$3.9 million in line number 22 of APAF.

B-1B

The budget request included \$21.8 million in line number 24 of Aircraft Procurement, Air Force (APAF), for B-1B.

The committee supports the Air Force's request to realign funds to support certain B-1 radio cryptographic modernization requirements within the associated Research, Development, Test, and Evaluation account.

Accordingly, the committee recommends a decrease of \$493,000 in line number 24 of APAF.

F-16 Radar

The budget request included \$615.8 million in line number 30 of Aircraft Procurement, Air Force (APAF), for F-16 modernization.

The committee recognizes the importance of the Air Force's efforts to modernize its fourth generation fighter fleet and equip itself with the most advanced and capable radars in support of the National Defense Strategy. However, the committee is concerned about the quantity and timing of procurement of advanced radars for the entire F-16 fleet.

Therefore, the committee recommends an increase of \$25.0 million in line number 30 of APAF for the procurement of additional radar sets across the entire F-16 fleet.

T-38 Ejection Seat

The budget request included \$36.8 million in line number 45 of Aircraft Procurement, Air Force (APAF), for T-38 upgrades.

The committee is aware that T-38As and T-38Bs have not been retrofitted with modern ejection seat technology that can support the range of heights and weights of the current Air Force pilot population. The legacy seats lack modern capability, which creates safety concerns for pilots during ejection in the current operational envelope. The committee notes that this technology is in use in all Air Education and Training Command (AETC) T-38C Talons. The upgraded egress system would provide a significant improvement in safety margins for all pilots.

Therefore, the committee recommends an increase of \$7.7 million in line number 45 of APAF to equip T-38As and T-38Bs with updated egress systems that provide for the safety of Air Force pilots.

E-4B Survivable Super High Frequency program

The budget request included \$58.8 million in line number 59 of Aircraft Procurement, Air Force (APAF), for the E-4B National Airborne Operations Center (NAOC).

The committee understands that the E-4B Survivable Super High Frequency program has been rephased to future fiscal years.

Accordingly, the committee recommends a reduction of \$14.7 million in line number 59 of APAF for the E-4B NAOC.

E-8 (JSTARS)

The budget request included \$11.0 million in line number 60 of Aircraft Procurement, Air Force (APAF), for conducting various modifications of Joint Surveillance/Target Attack Radar System (JSTARS) aircraft.

The committee believes in the continued relevance of the JSTARS platform and the immediate requirement for a low-cost network that can provide multiple simultaneous data links to and from airborne and ground-based platforms in contested environments.

Therefore, the committee recommends an increase of \$10.0 million in line number 60 of APAF for installing modifications in JSTARS aircraft to provide for secure information transmission capability.

CV-22 ABSS

The budget request included \$36.8 million in line number 70 of Aircraft Procurement, Air Force (APAF), for CV-22 upgrades.

The CV-22 Osprey is operated by Air Force Special Operations Command (AFSOC) to conduct special missions around the world. The CV-22 Advanced Ballistic Stopping System (ABSS) system provides protection for passengers in the aircraft cabin area via floor armor and sidewall cabin armor. The AFSOC initially procured 16 ABSS systems, but 34 aircraft remain to be retrofitted.

Therefore, the committee recommends an increase of \$5.0 million in line number 70 of APAF for CV-22 ballistic protection.

F-35A initial spares

The budget request included \$926.7 million in line number 71 of Aircraft Procurement, Air Force (APAF), for Spares and Repair Parts.

The committee remains concerned that the initial spares procurement accounts are not adequately resourced which continues to affect readiness, aircraft availability, and mission capable rates of F-35 aircraft.

Therefore, the committee recommends an increase of \$30.0 million in line number 71 of APAF for the purchase of initial spares packages for the F-35 aircraft.

Joint Air-to-Surface Standoff Missile (JASSM)

The budget request included \$476.0 million in line number 4 of Missile Procurement, Air Force (MPAF), for JASSM.

The committee is concerned that the Air Force has not procured sufficient weapons to support the National Defense Strategy and is also concerned that the mix of Long Range Anti-Ship Missiles (LRASMs) and Joint Air-to-Surface Standoff Missiles (JASSM) is too heavily weighted on JASSM to support National Defense Strategy-envisioned conflicts in the Indo-Pacific region.

Therefore, the committee recommends a decrease of \$75.0 million in line number 5 of MPAF to realign weapons capability and purchase additional LRASMs, recommended elsewhere in this report.

Long Range Anti-Ship Missile (LRASM)

The budget request included \$19.8 million in line number 5 of Missile Procurement, Air Force (MPAF), for the Long Range Anti-Ship Missile (LRASM).

The committee is concerned that the Air Force has not procured sufficient number of weapons to support the National Defense Strategy.

Therefore, the committee recommends an increase of \$75.0 million in line number 5 of Missile Procurement, Air Force (MPAF), for procurement of additional LRASMs.

Cobra Dane service life extension

The budget request included \$96.6 million in line number 17 of Procurement, Space Force (PSF), for Space Mods.

The committee notes that, because of projected delays in fielding two homeland defense radars in the Indo-Pacific area of responsibility, Cobra Dane will now be required to exceed its originally

planned life expectancy. The committee also notes that this project was included on the unfunded priorities list submitted by the Commander, U.S. Northern Command and North American Aerospace Defense Command.

Accordingly, the committee recommends an increase of \$12.5 million in line number 17 of PSF to accelerate the service life extension of the Cobra Dane radar.

PDI: Mission Partner Environment (MPE) local upgrades, U.S. Indo-Pacific Command

The budget request included \$9.3 million in line number 14 of Other Procurement, Air Force (OPAF), for international intelligence technology and architectures.

The unfunded priorities list submitted by the Commander, U.S. Indo-Pacific Command (INDOPACOM), included additional funding for Mission Partner Environment (MPE) local upgrades to modernize the command, control, communications, and computers architecture in the INDOPACOM area of responsibility and provide local systems to support and enhance operations with allies and partners.

Therefore, the committee recommends an increase of \$1.5 million in line number 14 of OPAF for MPE local upgrades within the INDOPACOM area of responsibility, specifically, the BICES-X program.

PDI: Mission Partner Environment (MPE) local upgrades, U.S. Indo-Pacific Command

The budget request included \$132.3 million in line number 49 of Other Procurement, Air Force (OPAF), for base communications infrastructure.

The unfunded priorities list submitted by the Commander, U.S. Indo-Pacific Command (INDOPACOM), included additional funding for Mission Partner Environment (MPE) local upgrades to modernize the command, control, communications, and computers architecture in the INDOPACOM area of responsibility and provide local systems to support and enhance operations with allies and partners.

Therefore, the committee recommends an increase of \$14.0 million in line number 49 of OPAF for MPE local upgrades within the INDOPACOM area of responsibility, specifically, the PACNET initiative to transform the theater communications and data architecture.

Energy efficient small shelters upgrades

The budget request included \$52.0 million in line number 56 of Other Procurement, Air Force (OPAF), for Mobility Equipment.

Solar shades provide energy efficiency and extended service life of small shelters.

Therefore, the committee recommends an increase of \$4.7 million in line number 56 of OPAF for Mobility Equipment.

Defense Wide

Joint Regional Security Stacks SIPR funding—Procurement

The budget request included \$88.7 million in line number 19 of Procurement, Defense-wide, for the Joint Regional Security Stacks (JRSS).

The committee is aware of the operational cybersecurity limitations of the JRSS technology as assessed by the Director, Operational Test and Evaluation, the difficulty of training personnel to use the JRSS, and the shortage of feasible tactics, techniques, and procedures to make effective use of the JRSS. The committee believes that the deployment of JRSS on the Secret Internet Protocol Router Network is thus inappropriate, given JRSS' limited cybersecurity capability and the existence of alternative capabilities to execute its network functions.

Therefore, the committee recommends a decrease of \$11.1 million in line number 19 of Procurement, Defense-wide, due to the operational cybersecurity limitations of the JRSS technology.

Terminal High Altitude Area Defense

The budget request included \$495.4 million in line number 31 of Procurement, Defense-Wide (PDW), for Terminal High Altitude Area Defense (THAAD) and did not include funding in line number 36 of PDW for BMDS AN/TPY-2 Radars.

The committee notes that the Army remains below its validated requirement for THAAD batteries and that the President's budget did not include funding for the procurement of additional batteries. The unfunded priorities list submitted by the Director of the Missile Defense Agency included funding for an eighth THAAD battery. The committee further notes that procurement of this battery in early fiscal year 2021 would be more cost-efficient due to synchronization with an ongoing foreign military sales case.

The committee also understands that the production line supporting the THAAD Heavy Expanded Mobility Tactical Trucks (HEMTTs) will likely close in the near future. The Director's unfunded priorities list also included funding for a life-of-type buy for HEMTTs to support the existing and future force.

Accordingly, the committee recommends an increase of \$106.4 million in line number 31 of PDW for the eighth battery components (\$76.3 million) and HEMTTs (\$30.1 million) and an increase of \$243.3 million in line number 36 of PDW for BMDS AN/TPY-2 Radars.

SM-3 IIA procurement

The budget request included \$218.3 million in line number 37 of Procurement, Defense-Wide (PDW), for SM-3 Block IIA missiles.

The committee believes that procuring higher quantities of this interceptor each year (including foreign military sales) is prudent, given existing requirements for Aegis Ashore and Aegis Ballistic Missile Defense ships, the capacity and efficiencies of the industrial base, and the potential for additional land-based SM-3 systems. The committee also notes that this increased procurement was included on the unfunded priorities list submitted by the Director of the Missile Defense Agency.

Accordingly, the committee recommends an increase of \$128.0 million in line number 37 of PDW for SM-3 Block IIA missiles.

Armed Overwatch

The budget request included \$101.0 million in line number 55 of Procurement, Defense-wide, for Armed Overwatch.

The committee is concerned that the acquisition strategy for an armed overwatch aircraft for U.S. Special Operations Command (SOCOM) lacks a validated requirement and an appropriate analysis of the cost-effectiveness of acquiring a new special operations-peculiar platform for this purpose. Furthermore, the committee is concerned that the rapid acquisition timeline being pursued by SOCOM does not allow for adequate consideration of: the cost of operating and sustaining the aircraft; the potential negative impacts on an already stressed community of pilots, aircrews, and maintainers; and how such a costly addition fits into SOCOM's medium-to-long-term airborne intelligence, surveillance, and reconnaissance capability roadmap.

Therefore, the committee recommends a decrease of \$101.0 million in line number 55 of Procurement, Defense-wide, for Armed Overwatch. The committee notes that, elsewhere in this report, the committee recommends increases in funding to address unfunded requirements identified by SOCOM to address urgent needs, to include the replacement of combat loss aircraft and other equipment.

DHC-8 combat loss replacement

The budget request included no funding in line number 56 of Procurement, Defense-Wide, for Manned ISR.

The committee notes that a DHC-8 aircraft operated by U.S. Special Operations Command (SOCOM) was destroyed during a terrorist attack against forces supporting Operation Enduring Freedom—Horn of Africa and that SOCOM identified replacement of the combat loss as an unfunded requirement.

Therefore, the committee recommends an increase of \$40.1 million in line number 56 of Procurement, Defense-wide, for combat loss replacement of a DHC-8 aircraft.

Aircraft maintenance support combat loss replacement

The budget request included \$3.8 million in line number 62 of Procurement, Defense-wide, for U-28.

The committee notes that various aircraft maintenance spares and support equipment were destroyed during an attack on forces supporting Operation Inherent Resolve and that U.S. Special Operations Command identified replacement of these items as an unfunded requirement.

Therefore, the committee recommends an increase of \$24.7 million in line number 62 of Procurement, Defense-wide, for combat loss replacement of aircraft maintenance spares and support equipment.

Special Operations Tactical Communication/Next Generation Tactical Communications

The budget request included \$88.7 million in line number 71 of Procurement, Defense-wide, for Warrior Systems, SOF Tactical Communications.

The committee notes that U.S. Special Operations Command (SOCOM) identified executability issues with the Multi-Mission Payload-Light (MMP-Light) program due to appropriations rescissions in fiscal year 2020. As a result, SOCOM requested the transfer of funds from the MMP-Light to the man-pack Capital Equipment Replacement Program for fiscal year 2021.

Therefore, the committee recommends an increase of \$13.4 million in line number 71 of Procurement, Defense-wide, for the man-pack Capital Equipment Replacement Program. The decrement associated with this transfer is reflected elsewhere in this report.

Multi-Mission Payload

The budget request included \$12.2 million in line number 77 of Procurement, Defense-wide, for Warrior Systems, Multi-Mission Payload (MMP).

The committee notes that U.S. Special Operations Command (SOCOM) identified executability issues with the MMP-Light program due to appropriations rescissions in fiscal year 2020. As a result, SOCOM requested the transfer of funds from the MMP-Light program to the man-pack Capital Equipment Replacement Program for fiscal year 2021.

Therefore, the committee recommends a reduction of \$12.2 million in line number 77 of Procurement, Defense-wide, for Warrior Systems, Multi-Mission Payload (MMP). The increase associated with this transfer is reflected elsewhere in this report.

Syria exfiltration reconstitution

The budget request included \$247.0 million in line number 81 of Procurement, Defense-wide, for Operational Enhancements.

The committee notes that U.S. Special Operations Command identified the replacement of items destroyed in connection with the exfiltration of forces in Syria as an unfunded requirement.

Therefore, the committee recommends an increase of \$12.5 million in line number 81 of Procurement, Defense-wide, for Syria exfiltration reconstitution.

Items of Special Interest

A-10

The committee is encouraged that the Air Force is executing a modernization strategy for the A-10 fleet to preserve this unique capability for CAS, FAC-A, and CSAR missions. The committee believes that upgrades to weapons delivery, management systems, and the electronic warfare and communications suite that keep pace with threat advancements and proliferation are critical to the continued success of the weapon system. The committee notes that these enhancements and the aircraft wing replacements, airframe refurbishment, and new mission computers will maintain the effectiveness of the A-10C through at least the 2030s. However, the

committee is concerned with the assumptions being made about the required total size of the A-10 fleet in the future.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing no later than November 1, 2020, to the committee to explain the required capacity for the unique A-10 capability and to validate the assumptions used to calculate the planned future fleet size of the A-10. The briefing should address capacity required to sustain current missions, support future missions, and to deliver rotational forces for combatant commanders in the various mission sets of the A-10C.

Active Protection Systems updated plans for M2 Bradley and Stryker combat vehicles

The committee commends the successful test, integration, and application of an active protective system on the M1 Abrams tank but notes with concern that similar results have not been achieved for the M2 Bradley fighting vehicle or Stryker. Threats to combat vehicles such as the M2 Bradley and Stryker family of vehicles are of ever-increasing lethality and proliferating widely, and active protection systems are integral to these vehicles' survivability.

Accordingly, the committee directs the Secretary of the Army to provide a briefing, no later than August 1, 2020, on the Army's updated plans to integrate active protection systems into the M2 Bradley and Stryker family of vehicles. The briefing should also include an assessment of the impact of the recent reset of the Optionally Manned Fighting Vehicle program on the Modular Active Protection System.

Advanced Battle Management System bridge report

The committee is aware of the Air Force's plans to invest substantial funds into the Advanced Battle Management System (ABMS) program to achieve future warfighting objectives. However, the committee is concerned that there exists an interim requirement to achieve resilient networking using existing infrastructure and datalinks. Therefore, the committee directs the Secretary of the Air Force, in conjunction with the other military services, to submit a plan to the congressional defense committees, not later than January 1, 2021, for the allocation of resources, along with details as to how and when the resources will be executed, so as to either improve current Link 16 capabilities or create an alternative solution in terms of increased capacity, improved resilience, and techniques to reduce probability of detection. Additionally, the plan shall specify the path forward to improve the resiliency of Link 16 networks using existing capabilities, to include, but not necessarily limited to, additional air, ground, sea, and space-borne relay nodes to enhance resistance to interference and complicate potential adversaries' targeting.

Advanced combat search and rescue capability

The committee commends the Air Force on its historical focus on combat search and rescue (CSAR), including the resourcing and training of specialized squadrons focused on returning isolated personnel back to friendly forces. The National Defense Strategy refocuses the Department of Defense's weight of effort to preparing

for near-peer warfare and, as a result, CSAR has become even more important. Emerging technologies, such as the Agility Prime program, and capabilities, such as the CV-22, present new opportunities for the CSAR mission. Therefore, the committee directs the Secretary of the Air Force to conduct an analysis, and report to the committee, no later than February 1, 2021, on the benefits and capabilities of these technologies and their potential for use in contested environments and the scenarios envisioned in the National Defense Strategy.

Air Force pilot training

The committee supports the Air Force's procurement of the T-7A Redhawk training aircraft, recognizing the improved capabilities that it will bring to undergraduate pilot training. The Air Force plans to transition from the T-38C to the T-7A at five locations: Columbus AFB, Mississippi; Laughlin AFB, Texas; Randolph AFB, Texas; Sheppard AFB, Texas; and Vance AFB, Oklahoma.

The committee is concerned about potential impacts that this transition will have on the Air Force's undergraduate pilot training pipeline, which could further exacerbate its pilot shortage. Therefore, the committee directs the Secretary of Air Force to provide a plan, no later than March 1, 2021, to the congressional defense committees on how it will transition undergraduate pilot training from the T-38C to the T-7A. This plan should include, at a minimum, the following: the timeline of deliveries of T-7A aircraft; the order of beddown locations at each of the planned training bases; details on the standup and expansion of the T-7A instructor pilot cadre; details on the standup of simulator operators and maintenance personnel; impacts of the new training syllabus; an assessment of the transition's overall impact to the undergraduate pilot training pipeline; and an assessment of the requirement for an additional training location if the Air Force were to determine that the capacity at the five planned training bases is insufficient.

Anti-ship missile development

The committee is encouraged by increased attention across the Department of Defense to the surface warfare mission area, including several new anti-ship missile (ASM) programs. However, the committee desires greater clarity on Joint Force ASM requirements, development efforts, and acquisition strategies. The committee is interested in ensuring that rigorous ASM requirements exist tied to specific threats and operational concepts, development efforts are rationalized where possible, and acquisition strategies are streamlined.

Therefore, the committee directs the Vice Chairman of the Joint Chiefs of Staff, the Under Secretary of Defense for Research and Engineering, and the Under Secretary of Defense for Acquisition and Sustainment, in consultation with the Secretaries of the military departments, to submit a report to the congressional defense committees not later than December 1, 2020, on Joint Force ASM requirements, development efforts, and acquisition strategies.

This report shall include the following elements: (1) A description of Joint Requirements Oversight Council-validated (JROC-validated) requirements for ASMs, including inventory objectives and

capabilities required for each ASM, such as range, speed, seeker performance, and data link requirements; (2) A description of other Department of Defense requirements for ASMs that have not been validated by the JROC, including inventory objectives and capabilities required for each ASM, such as range, speed, seeker performance, and data link requirements; (3) A description of the development efforts supporting each ASM program listed under (1) and (2), such as prototyping subsystems, investigating use of common components, conducting developmental testing, conducting operational testing, and engaging in other forms of risk reduction; and (4) A description of the acquisition strategies, if applicable, for each ASM program listed under (1) and (2) above.

Army Radio Modernization

The committee recognizes the challenges faced by the Army in testing, evaluating, and fielding radio capabilities to create an overarching integrated tactical network and is encouraged by the Army's intent to utilize a rapid acquisition process to separately compete each tactical radio variant for each aircraft being outfitted under the Army's Air to Ground Networking Radio program. Despite challenges in integration, by encouraging the platform specific head to head competition, rather than making a one-size-fits-all decision, the Army will promote competition within the industry and tailor the best solution for each aircraft. The committee encourages the Army to quickly conduct a thorough and deliberate process to ensure that the most effective radio is selected for each aircraft.

Assessment of Navy anti-submarine warfare training targets

The committee understands that the Navy lacks a modern heavy-weight anti-submarine warfare (ASW) target and that the current inventory of ASW training targets is deficient in satisfying the pre-deployment training requirements of our submarine, surface, and aviation ASW forces. The committee further understands that these ASW training targets are increasingly difficult to sustain, costly to repair, limited in capability, and have no identified replacement. The committee is concerned that these factors may negatively impact the ASW proficiency of deploying naval forces.

Therefore, the committee directs the Secretary of the Navy to submit to the congressional defense committees not later than February 1, 2021, an assessment on the current capabilities of Navy heavyweight ASW targets and a modernization plan for future targets and training capabilities. The assessment shall include, at a minimum, the following: (1) The current inventory of anti-submarine warfare targets, their capabilities, and age; (2) An evaluation as to how the current inventory of heavyweight ASW targets supports ASW training certification requirements for surface, submarine, and aviation ASW forces, to include the number heavyweight ASW targets required to generate a sufficient number of target presentations during training events and the degree to which these target presentations may be made in a manner that is consistent with current and projected peer and near-peer threat submarine capabilities; (3) An evaluation of existing training target availability and the Navy's plan to replace the current inventory of training targets with capabilities that are equal to or better than

current Navy capabilities; (4) The benefits and risks of the 20-year service life extension plan currently in execution beyond the current expected 30-year service life of the MK 30 Mod 1 heavyweight ASW target; and (5) A plan to begin replacement of the current inventory of existing training targets no later than September 30, 2023.

This assessment shall be presented as a briefing and submitted in unclassified form but may include a classified annex.

C-17 maintenance

The committee is aware that the Air Force intends to achieve cost savings by moving 100 percent of its C-17 fleet heavy maintenance to a single depot. The Air Force has acknowledged that this course of action would decrease readiness, although not below an acceptable level, and that it would take 14 years to obtain a positive return on capital investment. The committee notes that the Air Force also found that such a course of action would realize billions of dollars of savings in C-17 life cycle costs and establish affordable and effective depot maintenance and commodity repair capability. The committee also believes that this course of action would improve the Air Force's implementation of section 2464 of title 10, United States Code. Therefore, the committee directs the Secretary of the Air Force to submit a report, no later than January 31, 2021, to the congressional defense committees that details each course of action evaluated in the business case analysis of moving C-17 heavy maintenance to a single depot and other future product support strategies for the C-17 aircraft.

Additionally, the committee directs the Director, Cost Assessment and Program Evaluation, to review the Secretary's report and submit an independent assessment to the congressional defense committees no later than March 1, 2021.

Comptroller General report on the Supervisor of Shipbuilding

The committee notes that the Government Accountability Office (GAO) concluded in a June 2018 report, *Navy Shipbuilding: Past Performance Provides Valuable Lessons for Future Investments* (GAO-18-238SP), that the Navy has experienced significant cost increases, schedule delays, and performance issues on its shipbuilding programs. The committee understands that recent quality issues on a number of Navy ships and submarines point to, among other issues, challenges in the Navy's ability to oversee quality at the private shipyards that build its vessels.

The committee notes that the Navy's Supervisors of Shipbuilding, Conversion and Repair (SUPSHIPS) organization is responsible for administering contracts for new ships and submarines, as well as nuclear repair and modernization at private shipyards, including ensuring that shipbuilders provide the Navy with vessels that meet quality expectations. The committee understands that SUPSHIPS' role in this regard is unusual, as the Defense Contract Management Agency provides this type of contract oversight for most other Department of Defense contracts.

Therefore, the committee directs the Comptroller General to review the Navy's SUPSHIPS organization, including an assessment

of: (1) The roles, responsibilities, procedures, capabilities, and capacity of SUPSHIPS to ensure that ship contracts are executed on time, at expected cost, and to contractual and performance requirements; (2) SUPSHIPS' role in overseeing suppliers for Navy ship programs; (3) The effectiveness of actions taken by SUPSHIPS and its higher chain-of-command when shipbuilders are not meeting cost, schedule, or performance requirements; (4) SUPSHIPS' approach to contract execution oversight and monitoring for shipbuilding programs, as compared to that of the Defense Contract Management Agency for other large Department of Defense acquisition programs; and (5) Any other related matters that the Comptroller General deems appropriate.

The committee directs the Comptroller General to provide a briefing to the congressional defense committees on the findings of this review by December 1, 2020, with a report to follow.

Comptroller General review of Navy shipbuilding and ship maintenance

The committee notes that the Navy is embarking on an ambitious, expensive undertaking to develop, design, and construct a number of new ships—both manned and unmanned—over the coming years, which would represent the biggest increase in fleet size in over 30 years.

The committee understands that the Navy expects vessels to be constructed in quantities that sustain the industrial base and expand the overall size of the Navy, which requires not just a healthy industrial base for ship construction but also for all of the materials, systems, and foundry work that go into building a complete ship. Likewise, the Navy will have to expand capability in the ship repair industrial base, which consists of public and private shipyards that are struggling to execute maintenance programs to sustain the current fleet of approximately 300 battle force ships.

However, the economic consequences of the first global pandemic in over 100 years may have significant and potentially long-lasting ramifications on the Navy's already limited industrial bases for shipbuilding and ship repair.

Accordingly, in order to better understand and address the viability of future Navy ship construction and ship repair plans, the committee directs the Comptroller General to conduct a review of: (1) The Navy's current shipbuilding plan and the capability of the shipbuilding industrial base to support this plan; and (2) The ship maintenance plan and the capability of the ship repair industrial base to support that plan.

As part of this review, the Comptroller General shall assess the impacts of the COVID-19 pandemic on the Navy's ability to build and maintain quality ships on time and on schedule. This review shall also address the following questions: (1) What plans does the Navy have in place to execute its current shipbuilding and ship repair plans? (2) How does the Navy evaluate the health of its shipbuilding and ship repair industrial bases? (3) To what extent are shipbuilding and ship repair program performance affected by COVID-related issues? (4) How is the Navy assessing and addressing the consequences of COVID-19 on the shipbuilding and ship repair industrial bases, including lower-tier suppliers? (5) What chal-

allenges related to its industrial bases will the Navy likely face over the next decade that could present significant risk to achieving its shipbuilding and ship repair plans? (6) What other matters does the Comptroller General deem relevant to highlight?

The Comptroller General shall submit this review to the Committees on Armed Services of the Senate and House of Representatives not later than March 1, 2021.

Counter unmanned aircraft systems matters

The low cost, ease of operation, and accelerating proliferation of innovative commercial-based small unmanned aircraft system (UAS) capabilities is rapidly expanding the scope and complexity of the threat to U.S. forces and infrastructure. The committee believes that countering small UASs will be an enduring requirement for the Department of Defense (DOD) for at least the next decade. As a result, the committee is encouraged by the DOD's designation of the Army as Executive Agent for Counter small Unmanned Aircraft Systems (C-sUAS) in 2019, the rapid standup of the Joint C-sUAS Office (JCO) in 2020, and the recommendation to downselect and prioritize resources toward the most promising systems.

To further the Department's C-sUAS activities, the committee recommends an increase in funding toward several C-sUAS efforts, totaling approximately \$73 million, noted elsewhere in this report. These efforts include fully funding the requirement to expedite activities of the JCO as captured in the Chief of Staff of the Army's unfunded priorities list, providing additional funding to the JCO to increase and improve test and evaluation activities, and providing additional funding to U.S. Special Operations Command (SOCOM) for operational demonstration of C-sUAS capabilities. The committee encourages the JCO to work closely with SOCOM to ensure that the JCO's efforts appropriately incorporate special operations-peculiar requirements that arise from the employment of small, disaggregated teams in remote and austere locations and to provide pathways to transition technologies demonstrated by SOCOM.

The committee supports the Department's investment in advanced technologies to enhance C-sUAS capabilities and encourages expediting procurement and fielding of commercially available solutions. However, the committee believes that commercial C-sUAS proposals should demonstrate combat capability in operationally relevant environments and be validated by third-party entities and Department of Defense developmental and operational test organizations, as appropriate, before being considered and adopted by the Department. Additionally, the committee recognizes the leadership and innovation of multiple Federal agencies, especially the Department of Justice (DOJ), in the development and fielding of C-sUAS capability as well as the DOJ's focus on and investment in test and evaluation infrastructure to support long-term objective analytical evaluation of current and evolving C-sUAS capabilities over the next decade.

Therefore, elsewhere in this report, the committee recommends a provision that would require the JCO to prioritize C-sUAS systems that can be fielded in year 2021 and would also encourage the Secretary of the Army, as the executive agent, to consider establishing a Counter-UAS center of excellence to coordinate research

and development of counter-drone technologies, tactics, techniques, and procedures. Additionally, the committee would require development of a plan and investment in infrastructure to build the test and evaluation framework required to deepen understanding of countering the small, low, and slow UAS threats that the committee believes represent an enduring threat to U.S. troops and infrastructure.

DDG-51 destroyer multi-year procurement

The committee continues to support the national policy of achieving at least a 355-ship fleet, as codified in the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91), which is integral to the National Defense Strategy and its emphasis on near-peer competition with Russia and China.

The committee views DDG-51 destroyers as the backbone of the surface fleet, providing multi-mission flexibility and increasing capability with introduction of Flight III and the AN/SPY-6 radar. With plans for construction of a new class of Large Surface Combatants (LSCs) toward the end of this decade and the current multi-year procurement of DDG-51s ending in fiscal year 2022, the committee believes that it is imperative that the Navy award another DDG-51 multi-year contract beginning in fiscal year 2023. This contract is critical to ensuring that Flight III capability continues to be delivered to the fleet and the industrial base is maintained to support the LSC acquisition strategy.

Accordingly, the committee urges the Secretary of Defense and the Secretary of the Navy to make all necessary plans to award another multi-year contract for DDG-51 Flight III destroyers in fiscal year 2023, including long lead material purchases in fiscal year 2022.

E-8 strategy

The committee is encouraged by the Air Force's plans to modernize the E-8C Joint Surveillance and Target-Attack Radar System (JSTARS) weapon system to meet combatant commander requirements until a replacement capability is fielded. Additionally, the committee recognizes the Secretary of the Air Force's commitment to perform associated upgrades to meet airworthiness and operational mandates.

The committee is concerned and disappointed, however, that these plans have not been followed by execution to implement upgrades on a reasonable schedule. The committee is concerned with the history of delayed execution of funds to procure and field modifications in a timely manner. The committee believes the Air Force should assess what the Air Force needs to do to ensure that E-8C JSTARS efforts are consistent with ensuring that the Air Force can effectively sustain and advance this weapon system's capability commensurate with combatant commander requirements.

Therefore, the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees by February 1, 2021, on the strategy for sustaining the E-8C JSTARS fleet until a suitable replacement capability and capacity is fielded. The strategy shall include: (1) Recommended changes to the E-8C program management structure to address funding execution short-

falls; and (2) A plan for modifications, including schedules and associated funding profiles, for achieving those modifications and ensuring that combatant commander requirements are met.

E-8C modernization

The committee is encouraged by the Air Force's recognition of the importance of E-8C Joint Surveillance and Target Attack Radar System (JSTARS) aircraft and its efforts to modernize the avionics and communications equipment onboard to make the platform an integral component of the Advanced Battle Management System. The committee is concerned that the Air Force is considering a potential effort for re-engining the E-8 Joint JSTARS aircraft at the expense of other JSTARS modernization programs. The committee is aware that the business case for JSTARS re-engining would require that the aircraft to fly well into the 2040s, which is beyond the planned in-service date, to see a positive return on the investment and, as such, believes that the money that might be used for re-engining would be better spent on other JSTARS modernization efforts, such as installing advanced avionics and upgrading communications equipment.

Electronic warfare red team

Realistic training of blue forces in electronic warfare requires a red force that is trained in the tactics, techniques, and procedures of potential opponents, as informed by timely intelligence, and that fields representative electronic warfare equipment. The committee directs the Secretary of Defense to brief the congressional defense committees, no later than March 31, 2021, on progress made and gaps remaining in training electronic warfare red forces based on intelligence as well as the Department of Defense's ability to field representative equipment or systems that can simulate representative equipment to complement the tactics, techniques, and procedures of red forces in order to better prepare the Joint Force through realistic electronic warfare training.

F-35 basing requirements

The National Defense Strategy requires the Department of Defense to posture ready, combat-credible forces forward alongside allies and partners and, if necessary, to fight and win. The Department's Indo-Pacific Strategy—which describes the Indo-Pacific as the Department's priority theater—emphasizes efforts to enhance Joint Force preparedness for the most pressing scenarios, which will occur along our competitors' peripheries, to include a fait accompli scenario.

To date, the Air Force has announced the selection of 9 operating locations for the F-35A, including locations in the continental United States, Alaska, and Europe. It has yet to announce plans for any F-35A operating locations forward in the Indo-Pacific region—in other words, locations sufficiently forward to enable immediate response in the most pressing scenarios envisioned in the Department's foundational strategic documents. At present, realizing any potential plan to establish an F-35A operating location forward in the Indo-Pacific region could take nearly a decade. Put another way, nearly half of the Air Force's total procurement quantity

of F-35As will be delivered before the first aircraft arrives at an operating location forward in the Department's priority theater.

Therefore, the committee directs the Secretary of the Air Force, in consultation with the Commander, Indo-Pacific Command, not later than December 31, 2020, to provide a briefing to the committee on: the Air Force's current projected timeline to establish an F-35A operating location forward in the Indo-Pacific region; options to place a continuous rotational F-35A force utilizing only Air National Guard assets; options for accelerating that timeline; and an assessment of the merit and feasibility of those options.

Flame retardant vehicle soft armor and materiel

The military services have established baseline requirements for flame resistant uniforms, but the committee understands that they have not developed similar requirements for vehicle soft armor, such as spall liners, and internal textile materials. Vehicle soft armor is often manufactured with a broad range of materials, which may include highly flammable plastics and glass fibers. While the primary purpose of soft armor is to protect against fragments, a large majority of enemy strikes result in flame incidents, which place soldiers and marines at greater risk.

As the military services develop next generation systems that can counter near-peer threats, the committee encourages the Army and the Marine Corps to review requirements for combat vehicles that include flame resistant standards. Further, the committee directs the Secretary of the Army, in coordination with the Secretaries of the Navy and the Air Force, to provide a briefing by September 30, 2020, on the feasibility and availability of incorporating materials inside combat vehicles that possess flame resistant properties.

Future Vertical Lift long-term cost and schedule assessment

The committee is encouraged by the Army's progress on the Future Vertical Lift (FVL) program, including a Competitive Demonstration Risk Reduction (CDRR) contract award for the Future Long Range Assault Aircraft (FLRAA) and a Competitive Prototype (CP) award for the Future Attack Reconnaissance Aircraft (FARA). The committee supports the development and procurement of these critical FVL capabilities but is concerned about the feasibility of simultaneously procuring these aircraft, as well as other Army modernization priorities currently in development, given budget projections and the Army's fielding timeline.

Accordingly, the committee directs the Secretary of the Army to provide a report no later than February 15, 2021, to the committee assessing the current schedule, to include potential for sequencing procurement of the FLRAA and FARA programs. The report shall include 10-year cost and schedule projections, an assessment of operational and acquisition risks, and potential mitigation measures to both FLRAA and FARA cost and schedule profiles.

Guided missile frigate

The committee notes that a contract for up to 10 guided missile frigates (FFG(X)) was awarded in April 2020 with a potential cumulative value of \$5.6 billion. Given that this is a new class of

ships that will have a significant role in the Navy battle force, the committee seeks additional information on the program.

Accordingly, the committee directs the Director of the Congressional Budget Office to submit to the congressional defense committees, not later than October 1, 2020, a report analyzing the FFG(X) program. The report shall include: (1) An analysis of the estimated costs of the program in the context of other current and past Navy shipbuilding programs; (2) An independent cost estimate of the FFG(X) program based on the specific winning ship design; and (3) Other related matters the Director deems appropriate.

HMMWV rollover mitigation

The committee understands that the Army is in the process of performing safety modifications to the Light Tactical Vehicle fleet to mitigate rollover accidents. The committee supports the Army's fiscal year 2021 budget request to procure 5,421 anti-lock brake system/electronic stability control retrofit kits that will be installed through a partnership with the Red River Army Depot. The committee understands that these kits have successfully been installed on all new High Mobility Multipurpose Wheeled Vehicles (HMMWVs) and that the Army will begin the retrofit of legacy HMMWVs with these life-saving technologies.

Hospital ship modernization

The committee notes that during the COVID-19 pandemic, the country saw a demonstration of the unique capabilities provided by the USNS *Mercy* and USNS *Comfort*. Both of these ships are nearing the end of their useful service lives. The committee believes that the need for medical support capability to enable expeditionary operations and respond to natural disasters and other emergencies is enduring.

Therefore, the committee urges the Secretary of the Navy to modernize the capability provided by these hospital ships as soon as possible.

Hybrid electric drive on Arleigh Burke-class destroyers

The committee notes that the Navy has received more than \$175.0 million to develop, procure, and install six hybrid electric drive (HED) systems for Arleigh Burke-class destroyers but that only one such installation, on the USS *Truxton*, has occurred.

In a January 2020 report to the Congress on HED, the Navy stated that it has yet to conduct sufficient testing and operations to determine the utility and reliability of the system. The committee continues to be interested in the potential benefits of HED systems as well as how the Navy will test, evaluate, and measure the at-sea performance and effectiveness of the HED on the USS *Truxton*.

Accordingly, the committee directs the Secretary of the Navy, not later than 15 days after the fiscal year 2022 budget request is submitted to the Congress, to provide a report to the Committees on Armed Services of the Senate and House of Representatives on the plan for HED installation, testing, and operational use on Arleigh Burke-class destroyers. This report shall include: (1) The requirements or plan to develop requirements for HED on naval vessels;

(2) A test plan to determine HED operational suitability and effectiveness that is approved by the Commander, Operational Test and Evaluation Force; (3) Details surrounding the hardware, software, or other upgrades required before installing existing HED systems, including the timeline for completing such upgrades; (5) The installation schedule for existing HED systems, including fiscal year and hull number; and (6) The HED-related funding requirements by fiscal year and the extent to which such requirements are fully funded in the future years defense program.

Improved Turbine Engine Program

The Improved Turbine Engine Program (ITEP) will enhance the performance and operational readiness of the current Black Hawk and Apache helicopter fleets through the production and delivery of a more fuel efficient and powerful engine that is capable of operating in high and hot environments. In addition, the engine will be the government-furnished engine for the Future Attack Reconnaissance Aircraft (FARA) program, which is a key priority of the Army's Future Vertical Lift (FVL) program.

The committee has supported significant Army investments in competitive technology development programs for turbine engines over the past decade. While the ITEP can enhance warfighting capabilities in its delivery of improved fuel efficiencies and mature technologies, the Army must also prioritize maintenance and sustainment costs to ensure the continued affordability of the ITEP and associated capabilities. Given the critical role of this program in modernizing Army aviation, the committee encourages the Army to pursue opportunities to accelerate the fielding of this engine.

Integrated air and missile defense in the U.S. Central Command area of responsibility

Recent attacks on U.S. and partner nation forces underscore an increase in missile, rocket, and unmanned aircraft system threats in the U.S. Central Command (CENTCOM) area of responsibility (AOR). The committee is aware that the Army and CENTCOM have already taken significant steps to improve the protection of U.S. troops in the region from these threats. While the committee understands that providing integrated air and missile defense (IAMD), counter-rocket, artillery, and mortar (C-RAM), and counter-unmanned aircraft systems (C-UAS) coverage for every facility and base where U.S. forces are stationed is not practical due to resource constraints, the committee remains concerned about IAMD and C-RAM planning, procedures, and coverage in the CENTCOM AOR.

Accordingly, the committee directs the Secretary of Defense, in consultation with the Commander, CENTCOM, the Chairman of the Joint Chiefs of Staff, and the Chief of Staff of the Army, to provide a classified report to the committee no later than September 1, 2020, on the IAMD, C-RAM, and C-UAS posture in the CENTCOM AOR. The report shall include:

- (1) An explanation of current and planned IAMD and C-RAM capabilities and coverage in the CENTCOM AOR, including allocation against the critical and defended asset lists;

(2) An accounting of partner or allied forces performing IAMD and C-RAM functions in the AOR, in defense of their own or coalition forces and assets, and an assessment of the effectiveness of such capabilities;

(3) An assessment of the adequacy of current and planned IAMD and C-RAM capabilities to meet CENTCOM operational requirements;

(4) A description of IAMD and C-RAM gaps in coverage that generate substantial risk to U.S. forces or mission;

(5) An assessment of the impact on IAMD and C-RAM forces and personnel of additional deployments to the CENTCOM AOR, assessed in the context of global requirements; and

(6) Any other matters deemed relevant by the Secretary.

Joint and service exercises

The committee is concerned with the resourcing of joint and single service exercises and the potential disconnect with the National Defense Strategy. The committee is aware of reductions in joint exercise accounts based on the Defense-Wide Review that could significantly impact the ability of the military services and combatant commanders to adequately assess and improve joint readiness, access, basing, and overflight to set the conditions to be successful in a conflict.

Therefore, no later than January 1, 2021, the Secretary of Defense, in coordination with each of the combatant commanders and service chiefs, shall report to the committee on the level of risk being assumed based on the level of resourcing requested for the Combatant Commander Exercise, Engagement and Training Transformation effort. The report shall specifically address how reductions in funding have impacted: (1) Readiness; (2) The ability to conduct joint operations; (3) The ability to develop relationships with partners and allies; and (4) Daily competition with adversaries to set conditions for combat operations and work to achieve national security objectives without kinetic conflict.

Joint electronic warfare training range

The committee recognizes the requirement for the Department of Defense (DOD) to operate across the electromagnetic spectrum and prevail in electronic warfare (EW) in every operational domain. Development of capabilities needed to control the EW battlespace requires well-developed training ranges that enable the military services and Defense Agencies and Field Activities to rapidly test and field new weapon systems. Increased demand and spectrum encroachment at current EW training ranges mean that these facilities are inadequate to meet the Department's EW test and training needs over the next several years. Therefore, the committee directs the Secretary of Defense to provide a plan for the establishment of a Joint Electronic Warfare Training Range that: (1) Offers sufficient space for spectrum isolation; (2) Provides for the ability to protect sensitive technologies from detection by offering access to large, inland space; and (3) Would be specifically dedicated to EW activities to avoid overcrowding. This plan shall be briefed to the congressional defense committees no later than December 1, 2020.

Live-virtual-constructive and game-based training environment training

The committee continues to recognize and support the important role that a secure live-virtual-constructive and game-based (LVC–G) training environment plays in improving military capabilities and readiness to meet increasing threats in highly contested environments.

However, the committee is concerned that, despite repeated urging from the Congress, the Air Force and Navy have not adequately planned for or invested in a secure LVC–G advanced training environment to support timely development, acquisition, and fielding of cutting-edge air combat training systems.

Therefore, the committee directs the Secretary of the Air Force, in coordination with the Secretary of the Navy, to provide a briefing to the committee no later than February 1, 2021, on its plan to develop and field LVC–G training environments that emulate real-world operational conditions. At a minimum, the briefing shall include: (1) The timeline and funding plan to develop and field LVC–G training environments; (2) Considerations regarding creation of a program of record for secure advanced training environment systems; (3) Recommendations for related resource allocations through the program objective memorandum process; and (4) Description of efforts to leverage efficiencies in the joint environment.

M2 Bradley Fighting Vehicle program assessment

The recent reset of the Optionally Manned Fighting Vehicle (OMFV) program will likely delay the fielding of the Army's replacement vehicle for the M2 Bradley Fighting Vehicle (BFV) that has been in operational service for more than 30 years. The OMFV program is a critical modernization effort for the Army, and it is one of the signature programs under the Next Generation Combat Vehicle (NGCV) Cross Functional Team (CFT).

Given the change in the OMFV acquisition strategy, the committee wants to understand the impact of delaying the fielding of the OMFV on the Bradley program. Accordingly, the committee directs the Secretary of the Army to conduct an assessment analyzing the impact of the delayed OMFV fielding on the M2 BFV program and any changes to the Bradley program that may be required as a result of the change in acquisition strategy. The Army shall brief the results of this assessment to the committee no later than August 1, 2020.

Marine Corps integrated air and missile defense capabilities

The committee supports the force design efforts of the Commandant of the Marine Corps to better organize, equip, and posture the Marine Corps for great power competition in the Indo-Pacific region. The committee understands the need for integrated air and missile defense (IAMD) for the distributed "stand-in forces" envisioned by the Commandant and that effective air and missile defense requires an integrated, layered approach across the Joint Force. Accordingly, the committee directs the Commandant to provide a report, no later than December 15, 2020, on the Marine Corps' plans to integrate, vice federate, the air and missile defense

capabilities that it is developing as part of the joint IAMD architecture.

Mission command systems

The Fiscal Year 2019 Annual Report of the Director, Operational Test and Evaluation (DOT&E), highlighted testing issues with the Command Post Computing Environment (CPCE). The committee is concerned by the report's findings and the resulting fielding limitations currently in place that underscore the challenges the Army faces with developmental mission command systems (MCS). Due to CPCE's performance during operational testing and the Army's challenges with developmental MCS, the committee directs the Secretary of the Army to provide a briefing to the SASC no later than September 30, 2020, on how the Army plans to implement DOT&E's recommendations in order to resolve deficiencies identified during testing and possible alternative commercial solutions.

Mission planning and force structure for hypersonic weapon systems

For fiscal year 2021, the Department of Defense is proposing to fund hypersonic Research, Development, Test, and Evaluation (RDT&E) activities at \$3.5 billion, an increase of 5.9 percent over the fiscal year 2020 appropriated level of funding. While the RDT&E funding for weapons has received much visibility in response to near peer competitors, the committee is concerned that mission planning, the allocation of the weapons between combatant commands, as well as the service force structures to support these weapons are not adequately accounted for.

The committee understands that the original proponent for the hypersonics requirement was the U.S. Strategic Command. At the time, it was proposed as an alternative to nuclear weapons—a long-range precision strike capability of a hypersonic weapon offered a non-nuclear option to hold at risk the same class of targets.

However, with the success to date in demonstrating these weapons, the envisioned target sets have grown. Likewise, it is not clear what the military services' force structure for employing these weapons will entail. When originally conceived by U.S. Strategic Command, there were to be a small number of hypersonic weapons deployed on select platforms. That does not appear to be the case today.

The committee believes that the Department of Defense should be assessing the other parts of a complete architecture needed to field such systems, including the need for mission planning, weapons allocation processes, and force structure changes.

Therefore, the committee directs the Chairman of the Joint Chiefs of Staff, in coordination with the combatant commanders and Secretaries of the military departments, to submit to the congressional defense committees a long-term plan, no later than March 30, 2021, describing: (1) The potential target sets for hypersonic weapons envisioned today and the required mission planning to support targeting by U.S. Strategic Command and other combatant commands; (2) How synchronization of these weapon systems will occur between the combatant commands; (3) The required force structures needed by the military services to

support employment of these weapons against the classes of targets that will be held at risk; and (4) In the case of the Navy, whether such weapon systems should be deployed on both submarines and surface combatants as well as the number of such vessels that need to be so equipped.

Mk93 machine gun mount upgrade program

The Army continues to invest in soldier lethality improvements that ensure that soldiers are equipped with the best technology available, including crew-served platforms such as the M2 .50 caliber machine gun and the Mk19 grenade machine gun. The Army has upgraded these weapon systems to increase their lethality and effectiveness with the intent of keeping both weapons systems in its inventory for the foreseeable future. However, the committee is concerned that, without upgrades to the Army's inventory of the Mk93 machine gun mounts utilized by the M2 and Mk19, investments in weapon optics, fire control, enablers, and ammunition may not be fully realized or could be undermined.

While the Army has completed necessary developmental improvements to the Mk93 machine gun mount, the Army has not yet implemented these upgrades across the Mk93 inventory. Therefore, the committee directs the Army to provide a briefing to the SASC by September 30, 2020, on its plan to implement upgrades to its Mk93 machine gun mounts in order to realize the benefit of these investments. The briefing should include details on how the Army will align funding during the budget process to synchronize the delivery and integration of Mk93 Improvement Kits with the Mounted Machine Gun Optic and 40mm High Explosive Air Burst ammunition.

Next-generation crypto key loader

Given the increasing sophistication and proliferation of cyber and electronic warfare threats, the committee is concerned about the Army's delay in procuring and fielding the next-generation crypto loader and phasing out the current outdated device, of which 80 percent are beyond their current service life. Accordingly, the committee directs the Secretary of the Army to provide a report no later than January 31, 2021, to the committee on the plan to field the next-generation load device and phase out the decades-old Simple Key Loader (SKL). The report shall also include the number and associated cost of SKLs that the Army will purchase by year until a replacement is fielded, and specification of opportunities to accelerate acquisition of the next-generation load device and the currently planned first-fielding in 2024.

Pacific Air Force air base resiliency

The committee is concerned that the U.S. force posture in the Indo-Pacific has not sufficiently evolved to support implementation of the National Defense Strategy or to address the strategic and operational challenges posed by the People's Republic of China. Specifically, it is not clear that the Department of Defense has allocated sufficient resources to provide for the protection of air bases to ensure their ability to survive and operate while under attack from current and emerging cruise missiles and advanced

hypersonic missiles. Therefore, the committee directs the Commander, Pacific Air Forces, and the Director of Strategic Plans, Requirements, and Programs, Headquarters Pacific Air Forces, to provide a comprehensive assessment of requirements for air base resiliency in the Indo-Pacific area of operations to the committee no later than January 1, 2021. The report should address the minimum amount of protection, both active and hardening, required for main operating bases and expeditionary operating bases envisioned in the adaptive basing concepts currently under development.

Polymer based magazines

The committee notes that the Department of the Air Force, Marine Corps, Special Operations Command, and a number of allies are using a high-performing polymer magazine for their small arms that the Army has also authorized for use. The committee encourages the Army to integrate lessons learned from previous testing of high-performing polymer-based magazines and consider a Qualified Products List (QPL), similar to the Army's Protective Eyewear List, to allow units and soldiers to select from several approved options for magazines and include high-performing polymer magazines.

The committee directs the Secretary of the Army to provide a briefing to the congressional defense committees not later than November 30, 2020, on the Army's plan for Next Generation Squad Weapons (NGSW) magazines and the feasibility of having a QPL for magazines. The briefing shall include the Army's requirements for the NGSW magazines, such as metrics, materials, and other characteristics (e.g., visual status indicators).

Preservation of Department of Defense historic aircraft and spacecraft

The committee is concerned that the Department of Defense lacks clear and consistent guidelines for maintaining and disposing historic aircraft and spacecraft. The national collection of historic military aircraft and spacecraft is an important asset that helps honor our veterans and educates the public about key milestones in American history and military technology. However, there have been recent instances of historical aircraft being destroyed or sold for scrap without opportunity for the Department or an aviation museum to consider their preservation. It is in the best interest of the public to ensure that the Department has a clear process to determine disposition of historic aircraft and spacecraft given their historical value. The committee is also aware of the Navy's "Safe For Display Inspection" program, which could provide a model for the entire Department.

Therefore, the committee directs the Secretary of Defense, in consultation with the Secretaries of the military departments, to investigate the expansion of the "Safe For Display Inspection" program across all the military services and to provide to the committee a plan for the expansion of the program as well as an implementation timeline in a report no later than February 1, 2021.

Report on availability of repair for aircraft parts

The Department of Defense, across the military services, continues to employ various qualification standards and classification processes in the determination as to whether pitot tubes that require replacement are classified as “consumable” or “repairable.” The committee believes that, when safety, reliability, and performance of a replacement component are not impacted through a repair process, it is important that such components are reviewed for qualification as “repairable” in the interest of significant cost savings and, further, that the qualification processes across the military services are standardized in line with current Department of Transportation standards.

The committee therefore directs the Secretary of Defense, no later than January 1, 2021, to provide a briefing to the committee after consulting with each of the Secretaries of the military departments on potential cost savings and specific actions being taken to ensure that the pitot tube component is more widely reviewed as repairable and that applicable classification standards and processes are updated.

Report on Unmet ISR Requirements, RC-135 Integration, and KC-135 Conversion

The committee notes the continued testimony from combatant commanders indicating a shortfall in intelligence, surveillance, and reconnaissance (ISR) assets and the ongoing lack of capacity in comparison to demand. The committee also notes that the Air Force has been working to research, develop, test, field, and implement next-generation technologies, such as those germane to the Joint All-Domain Command and Control and Advanced Battle Management System efforts, that promise to provide enhanced networking capability across existing and future Air Force assets, allowing an integrated operating picture of the battlespace to be developed. The committee highlights that the RC-135 family of aircraft is slated to be fielded until 2050 and provide a significant capability within the Air Force’s ISR systems, particularly as a component of these linkages. The committee supports the Air Force’s intent to incorporate these aircraft as key elements of these next generation sensor networks and encourages the Air Force to continue its baseline modernization program and to fully utilize these platforms in achieving its Next Generation ISR Dominance Flight Plan.

The committee further notes the significant commonality between platforms of the C-135 inventory as well as the future availability of retiring KC-135 aircraft and past instances in which these platforms have successfully been converted to RC-135 ISR platforms. The committee believes that such a conversion offers the possibility for increasing the RC-135 inventory to meet combatant commander requirements. As such, the committee directs the Secretary of Defense, in coordination with the Secretary of the Air Force, to submit to the congressional defense committees a report detailing an analysis of the cost, process, and timeline of converting retiring KC-135 aircraft to RC-135V/W Rivet Joint ISR aircraft as well as an assessment of the shortfall in the current ISR inventory

and planned integration of the RC-135 into next-generation networks.

The report shall include: (1) An assessment of the overall ISR shortfall based on combatant commander demand, to include analysis of specific shortfalls and limitations imposed by the size of the current RC-135 fleet; (2) The number of KC-135 aircraft anticipated to be retired and available for other uses as a result of the fielding of the KC-46, delineated by fiscal year; (3) Analysis of added efficiencies gained through growth in the RC-135 inventory, to include impacts on maintenance and sustainment, aircraft availability, and mission completion rates through increased fleet size; (4) A summary analysis of the conversion process, to include cost and estimated time for completion per aircraft; (5) Lessons learned through previous examples of KC-135 aircraft conversion, including past conversion to the RC-135W Airseeker for the United Kingdom's Royal Air Force and applicability of that process to future conversions within the Air Force; (6) Identification of any need for additional or replacement aircraft within the C-135 fleet for which retiring KC-135 aircraft may be suited for conversion and for which there is a requirement, to include WC-135 and TC-135 variants; and (7) Details on the planned integration of the RC-135 fleet into next generation networks and continued efforts to maintain modernization and effectiveness.

The report shall be submitted in unclassified form, but may contain a classified annex if necessary, and shall be provided to the committees no later than February 1, 2021.

Requirements and budgeting for precisely geolocated 3D imagery

The committee recognizes the progress that the Department of Defense has achieved thus far in commercial solutions for automated three-dimensional (3D) image processing and geolocation determination to support the growing demand for rapid targeting and other requirements for precision geolocation. The committee is encouraged by positive steps such as coordination among stakeholders, broad recognition that commercial solutions can meet category 1 accuracy requirements for targeting, and reforms of the National Geospatial-Intelligence Agency's (NGA's) certification process. However, the committee does not believe that it is possible to meet the scale of global and near-real time requirements using current collection techniques. Furthermore, although the cost of acquiring and processing all the data needed through commercial sources is now dramatically reduced, the total budget required is substantial. Despite the pervasive need, no single organization has stepped forward or has been assigned to assume leadership responsibility and budget for the cost. Nor have user organizations or the NGA coalesced to provide a collective cost sharing solution.

Therefore, the committee directs the Vice Chairman of the Joint Chiefs of Staff, the Under Secretary of Defense for Intelligence and Security, and the Director of Cost Assessment and Program Evaluation to aggregate the demand for 3D imaging and geolocation data, develop an equitable and practical cost-sharing or enterprise funding solution, and recommend a course of action to the Secretary of Defense by January 1, 2021. The Secretary of Defense

shall brief the congressional defense committees by February 1, 2021 on the results of these actions.

Self-propelled lightweight howitzers

The committee understands that the Army is reviewing the need for self-propelled 105mm and 155mm howitzer solutions that increase survivability through rapid emplacement, firing, and displacement to evade enemy counterbattery fires. Since 2018, the Army has received operational needs statements (ONSs) from the 2nd Cavalry Regiment and 173rd Infantry Brigade Combat Team, both forward-stationed in Europe, and capability needs statements from I Corps and XVIII Airborne Corps, all related to mobile 105mm and 155mm howitzer capabilities.

The committee understands that the Army will conduct a live fire evaluation in fiscal year 2021 to compare available foreign and domestic mobile howitzer systems that meet the operational requirements of the 2nd Cavalry Regiment ONS. Further, Army Futures Command has directed the Fires Center of Excellence to develop a comprehensive cannon modernization strategy for all formations. The committee has been informed that, once the strategy is finalized and the mobile howitzer evaluation is completed, Army senior leadership will make a decision on the validation of mobile howitzers in the formations beyond the ONS requirement for the 2nd Cavalry Regiment.

Therefore, the committee directs the Secretary of the Army to deliver a briefing to the committee no later than March 1, 2021, on the Army's comprehensive cannon modernization strategy and a status update on the mobile howitzer evaluation.

Shoulder-launched munitions procurement strategy

The committee is concerned about the increasing weight carried by soldiers, to include weight from shoulder-launched munitions (SLM). The committee encourages the Army to consider employing already developed shoulder-fired weapons technology that can address threats in a defilade position. For that purpose, the committee expects the Army to assess and leverage other military services' and special operations components' requirements and solutions.

Specialization of carrier based squadrons

The committee is concerned with the current mission make-up of the carrier air wing in light of the National Defense Strategy (NDS) and great power competition. The committee has received reports of carrier-based strike squadrons' decreasing ability to adequately train across all of the missions required to win against a near-peer adversary.

Therefore, the committee directs the Secretary of the Navy, in consultation with the Chief of Naval Operations and the Commandant of the Marine Corps, to provide a report to the congressional defense committees, not later than February 1, 2021, as to the optimal mission make-up for carrier-based strike fighter squadrons and the efficacy of specializing various missions sets, such as air defense, as opposed to strike, to better prepare for conflicts envisioned by the NDS.

Tactical Combat Training System

The committee recognizes the success of the U.S. Navy-led Tactical Combat Training System-II and is encouraged that the Navy and the Air Force are jointly planning to use the training system. Any delay in fielding this capability would affect readiness of Navy and Air Force aircrews who need a modern, updated, and realistic training system for live, virtual, and constructive training. Additionally, the committee notes the Director of Operational Test and Evaluation strongly endorsed the Tactical Combat Training System-II, citing significant commonality with the Common Range Integrated Instrumentation System and potential cost savings of millions of dollars. The committee encourages the continued development and expedited fielding of the Tactical Combat Training System-II.

Tactical wheeled vehicle industrial base

The committee notes with concern that the fiscal year 2021 budget request includes a steep reduction in funding across the tactical wheeled vehicle (TWV) fleet. Funding decreases were most pronounced for the Heavy Expanded Mobility Tactical Truck (HEMTT) and the Family of Medium Tactical Vehicles (FMTV) programs, which rely on minimum sustaining rates (MSRs). Ensuring that heavy and medium tactical vehicles are authorized at or above the MSRs of production is important to maintaining a base of responsive vendors and suppliers in order to keep production lines active.

Furthermore, the Army's Brigade Combat Teams are particularly reliant on the FMTV and HEMTT fleets, and overall readiness rates may be impacted if parts and spares become unavailable due to production breaks. Finally, compounding this problem is the decision by the Department of Defense to reprogram \$101 million appropriated for HEMTT funding in fiscal year 2020 to support border wall construction.

The committee is concerned that these actions risk destabilizing the supplier base, much of which is constituted of small businesses that require predictable funding levels. Accordingly, the committee directs the Secretary of the Army to provide a briefing to the SASC no later than September 30, 2020, assessing the minimum sustaining rates for the TWV fleet and the Army's plan to support those production rates. The briefing shall also include an evaluation of the impacts to the industrial base if minimum sustaining rates are not achieved and details as to whether the Army anticipates any production breaks that could negatively impact Army readiness, modernization, and our soldiers. Finally, the briefing should address how the Army encourages competition within the tactical wheeled vehicle industry to ensure that the industrial base remains robust and viable.

Tactical wheeled vehicle strategy

The committee notes that the current tactical wheeled vehicle (TWV) fleet consists of nearly 250,000 vehicles and their associated trailers, generally categorized as light, medium, and heavy. Ensuring the suitability and resiliency of the tactical wheeled vehicle fleet is critically important to our national defense. Furthermore, the United States automotive and commercial truck industry has

invested in vehicle technologies, to include emissions controls, autonomous vehicles, and electric vehicles, that could be leveraged to upgrade the tactical fleet, some of which is built on designs originated in the 1980s or earlier.

The Army completed a Tactical Wheeled Vehicle Strategy in 2014, but, since that time, the Department of Defense has reoriented to prepare itself for near-peer competition with the release of the National Defense Strategy in 2018. It is the committee's understanding that Army Futures Command (AFC) is currently conducting a Tactical Wheeled Vehicle study designed to identify the capabilities required for the TWV fleet in order to support future multi-domain operations. Furthermore, the results of this study will be used to inform the development of a revised TWV strategy expected to be completed in fiscal year 2021.

The committee supports the Army's efforts to develop a revised TWV strategy that focuses on vehicle requirements and the capabilities necessary to ensure that the Army prevails in a future fight. Therefore, the committee directs the Army to provide a briefing to the SASC on the TWV fleet by December 31, 2020. The briefing should include an update on the Army's development of a revised TWV strategy, an assessment of the Army's current acquisition strategy for tactical wheeled vehicles, the Army's plan to ensure the viability of the defense industrial base, and specification of further opportunities to encourage competition within industry.

In addition, the committee directs the Comptroller General of the United States to assess the Army's tactical wheeled vehicle strategy and implementation efforts. The assessment should include an analysis of potential competitive opportunities and whether obstacles exist that prohibit such competition. The committee further directs the Comptroller General to submit an interim briefing not later than March 1, 2021, on the preliminary findings of the assessment.

Taser X-26 non-lethal conducted electrical weapon upgrade

Army personnel, across all components, require access to working non-lethal weapons in every environment in which the Army operates, from domestic bases to forward deployed soldiers. The committee understands that taser X-26 Conducted Electrical Weapons (CEWs) currently fielded across the Army are over 5 years past the recommended lifecycle for these weapons, which could increase the likelihood of failure due to age and deterioration. The committee is also aware that the Army's current inventory of the taser X-26 weapons may no longer be supported with software updates and, in some cases, hardware parts.

Therefore, the committee directs the Secretary of the Army to submit a briefing to the SASC by September 30, 2020, on the status of currently fielded taser X-26 CEWs and the Army's plan to field future non-lethal capabilities. The briefing shall include details as to whether the Army intends to remove all non-working taser X-26 units, details as to whether the remaining systems should be upgraded or replaced with a newer generation of CEW tasers, and the funding requirements to support these options. In addition, the committee encourages the Chief of the National

Guard Bureau to consider acquiring non-lethal taser CEWs to meet the needs of National Guard and Reserve personnel.

UH-60V Black Hawk conversions

Modernization of older model UH-60 Black Hawks through recapitalization and upgrades to the new UH-60V models is crucial to ensuring the continued viability of the Black Hawk fleet. This modernization effort extends the service life of airframes and replaces outdated analog cockpits with new digital cockpits, ensuring that Black Hawk helicopters remain safe and relevant for both overseas contingency operations and domestic emergencies.

The committee supports the Army's plan to field UH-60V Black Hawks across all components in order to maintain fleet and mission parity within the Army. Further, the committee is aware that the Army's modernization plan calls for recapitalizing 48 legacy aircraft each year with a goal of converting 760 total aircraft. The committee is concerned that it will take the Army more than 15 years to recapitalize these aircraft with production expected to continue through fiscal year 2037. Concurrently, the Army is pursuing multiple aviation modernization efforts, including the Future Long Range Assault Aircraft (FLRAA), which could impact the Black Hawk recapitalization effort given anticipated budget projections.

Given the importance of this modernization effort, the committee directs the Secretary of the Army to provide a briefing to the SASC no later than March 1, 2021, detailing how the Army intends to meet the goal of recapitalizing 48 aircraft per year and identifying opportunities to accelerate UH-60V Black Hawk conversions.

UH-72 Communications and Monitoring Systems

The committee understands that the UH-72A Lakota helicopter provides general aviation support for aviation units in the Active and Reserve components. Active Army and Army National Guard units operate the UH-72A in a variety of missions, including flight training, surveillance and reconnaissance, medical evacuation, border security, senior leadership transport, and disaster response. The committee is concerned that the Army is not taking advantage of modern health monitoring systems on the UH-72A. The committee is aware that commercial-off-the-shelf (COTS) technology is available that could upgrade the existing communications and health monitoring system with a digital, lightweight, beyond-line-of-sight, push-to-talk radio with Voice over Internet Protocol and a real-time fleet health monitoring, recording, and next generation satellite communications system. The committee is also aware that these same COTS solutions could positively impact training on the UH-72A.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the SASC no later than September 30, 2020, on the Army's health monitoring systems for the UH-72A and existing COTS solutions that could improve the effectiveness and lifespan of the aircraft.

Use of Navy and Marine Corps aircraft for NOBLE EAGLE

The committee is aware of the importance of the homeland defense mission and the requirement to provide air defense of the

United States at all times irrespective of potential conflicts in other parts of the world. It is understood that the preponderance of aircraft assigned to the homeland air defense mission are from the United States Air Force. The committee is concerned that the capacity of the Air Force air assets capable of homeland defense is becoming more and more limited, given operational deployments to the U.S. Central Command, U.S. European Command, and U.S. Indo-Pacific Command areas of responsibility. The committee also recognizes that there are Navy and Marine Corps aviation units that could potentially be assigned to the homeland defense mission.

Therefore, the committee directs the Secretary of Defense, in consultation with the Commander, U.S. Northern Command, to provide a report to the congressional defense committees no later than October 1, 2020, that analyzes the current and potential further utilization of Navy and Marine Corps air units to augment the Air Force units used to provide homeland air defense.

USMC Aviator Body Armor Vest

The committee is aware that the current aviation life support equipment (ALSE) flight vests worn by Marine Corps MV-22 and CH-53 aircrews have excessive bulk that can impede the operational performance of precision mission tasks. The committee notes further that the Marine Corps has a requirement to replace the ALSE flight vests currently worn by MV-22 and CH-53 aircrews with an aviator body armor vest (ABAV) system that improves mobility and performance while enhancing survivability. The committee encourages the Marine Corps to compete both commercial off-the-shelf and government-owned designs of ABAV systems in order to identify a system that fully meets the Marine Corps requirement to enable and protect MV-22 and CH-53 aircrews while minimizing development costs and delays to procurement.

Variable depth sonar systems

The committee believes that the Navy should increase its capabilities in most mission areas, particularly in the area of anti-submarine warfare (ASW). Given ongoing efforts by potential adversaries to increase the capability, lethality, and size of their respective submarine fleets, the committee believes that expanding ASW capability on DDG-51 destroyers would allow these ships to be more effective in conducting ASW missions.

The Navy has been developing a variable depth sonar (VDS) system (AN/SQS-62) that will be deployed as part of ASW mission packages aboard Littoral Combat Ships. The committee believes that adding VDS systems to DDG-51 destroyers could increase the ASW capability of these ships, particularly considering that the DDG-51s are the largest component of the Navy's surface fleet and are central to fleet operations in peacetime and during hostilities.

Therefore, the committee directs the Secretary of the Navy to provide a report to the congressional defense committees no later than December 1, 2020, on the potential benefits of equipping DDG-51s with VDS systems. The report shall include: (1) An assessment of current DDG-51 ASW performance, compared to the potential ASW performance of DDG-51 destroyers outfitted with

VDS systems; (2) An assessment of current carrier strike group (CSG) ASW performance, compared to the potential CSG ASW performance if DDG-51 destroyers assigned to the CSG were outfitted with VDS systems; and (3) An estimate of the costs and manpower implications of outfitting DDG-51 destroyers with VDS systems.

TITLE XLI—PROCUREMENT

TITLE XLI—PROCUREMENT

SEC. 4101. PROCUREMENT.

SEC. 4101. PROCUREMENT (In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
AIRCRAFT PROCUREMENT, ARMY							
FIXED WING							
2	MQ-1 UAV	0	0	0	165,000	0	165,000
	Reverse planned temporary procurement pause			[0]	[165,000]		
3	FUTURE UAS FAMILY	0	1,100			0	1,100
4	RQ-11 (RAVEN)	0	20,851			0	20,851
ROTARY							
7	AH-64 APACHE BLOCK IIIA REMAN	50	792,027			50	792,027
8	AH-64 APACHE BLOCK IIIA REMAN AP	0	169,460			0	169,460
11	UH-60 BLACKHAWK M MODEL (MYP)	36	742,998			36	742,998
12	UH-60 BLACKHAWK M MODEL (MYP) AP	0	87,427			0	87,427
13	UH-60 BLACKHAWK L AND V MODELS	24	172,797			24	172,797
14	CH-47 HELICOPTER	6	160,750			6	160,750
15	CH-47 HELICOPTER AP	0	18,372			0	18,372
MODIFICATION OF AIRCRAFT							
18	UNIVERSAL GROUND CONTROL EQUIPMENT (UAS)	0	7,509			0	7,509
19	GRAY EAGLE MODS2	0	16,280			0	16,280
20	MULTI SENSOR ABN RECON (MIP)	0	35,864			0	35,864
21	AH-64 MODS	0	118,316			0	118,316
22	CH-47 CARGO HELICOPTER MODS (MYP)	0	15,548	0	20,000	0	35,548

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Army-identified funding early to need			[0]	[-40,500]		
	AIR-TO-SURFACE MISSILE SYSTEM						
6	HELLFIRE SYS SUMMARY	428	91,225			428	91,225
7	JOINT AIR-TO-GROUND MSLS (JAGM)	657	213,397			657	213,397
8	LONG RANGE PRECISION MUNITION	0	45,307			0	45,307
	ANTI-TANK/ASSAULT MISSILE SYS						
9	JAVELIN (AAWS-M) SYSTEM SUMMARY	773	190,325			773	190,325
10	TOW 2 SYSTEM SUMMARY	1,405	121,074			1,405	121,074
11	GUIDED MLRS ROCKET (GMLRS)	5,384	850,157			5,384	850,157
12	MLRS REDUCED RANGE PRACTICE ROCKETIS (RRPR)	3,270	30,836			3,270	30,836
13	HIGH MOBILITY ARTILLERY ROCKET SYSTEM (HIMARS)	5	41,226			5	41,226
	MODIFICATIONS						
16	PATRIOT MODS	0	278,050			0	278,050
17	ATACMS MODS	0	141,690			0	141,690
20	AVENGER MODS	0	13,942			0	13,942
21	ITAS/TOW MODS	0	5,666			0	5,666
22	MLRS MODS	0	310,419			0	310,419
23	HIMARS MODIFICATIONS	0	6,081			0	6,081
	SPARES AND REPAIR PARTS						
24	SPARES AND REPAIR PARTS	0	5,090			0	5,090
	SUPPORT EQUIPMENT & FACILITIES						
25	AIR DEFENSE TARGETS	0	8,978			0	8,978
	TOTAL MISSILE PROCUREMENT, ARMY	12,124	3,491,507	46	136,085	12,170	3,627,592

PROCUREMENT OF W&TCV, ARMY
TRACKED COMBAT VEHICLES

2	ARMORED MULTI PURPOSE VEHICLE (AMPV)	32	192,971	0	-20,000	32	172,971
	Program decrease			[0]	[-20,000]		
	MODIFICATION OF TRACKED COMBAT VEHICLES						
4	STRYKER UPGRADE	154	847,212	0	-20,000	154	847,212
5	BRADLEY PROGRAM (MOD)	0	493,109	[0]	[-20,000]	0	473,109
	UBIS slip						
6	M109 FOV MODIFICATIONS	0	26,893			0	26,893
7	PALADIN INTEGRATED MANAGEMENT (PIM)	30	435,825			30	435,825
9	ASSAULT BRIDGE (MOD)	0	5,074			0	5,074
10	ASSAULT BREACHER VEHICLE	4	19,500			4	19,500
11	M88 FOV MODS	0	18,382	0	-5,000	0	13,382
	Unjustified growth			[0]	[-5,000]		
12	JOINT ASSAULT BRIDGE	14	72,178	0	-10,500	14	61,678
	IOTE and testing delay			[0]	[-10,500]		
13	M1 ABRAMS TANK (MOD)	0	392,013			0	392,013
14	ABRAMS UPGRADE PROGRAM	89	1,033,253			89	1,033,253
	WEAPONS & OTHER COMBAT VEHICLES						
16	MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON S	0	17,864			0	17,864
18	MORTAR SYSTEMS	0	10,288			0	10,288
19	XM320 GRENADE LAUNCHER MODULE (GLM)	0	5,969			0	5,969
20	PRECISION SNIPER RIFLE	0	10,137			0	10,137
21	COMPACT SEMI-AUTOMATIC SNIPER SYSTEM	0	999			0	999
22	CARBINE	0	7,411			0	7,411
23	NEXT GENERATION SQUAD WEAPON	0	35,822			0	35,822
24	COMMON REMOTELY OPERATED WEAPONS STATION	0	24,534			0	24,534
25	HANDGUN	0	4,662			0	4,662
	MOD OF WEAPONS AND OTHER COMBAT VEH						
26	MK-19 GRENADE MACHINE GUN MODS	0	6,444			0	6,444
27	M777 MODS	0	10,983			0	10,983
28	M4 CARBINE MODS	0	4,824			0	4,824
31	M240 MEDIUM MACHINE GUN MODS	0	6,385			0	6,385
32	SNIPER RIFLES MODIFICATIONS	0	1,898			0	1,898

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
33	M119 MODIFICATIONS	0	2,009			0	2,009
34	MORTAR MODIFICATION	0	1,689			0	1,689
35	MODIFICATIONS LESS THAN \$5.0M (WOCV-WTCV)	0	2,604			0	2,604
	SUPPORT EQUIPMENT & FACILITIES						
36	ITEMS LESS THAN \$5.0M (WOCV-WTCV)	0	2,763			0	2,763
37	PRODUCTION BASE SUPPORT (WOCV-WTCV)	0	3,045			0	3,045
	TOTAL PROCUREMENT OF W&TCV, ARMY	323	3,696,740	0	-55,500	323	3,641,240
	PROCUREMENT OF AMMUNITION, ARMY						
	SMALL/MEDIUM CAL AMMUNITION						
1	CTG, 5.56MM, ALL TYPES	0	68,472			0	68,472
2	CTG, 7.62MM, ALL TYPES	0	109,933			0	109,933
3	NEXT GENERATION SQUAD WEAPON AMMUNITION	0	11,988			0	11,988
4	CTG, HANDGUN, ALL TYPES	0	853			0	853
5	CTG, 50 CAL, ALL TYPES	0	58,280			0	58,280
6	CTG, 20MM, ALL TYPES	0	31,708			0	31,708
7	CTG, 25MM, ALL TYPES	0	9,111			0	9,111
8	CTG, 30MM, ALL TYPES	0	58,172			0	58,172
9	CTG, 40MM, ALL TYPES	0	114,638			0	114,638
	MORTAR AMMUNITION						
10	60MM MORTAR, ALL TYPES	0	31,222			0	31,222
11	81MM MORTAR, ALL TYPES	0	42,857			0	42,857
12	120MM MORTAR, ALL TYPES	0	107,762			0	107,762
	TANK AMMUNITION						
13	CARTRIDGES, TANK, 105MM AND 120MM, ALL TYPES	0	233,444			0	233,444
	ARTILLERY AMMUNITION						

14	ARTILLERY CARTRIDGES, 75MM & 105MM, ALL TYPES	0	35,963	0	35,963
15	ARTILLERY PROJECTILE, 155MM, ALL TYPES	0	293,692	0	293,692
16	PROJ 155MM EXTENDED RANGE M982	597	69,159	597	69,159
17	ARTILLERY PROPELLANTS, FUZES AND PRIMERS, ALL	0	232,913	0	232,913
	MINES				
18	MINES & CLEARING CHARGES, ALL TYPES	0	65,278	0	65,278
19	CLOSE TERRAIN SHAPING OBSTACLE	0	4,995	0	4,995
	ROCKETS				
20	SHOULDER LAUNCHED MUNITIONS, ALL TYPES	0	69,112	0	69,112
21	ROCKET, HYDRA 70, ALL TYPES	0	125,915	0	125,915
	OTHER AMMUNITION				
22	CAD/PAD, ALL TYPES	0	8,891	0	8,891
23	DEMOLITION MUNITIONS, ALL TYPES	0	54,043	0	54,043
24	GRENADES, ALL TYPES	0	28,931	0	28,931
25	SIGNALS, ALL TYPES	0	27,036	0	27,036
26	SIMULATORS, ALL TYPES	0	10,253	0	10,253
	MISCELLANEOUS				
27	AMMO COMPONENTS, ALL TYPES	0	3,476	0	3,476
29	ITEMS LESS THAN \$5 MILLION (AMMO)	0	10,569	0	10,569
30	AMMUNITION PECULIAR EQUIPMENT	0	12,338	0	12,338
31	FIRST DESTINATION TRANSPORTATION (AMMO)	0	15,908	0	15,908
32	CLOSEOUT LIABILITIES	0	99	0	99
	PRODUCTION BASE SUPPORT				
33	INDUSTRIAL FACILITIES	0	592,224	0	592,224
34	CONVENTIONAL MUNITIONS DEMILITARIZATION	0	235,112	0	235,112
35	ARMS INITIATIVE	0	3,369	0	3,369
	TOTAL PROCUREMENT OF AMMUNITION, ARMY	597	2,777,716	0	2,777,716
	OTHER PROCUREMENT, ARMY				
	TACTICAL VEHICLES				
1	TACTICAL TRAILERS/DOLLY SETS	0	12,986	0	12,986
2	SEMITRAILERS, FLATBED:	0	31,443	0	31,443

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
3	SEMITRAILERS, TANKERS	0	17,082			0	17,082
4	HI MOB MULTI-PURP WHLD VEH (HMMWV)	0	44,795			0	44,795
5	GROUND MOBILITY VEHICLES (GMV)	0	37,932			0	37,932
8	JOINT LIGHT TACTICAL VEHICLE FAMILY OF VEHICL	0	894,414			0	894,414
9	TRUCK, DUMP, 20T (CCE)	0	29,368			0	29,368
10	FAMILY OF MEDIUM TACTICAL VEH (FMTV)	0	95,092			0	95,092
11	FAMILY OF COLD WEATHER ALL-TERRAIN VEHICLE (C	0	999			0	999
12	FIRETRUCKS & ASSOCIATED FIREFIGHTING EQUIP	0	27,687			0	27,687
14	PLS ESP	0	21,969			0	21,969
15	HVY EXPANDED MOBILE TACTICAL TRUCK EXT SERV	0	65,635			0	65,635
16	HMMWV RECAPITALIZATION PROGRAM	0	5,927			0	5,927
17	TACTICAL WHEELED VEHICLE PROTECTION KITS	0	36,497			0	36,497
18	MODIFICATION OF IN SVC EQUIP	0	114,977			0	114,977
	NON-TACTICAL VEHICLES						
20	PASSENGER CARRYING VEHICLES	0	1,246			0	1,246
21	NONTACTICAL VEHICLES, OTHER	0	19,870			0	19,870
	COMM—JOINT COMMUNICATIONS						
22	SIGNAL MODERNIZATION PROGRAM	0	160,469			0	160,469
23	TACTICAL NETWORK TECHNOLOGY MOD IN SVC	0	360,379			0	365,379
	MDTF scalable node equipment			0	5,000	0	
24	SITUATION INFORMATION TRANSPORT	0	63,396	[0]	[5,000]	0	63,396
26	JCSE EQUIPMENT (USRDECOM)	0	5,170			0	5,170
	COMM—SATELLITE COMMUNICATIONS						
29	DEFENSE ENTERPRISE WIDEBAND SATCOM SYSTEMS	0	101,498			0	101,498
30	TRANSPORTABLE TACTICAL COMMAND COMMUNICATIONS	0	72,450			0	74,850
	AFRICOM force protection upgrades			0	2,400	0	
				[0]	[1,000]		

31	MDTF support requirements		[0]	[1,400]	0	13,173	0	13,173
32	SHF TERM				0	134,928	0	134,928
33	ASSURED POSITIONING, NAVIGATION AND TIMING				0	8,611	0	8,611
34	SMART-T (SPACE)				0	8,191	0	8,191
	GLOBAL BRDCST SVC—GBS				0			
	COMM—C3 SYSTEM				0	94,871	0	94,871
36	COE TACTICAL SERVER INFRASTRUCTURE (TSI)				0	550,848	0	552,348
	COMM—COMBAT COMMUNICATIONS				0	1,500	0	1,500
37	HANDHELD MANPACK SMALL FORM FIT (HMS)		[0]	[1,500]	0	8,237	0	8,237
	AFRICOM force protection upgrades				0	13,967	0	13,967
38	RADIO TERMINAL SET, MIDS LVT(2)		[0]	[-13,967]	0		0	0
41	SPIDER FAMILY OF NETWORKED MUNITIONS INCR		[0]	[-13,967]	0		0	0
	Program cancellation				0	19,579	0	19,579
43	UNIFIED COMMAND SUITE				0	94,156	0	94,156
44	COTS COMMUNICATIONS EQUIPMENT				0	18,313	0	18,313
45	FAMILY OF MED COMM FOR COMBAT CASUALTY CARE				0	51,480	0	51,480
46	ARMY COMMUNICATIONS & ELECTRONICS				0			
	COMM—INTELLIGENCE COMM				0	13,146	0	13,146
48	CI AUTOMATION ARCHITECTURE (MIP)				0	5,624	0	5,624
49	DEFENSE MILITARY DECEPTION INITIATIVE				0			
	INFORMATION SECURITY				0	4,596	0	4,596
51	INFORMATION SYSTEM SECURITY PROGRAM-ISSP				0	159,272	0	159,272
52	COMMUNICATIONS SECURITY (COMSEC)				0	54,753	0	55,653
53	DEFENSIVE CYBER OPERATIONS		0	900	0			
	MDTF cyber defense and EW tools		[0]	[900]	0	1,760	0	1,760
54	INSIDER THREAT PROGRAM—UNIT ACTIVITY MONITO				0	260	0	260
56	ITEMS LESS THAN \$5M (INFO SECURITY)				0	29,761	0	30,761
	COMM—LONG HAUL COMMUNICATIONS				0			
57	BASE SUPPORT COMMUNICATIONS		0	1,000	0			
	AFRICOM UFR force protection upgrades		[0]	[1,000]	0			
	COMM—BASE COMMUNICATIONS				0	147,696	0	147,696
58	INFORMATION SYSTEMS				0			

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
59	EMERGENCY MANAGEMENT MODERNIZATION PROGRAM	0	4,900			0	4,900
60	HOME STATION MISSION COMMAND CENTERS (HSMCC)	0	15,227			0	15,227
61	JOINT INFORMATION ENVIRONMENT (JIE)	0	3,177			0	3,177
62	INSTALLATION INFO INFRASTRUCTURE MOD PROGRAM	0	300,035			0	300,035
	ELECT EQUIP—TACT INT REL ACT (TIARA)						
65	JT/CBS-M (MIP)	0	5,304			0	5,304
66	TERRESTRIAL LAYER SYSTEMS (TLS) (MIP)	0	8,081			0	8,081
68	DCGS-A (MIP)	0	151,886			0	151,886
70	TROJAN (MIP)	0	17,593			0	17,593
71	MOD OF IN-SVC EQUIP (INTEL SPT) (MIP)	0	28,558			0	28,558
73	BIOMETRIC TACTICAL COLLECTION DEVICES (MIP)	0	999			0	999
	ELECT EQUIP—ELECTRONIC WARFARE (EW)						
75	LIGHTWEIGHT COUNTER MORTAR RADAR	0	5,332			0	5,332
76	EW PLANNING & MANAGEMENT TOOLS (EWPMT)	0	7,849			0	7,849
77	AIR VIGILANCE (AV) (MIP)	0	8,160			0	8,160
79	MULTI-FUNCTION ELECTRONIC WARFARE (MFEW) SYST	0	8,669			0	8,669
81	COUNTERINTELLIGENCE/SECURITY COUNTERMEASURES	0	0	0	13,400	0	13,400
	MDTF advanced intel systems remote collection			[0]	[13,400]		
82	CI MODERNIZATION (MIP)	0	300			0	300
	ELECT EQUIP—TACTICAL SURV. (TAC SURV)						
83	SENTINEL MODS	0	58,884			0	58,884
84	NIGHT VISION DEVICES	0	1,127,375			0	1,127,375
86	SMALL TACTICAL OPTICAL RIFLE MOUNTED MLRF	0	13,954			0	13,954
88	INDIRECT FIRE PROTECTION FAMILY OF SYSTEMS	0	10,069	0	4,000	0	14,069
	AFRICOM UFR force protection upgrades			[0]	[4,000]		
89	FAMILY OF WEAPON SIGHTS (FWS)	0	133,590			0	133,590

91	JOINT BATTLE COMMAND—PLATFORM (JBC-P)	0	243,850	0	243,850	0	243,850
92	JOINT EFFECTS TARGETING SYSTEM (JETS)	0	69,641	0	69,641	0	69,641
94	COMPUTER BALLISTICS: LHMC XM32	0	7,509	0	7,509	0	7,509
95	MORTAR FIRE CONTROL SYSTEM	0	3,800	0	3,800	0	3,800
96	MORTAR FIRE CONTROL SYSTEMS MODIFICATIONS	0	7,292	0	7,292	0	7,292
97	COUNTERFIRE RADARS	0	72,421	0	72,421	0	72,421
	ELECT EQUIP—TACTICAL C2 SYSTEMS						
98	ARMY COMMAND POST INTEGRATED INFRASTRUCTURE (.....	0	49,947	0	49,947	0	49,947
99	FIRE SUPPORT C2 FAMILY	0	9,390	0	9,390	0	9,390
100	AIR & MSL DEFENSE PLANNING & CONTROL SYS	0	47,374	0	47,374	0	47,374
101	IAMD BATTLE COMMAND SYSTEM	0	201,587	0	201,587	0	201,587
102	LIFE CYCLE SOFTWARE SUPPORT (LCSS)	0	4,495	0	4,495	0	4,495
103	NETWORK MANAGEMENT INITIALIZATION AND SERVICE	0	18,651	0	18,651	0	18,651
105	GLOBAL COMBAT SUPPORT SYSTEM-ARMY (GCSS-A)	0	2,792	0	2,792	0	2,792
106	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (IPP)	0	9,071	0	9,071	0	9,071
107	RECONNAISSANCE AND SURVEYING INSTRUMENT SET	0	12,117	0	12,117	0	12,117
108	MOD OF IN-SVC EQUIPMENT (ENFIRE)	0	3,004	0	3,004	0	3,004
	ELECT EQUIP—AUTOMATION						
109	ARMY TRAINING MODERNIZATION	0	14,574	0	14,574	0	14,574
110	AUTOMATED DATA PROCESSING EQUIP	0	140,619	0	140,619	0	140,619
111	GENERAL FUND ENTERPRISE BUSINESS SYSTEMS FAM	0	4,448	0	4,448	0	4,448
112	HIGH PERF COMPUTING MOD PGM (HPCMP)	0	68,405	0	68,405	0	68,405
113	CONTRACT WRITING SYSTEM	0	8,459	0	8,459	0	8,459
114	CSS COMMUNICATIONS	0	57,651	0	57,651	0	57,651
115	RESERVE COMPONENT AUTOMATION SYS (RCAS)	0	14,848	0	14,848	0	14,848
	ELECT EQUIP—AUDIO VISUAL SYS (AV)						
117	ITEMS LESS THAN \$5M (SURVEYING EQUIPMENT)	0	4,995	0	4,995	0	4,995
	ELECT EQUIP—SUPPORT						
119	BCT EMERGING TECHNOLOGIES	0	16,983	0	16,983	0	16,983
	MDTF advanced intel systems remote collection					3,900	3,900
						[0]	[3,900]
	CLASSIFIED PROGRAMS						
9999	CLASSIFIED PROGRAMS	0	1,582	0	1,582	0	1,582

SEC. 4101. PROCUREMENT (In Thousands of Dollars)									
Line	Item	FY 2021 Request		Senate Change		Senate Authorized		Cost	
		Qty	Cost	Qty	Cost	Qty	Cost		
CHEMICAL DEFENSIVE EQUIPMENT									
123	CBRN DEFENSE	0	28,456	0	14,000	0	42,456		
	WMD CST equipment			[0]	[14,000]				
124	SMOKE & OBSCURANT FAMILY: SOF (NON-AAO ITEM)	0	13,995			0	13,995		
BRIDGING EQUIPMENT									
125	TACTICAL BRIDGING	0	10,545			0	10,545		
126	TACTICAL BRIDGE, FLOAT-RIBBON	0	72,074			0	72,074		
127	BRIDGE SUPPLEMENTAL SET	0	32,493			0	32,493		
128	COMMON BRIDGE TRANSPORTER (CBT) RECAP	0	62,978			0	62,978		
ENGINEER (NON-CONSTRUCTION) EQUIPMENT									
129	HANDHELD STANDOFF MINEFIELD DETECTION SYS-HST	0	5,570			0	5,570		
130	GRND STANDOFF MINE DETECTN SYSM (GSTAMIDS)	0	2,497			0	2,497		
132	HUSKY MOUNTED DETECTION SYSTEM (HMDS)	0	109,069			0	109,069		
134	EOD ROBOTICS SYSTEMS RECAPITALIZATION	0	36,584			0	36,584		
135	ROBOTICS AND APPLIQUE SYSTEMS	0	179,544			0	179,544		
137	RENDER SAFE SETS KITS OUTFITS	0	64,583			0	64,583		
139	FAMILY OF BOATS AND MOTORS	0	5,289			0	5,289		
COMBAT SERVICE SUPPORT EQUIPMENT									
140	HEATERS AND ECU'S	0	8,200			0	8,200		
142	PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)	0	4,625			0	4,625		
143	GROUND SOLDIER SYSTEM	0	154,937			0	154,937		
144	MOBILE SOLDIER POWER	0	34,297			0	34,297		
147	CARGO AERIAL DEL & PERSONNEL PARACHUTE SYSTEM	0	53,021			0	53,021		
148	FAMILY OF ENGR COMBAT AND CONSTRUCTION SETS	0	23,324			0	23,324		
149	ITEMS LESS THAN \$5M (ENG SPT)	0	8,014			0	8,014		
PETROLEUM EQUIPMENT									

150	DISTRIBUTION SYSTEMS, PETROLEUM & WATER	0	78,448	0	78,448
	MEDICAL EQUIPMENT				
151	COMBAT SUPPORT MEDICAL	0	59,485	0	59,485
	MAINTENANCE EQUIPMENT				
152	MOBILE MAINTENANCE EQUIPMENT SYSTEMS	0	40,337	0	40,337
153	ITEMS LESS THAN \$5.0M (MAINT EQ)	0	5,386	0	5,386
	CONSTRUCTION EQUIPMENT				
154	GRADER, ROAD MITZD, HVI, 6X4 (CCE)	0	5,406	0	5,406
155	SCRAPERS, EARTHMOVING	0	4,188	0	4,188
156	LOADERS	0	4,521	0	4,521
157	HYDRAULIC EXCAVATOR	0	5,186	0	5,186
158	TRACTOR, FULL TRACKED	0	4,715	0	4,715
159	ALL TERRAIN CRANES	0	70,560	0	70,560
162	CONST EQUIP ESP	0	8,925	0	8,925
	RAIL FLOAT CONTAINERIZATION EQUIPMENT				
164	ARMY WATERCRAFT ESP	0	40,910	0	40,910
165	MANEUVER SUPPORT VESSEL (MSV)	0	76,576	0	76,576
166	ITEMS LESS THAN \$5.0M (FLOAT/RAIL)	0	1,844	0	1,844
	GENERATORS				
167	GENERATORS AND ASSOCIATED EQUIP	0	53,433	0	53,433
168	TACTICAL ELECTRIC POWER RECAPITALIZATION	0	22,216	0	22,216
	MATERIAL HANDLING EQUIPMENT				
169	FAMILY OF FORKLIFTS	0	16,145	0	16,145
	TRAINING EQUIPMENT				
170	COMBAT TRAINING CENTERS SUPPORT	0	90,580	0	90,580
171	TRAINING DEVICES, NONSYSTEM	0	161,814	0	161,814
172	SYNTHETIC TRAINING ENVIRONMENT (STE)	0	13,063	0	13,063
175	GAMING TECHNOLOGY IN SUPPORT OF ARMY TRAINING	0	1,950	0	1,950
	TEST MEASURE AND DIG EQUIPMENT (TMD)				
176	CALIBRATION SETS EQUIPMENT	0	2,511	0	2,511
177	INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)	0	78,578	0	78,578
178	TEST EQUIPMENT MODERNIZATION (TEMOD)	0	14,941	0	14,941

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
OTHER SUPPORT EQUIPMENT							
180	RAPID EQUIPPING SOLDIER SUPPORT EQUIPMENT	0	8,629			0	8,629
181	PHYSICAL SECURITY SYSTEMS (OPA3)	0	75,499	0	12,000	0	87,499
	AFRICOM UFR force protection upgrades			[0]	[12,000]		
182	BASE LEVEL COMMON EQUIPMENT	0	27,444			0	27,444
183	MODIFICATION OF IN-SVC EQUIPMENT (OPA-3)	0	32,485	0	15,900	0	48,385
	Expeditionary Solid Waste Disposal System			[0]	[15,900]		
187	SPECIAL EQUIPMENT FOR TEST AND EVALUATION	0	39,436			0	39,436
	OPA2						
189	INITIAL SPARES—C&E	0	9,950			0	9,950
	TOTAL OTHER PROCUREMENT, ARMY	0	8,625,206	0	60,033	0	8,685,239
AIRCRAFT PROCUREMENT, NAVY							
COMBAT AIRCRAFT							
1	F/A-18E/F (FIGHTER) HORNET	24	1,761,146			24	1,761,146
3	JOINT STRIKE FIGHTER CV	21	2,181,780	2	200,000	23	2,381,780
	Additional aircraft			[2]	[200,000]		
4	JOINT STRIKE FIGHTER CV AP	0	330,386			0	330,386
5	JSF STOVL	10	1,109,393	2	125,500	12	1,234,893
	Additional 2 F-35B aircraft			[2]	[125,500]		
6	JSF STOVL AP	0	303,035			0	303,035
7	CH-53K (HEAVY LIFT)	7	813,324	0	-20,000	7	793,324
	Force Design 2030 realignment NRE excess			[0]	[-20,000]		
8	CH-53K (HEAVY LIFT) AP	0	201,188	0	-10,000	0	191,188
	Force Design 2030 realignment			[0]	[-10,000]		
9	V-22 (MEDIUM LIFT)	9	934,793			9	934,793

10	V-22 (MEDIUM LIFT) AP	0	39,547	0	39,547
11	H-1 UPGRADES (UH-1Y/AH-1Z)	0	7,267	0	7,267
13	P-8A POSEIDON	0	80,134	0	80,134
15	E-2D ADV HAWKEYE	4	626,109	4	626,109
16	E-2D ADV HAWKEYE AP	0	123,166	0	123,166
	TRAINER AIRCRAFT				
17	ADVANCED HELICOPTER TRAINING SYSTEM	36	269,867	36	269,867
	OTHER AIRCRAFT				
18	KC-130J	5	380,984	5	380,984
19	KC-130J AP	0	67,022	0	67,022
21	MQ-4 TRITON	0	150,570	0	150,570
	Excess funding given procurement pause until FY23	0		0	-50,000
				[0]	[-50,000]
23	MQ-8 UAV	0	40,375	0	40,375
24	STUASLO UAV	0	30,930	0	30,930
26	VH-92A EXECUTIVE HELO	5	610,231	5	610,231
	MODIFICATION OF AIRCRAFT				
28	F-18 A-D UNIQUE	0	208,261	0	208,261
29	F-18E/F AND EA-18G MODERNIZATION AND SUSTAINM	0	468,954	0	468,954
30	AEA SYSTEMS	0	21,061	0	21,061
31	AV-8 SERIES	0	34,082	0	34,082
32	INFRARED SEARCH AND TRACK (IRST)	0	158,055	0	158,055
33	ADVERSARY	0	42,946	0	42,946
34	F-18 SERIES	0	379,351	0	379,351
35	H-53 SERIES	0	74,771	0	74,771
36	MH-60 SERIES	0	131,584	0	131,584
37	H-1 SERIES	0	185,140	0	185,140
38	EP-3 SERIES	0	26,602	0	26,602
40	E-2 SERIES	0	175,540	0	175,540
41	TRAINER W/C SERIES	0	7,085	0	7,085
42	C-2A	0	9,525	0	9,525
43	C-130 SERIES	0	141,705	0	141,705
44	FEWSG	0	684	0	684

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
45	CARGO/TRANSPORT A/C SERIES	0	8,911			0	8,911
46	E-6 SERIES	0	197,206			0	197,206
47	EXECUTIVE HELICOPTERS SERIES	0	29,086			0	29,086
49	T-45 SERIES	0	155,745			0	155,745
50	POWER PLANT CHANGES	0	24,633			0	24,633
51	JPATS SERIES	0	22,682			0	22,682
52	AVIATION LIFE SUPPORT MODS	0	40,401	0	5,000	0	45,401
	Aviation body armor vest			[0]	[5,000]		
53	COMMON ECM EQUIPMENT	0	138,480			0	138,480
54	COMMON AVIONICS CHANGES	0	143,322			0	143,322
55	COMMON DEFENSIVE WEAPON SYSTEM	0	2,142			0	2,142
56	ID SYSTEMS	0	35,999			0	35,999
57	P-8 SERIES	0	180,530			0	180,530
58	MAGTF EW FOR AVIATION	0	27,794			0	27,794
59	MQ-8 SERIES	0	28,774			0	28,774
60	V-22 (TILT/ROTOR ACFT) OSPREY	0	334,405			0	334,405
61	NEXT GENERATION JAMMER (NGJ)	0	176,638			0	176,638
62	F-35 STOVL SERIES	0	153,588			0	153,588
63	F-35 CV SERIES	0	105,452			0	105,452
64	QRC	0	126,618			0	126,618
65	MQ-4 SERIES	0	12,998			0	12,998
66	RQ-21 SERIES	0	18,550			0	18,550
	AIRCRAFT SPARES AND REPAIR PARTS						
70	SPARES AND REPAIR PARTS	0	2,198,460	0	30,000	0	2,228,460
	Additional F-35B/C spares			[0]	[30,000]		
	AIRCRAFT SUPPORT EQUIP & FACILITIES						

71	COMMON GROUND EQUIPMENT	0	543,559		0	543,559
72	AIRCRAFT INDUSTRIAL FACILITIES	0	75,685		0	75,685
73	WAR CONSUMABLES	0	40,633		0	40,633
74	OTHER PRODUCTION CHARGES	0	21,194		0	21,194
75	SPECIAL SUPPORT EQUIPMENT	0	155,179		0	155,179
76	FIRST DESTINATION TRANSPORTATION	0	2,121		0	2,121
	TOTAL AIRCRAFT PROCUREMENT, NAVY	121	17,127,378	4	280,500	17,407,878
WEAPONS PROCUREMENT, NAVY						
MODIFICATION OF MISSILES						
1	TRIDENT II MODS	0	1,173,837		0	1,173,837
SUPPORT EQUIPMENT & FACILITIES						
2	MISSILE INDUSTRIAL FACILITIES	0	7,275		0	7,275
STRATEGIC MISSILES						
3	TOMAHAWK	155	277,694	10	26,000	303,694
	Program increase for USMC Tomahawk			[10]	[26,000]	
TACTICAL MISSILES						
4	AIMRAAM	325	326,952		325	326,952
5	SIDEWINDER	270	126,485		270	126,485
7	STANDARD MISSILE	125	456,206		125	456,206
8	STANDARD MISSILE AP	0	66,716		0	66,716
9	SMALL DIAMETER BOMB II	357	78,867		357	78,867
10	RAM	100	90,533		100	90,533
11	JOINT AIR GROUND MISSILE (JAGM)	203	49,386		203	49,386
14	AERIAL TARGETS	0	174,336		0	174,336
15	DRONES AND DECOYS	68	41,256		68	41,256
16	OTHER MISSILE SUPPORT	0	3,501		0	3,501
17	LRASM	48	168,845	10	35,000	203,845
	Additional Navy LRASM missiles			[10]	[35,000]	
18	LCS OTH MISSILE	15	32,910		15	32,910
MODIFICATION OF MISSILES						
19	TOMAHAWK MODS	0	164,915		0	164,915

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
20	ESSM	120	215,375			120	215,375
22	HARM MODS	24	147,572			24	147,572
23	STANDARD MISSILES MODS	0	83,654			0	83,654
	SUPPORT EQUIPMENT & FACILITIES						
24	WEAPONS INDUSTRIAL FACILITIES	0	1,996			0	1,996
25	FLEET SATELLITE COMM FOLLOW-ON	0	53,401			0	53,401
	ORDNANCE SUPPORT EQUIPMENT						
27	ORDNANCE SUPPORT EQUIPMENT	0	215,659			0	215,659
	TORPEDOES AND RELATED EQUIP						
28	SSTD	0	5,811	0	-2,200	0	3,611
	Insufficient justification for ADC non-recurring costs			[0]	[-2,200]		
29	MK-48 TORPEDO	110	284,901			110	284,901
30	ASW TARGETS	0	13,833			0	13,833
	MOD OF TORPEDOES AND RELATED EQUIP						
31	MK-54 TORPEDO MODS	0	110,286	0	-10,000	0	100,286
	Mk 54 Mod 0 production delays			[0]	[-10,000]		
32	MK-48 TORPEDO ADCAP MODS	0	57,214			0	57,214
33	MARITIME MINES	0	5,832			0	5,832
	SUPPORT EQUIPMENT						
34	TORPEDO SUPPORT EQUIPMENT	0	97,581			0	97,581
35	ASW RANGE SUPPORT	0	4,159			0	4,159
	DESTINATION TRANSPORTATION						
36	FIRST DESTINATION TRANSPORTATION	0	4,106			0	4,106
	GUNS AND GUN MOUNTS						
37	SMALL ARMS AND WEAPONS	0	16,030			0	16,030
	MODIFICATION OF GUNS AND GUN MOUNTS						

38	CIWS MODS	0	37,147	0	37,147
39	COAST GUARD WEAPONS	0	45,804	0	45,804
40	GUN MOUNT MODS	0	74,427	0	74,427
41	LCS MODULE WEAPONS	32	4,253	32	4,253
42	AIRBORNE MINE NEUTRALIZATION SYSTEMS	0	6,662	0	6,662
	SPARES AND REPAIR PARTS	0	159,578	0	159,578
45	TOTAL WEAPONS PROCUREMENT, NAVY	1,952	4,884,995	1,972	4,933,795
				48,800	
		20			
	PROCUREMENT OF AMMO, NAVY & MC				
	NAVY AMMUNITION				
1	GENERAL PURPOSE BOMBS	0	41,496	0	41,496
2	JDAM	2,865	64,631	2,865	64,631
3	AIRBORNE ROCKETS, ALL TYPES	0	60,719	0	60,719
4	MACHINE GUN AMMUNITION	0	11,158	0	11,158
5	PRACTICE BOMBS	0	51,409	0	51,409
6	CARTRIDGES & CART ACTUATED DEVICES	0	64,694	0	64,694
7	AIR EXPENDABLE COUNTERMEASURES	0	51,523	0	51,523
8	JATOS	0	6,761	0	6,761
9	5 INCH/54 GUN AMMUNITION	0	31,517	0	31,517
10	INTERMEDIATE CALIBER GUN AMMUNITION	0	38,005	0	38,005
11	OTHER SHIP GUN AMMUNITION	0	40,626	0	40,626
12	SMALL ARMS & LANDING PARTY AMMO	0	48,202	0	48,202
13	PYROTECHNIC AND DEMOLITION	0	9,766	0	9,766
15	AMMUNITION LESS THAN \$5 MILLION	0	2,115	0	2,115
	MARINE CORPS AMMUNITION				
16	MORTARS	0	46,781	0	46,781
17	DIRECT SUPPORT MUNITIONS	0	119,504	0	119,504
18	INFANTRY WEAPONS AMMUNITION	0	83,220	0	83,220
19	COMBAT SUPPORT MUNITIONS	0	32,650	0	32,650
20	AMMO MODERNIZATION	0	15,144	0	15,144
21	ARTILLERY MUNITIONS	0	59,539	0	59,539

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
22	ITEMS LESS THAN \$5 MILLION	0	4,142			0	4,142
	TOTAL PROCUREMENT OF AMMO, NAVY & MC	2,865	883,602	0	0	2,865	883,602
	SHIPBUILDING AND CONVERSION, NAVY						
	FLEET BALLISTIC MISSILE SHIPS						
1	OHIO REPLACEMENT SUBMARINE	1	2,891,475			1	2,891,475
2	OHIO REPLACEMENT SUBMARINE AP	0	1,123,175	0	175,000	0	1,298,175
	Submarine supplier stability			[0]	[175,000]		
	OTHER WARSHIPS						
3	CARRIER REPLACEMENT PROGRAM	0	997,544			0	997,544
4	CVN-81	0	1,645,606			0	1,645,606
5	VIRGINIA CLASS SUBMARINE	1	2,334,693	0	-74,400	1	2,260,293
	Unjustified cost growth			[0]	[-74,400]		
6	VIRGINIA CLASS SUBMARINE AP	0	1,901,187	0	472,000	0	2,373,187
	Long lead material for option ship			[0]	[472,000]		
7	CVN REFUELING OVERHAULS	0	1,878,453			0	1,878,453
8	CVN REFUELING OVERHAULS AP	0	17,384			0	17,384
9	DDG 1000	0	78,205			0	78,205
10	DDG-51	2	3,040,270	0	-30,000	2	3,010,270
	Available prior-year funds			[0]	[-30,000]		
11	DDG-51 AP	0	29,297	0	435,000	0	464,297
	LLTM for FY22 DDG-51s			[0]	[435,000]		
	Surface ship supplier stability			[0]	[260,000]		
13	FFG-FRIGATE	1	1,053,123	[0]	[175,000]	1	1,053,123
	AMPHIBIOUS SHIPS						
14	LPD FLIGHT II	1	1,155,801	-1	-250,000	0	905,801

15	LPD FLIGHT II AP	0	0	[0]	[-250,000]	0	500,000	
	LPD-32 and LPD-33 program increase			[0]	[250,000]			
	Transfer from Line 14 for LPD-32 and LPD-33			[0]	[250,000]			
17	LHA REPLACEMENT	0	0	[0]	[250,000]	0	250,000	
	LHA-9 program increase			[0]	[250,000]			
22	AUXILIARIES, CRAFT AND PRIOR YR PROGRAM COST	2	168,209			2	168,209	
23	TOWING, SALVAGE, AND RESCUE SHIP (ATS)	5	87,395	-1	-17,000	4	70,395	
	Insufficient justification			[-1]	[-17,000]			
24	OUTFITTING	0	825,586	0	-78,300	0	747,286	
	Unjustified cost growth			[0]	[-78,300]			
26	SERVICE CRAFT	0	249,781	0	25,500	0	275,281	
	Accelerate YP-703 Flight II			[0]	[25,500]			
27	LCAC SLEP	3	56,461	-3	-56,461	0	0	
	Insufficient justification			[-3]	[-56,461]			
28	COMPLETION OF PY SHIPBUILDING PROGRAMS	0	369,112			0	369,112	
	TOTAL SHIPBUILDING AND CONVERSION, NAVY	16	19,902,757	-5	1,351,339	11	21,254,096	
	OTHER PROCUREMENT, NAVY							
	SHIP PROPULSION EQUIPMENT							
1	SURFACE POWER EQUIPMENT	0	11,738			0	11,738	
	GENERATORS							
2	SURFACE COMBATANT HM&E	0	58,497	0	-20,000	0	38,497	
	Hardware and software upgrades for 5 previously procured HED ship sets			[0]	[15,000]			
	HED installation early to need			[0]	[-35,000]			
	NAVIGATION EQUIPMENT							
3	OTHER NAVIGATION EQUIPMENT	0	74,084			0	74,084	
	OTHER SHIPBOARD EQUIPMENT							
4	SUB PERISCOPE, IMAGING AND SUPT EQUIP PROG	0	204,806			0	204,806	
5	DDG MOD	0	547,569	0	-50,000	0	497,569	

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Installation excess unit cost growth			[0]	[-50,000]		
6	FIREFIGHTING EQUIPMENT	0	18,394			0	18,394
7	COMMAND AND CONTROL SWITCHBOARD	0	2,374			0	2,374
8	LHA/LHD MIDLIFE	0	78,265			0	78,265
9	POLLUTION CONTROL EQUIPMENT	0	23,035			0	23,035
10	SUBMARINE SUPPORT EQUIPMENT	0	64,632			0	64,632
11	VIRGINIA CLASS SUPPORT EQUIPMENT	0	22,868			0	22,868
12	LCS CLASS SUPPORT EQUIPMENT	0	3,976			0	3,976
13	SUBMARINE BATTERIES	0	31,322			0	31,322
14	LPD CLASS SUPPORT EQUIPMENT	0	50,475			0	50,475
15	DDG 1000 CLASS SUPPORT EQUIPMENT	0	42,279			0	42,279
16	STRATEGIC PLATFORM SUPPORT EQUIP	0	15,429			0	15,429
17	DSSP EQUIPMENT	0	2,918			0	2,918
18	CG MODERNIZATION	0	87,978			0	87,978
19	LCAC	0	9,366			0	9,366
20	UNDERWATER EOD EQUIPMENT	0	16,842			0	16,842
21	ITEMS LESS THAN \$5 MILLION	0	105,715			0	105,715
22	CHEMICAL WARFARE DETECTORS	0	3,044			0	3,044
23	SUBMARINE LIFE SUPPORT SYSTEM	0	5,885			0	5,885
	REACTOR PLANT EQUIPMENT						
24	SHIP MAINTENANCE, REPAIR AND MODERNIZATION	0	1,260,721			0	1,260,721
25	REACTOR POWER UNITS	0	5,305			0	5,305
26	REACTOR COMPONENTS	0	415,404			0	415,404
	OCEAN ENGINEERING						
27	DIVING AND SALVAGE EQUIPMENT	0	11,143			0	11,143
	SMALL BOATS						

28	STANDARD BOATS	0	52,371	0	52,371
	PRODUCTION FACILITIES EQUIPMENT				
29	OPERATING FORCES IPE	0	233,667	0	233,667
	OTHER SHIP SUPPORT				
30	LCS COMMON MISSION MODULES EQUIPMENT	0	39,714	0	17,414
	MCM containers and MPCE sonar processing insufficient justification			[0]	[-22,300]
31	LCS MCM MISSION MODULES	0	218,822	0	95,322
	Excess procurement ahead of satisfactory testing			[0]	[-123,500]
32	LCS ASW MISSION MODULES	0	61,759	0	4,759
	Excess procurement ahead of satisfactory testing			[0]	[-57,000]
33	LCS SUW MISSION MODULES	0	24,412	0	24,412
34	LCS IN-SERVICE MODERNIZATION	0	121,848	0	121,848
35	SMALL & MEDIUM UUV	0	67,709	0	37,609
	SMCM UUV excess procurement ahead of satisfactory testing			[0]	[-30,100]
	SHIP SONARS				
37	SPQ-9B RADAR	0	27,517	0	27,517
38	AN/SQQ-89 SURF ASW COMBAT SYSTEM	0	128,664	0	128,664
39	SSN ACOUSTIC EQUIPMENT	0	374,737	0	374,737
40	UNDERSEA WARFARE SUPPORT EQUIPMENT	0	9,286	0	9,286
	ASW ELECTRONIC EQUIPMENT				
41	SUBMARINE ACOUSTIC WARFARE SYSTEM	0	26,066	0	26,066
42	SSTD	0	13,241	0	13,241
43	FIXED SURVEILLANCE SYSTEM	0	193,446	0	193,446
44	SURTASS	0	63,838	0	63,838
	ELECTRONIC WARFARE EQUIPMENT				
45	AN/SIQ-32	0	387,195	0	330,795
	Early to need			[0]	[-56,400]
	RECONNAISSANCE EQUIPMENT				
46	SHIPBOARD IW EXPLOIT	0	235,744	0	235,744
47	AUTOMATED IDENTIFICATION SYSTEM (AIS)	0	3,862	0	3,862
	OTHER SHIP ELECTRONIC EQUIPMENT				
48	COOPERATIVE ENGAGEMENT CAPABILITY	0	26,006	0	18,706
					[-7,300]

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
	Common Array Block antenna program delays			[0]	[-7,300]		
49	NAVAL TACTICAL COMMAND SUPPORT SYSTEM (NTCSS)	0	15,385			0	15,385
50	ATDLS	0	103,835			0	103,835
51	NAVY COMMAND AND CONTROL SYSTEM (NCCS)	0	3,594			0	3,594
52	MINESWEEPING SYSTEM REPLACEMENT	0	15,744			0	15,744
53	SHALLOW WATER MCM	0	5,493			0	5,493
54	NAVSTAR GPS RECEIVERS (SPACE)	0	38,043			0	38,043
55	AMERICAN FORCES RADIO AND TV SERVICE	0	2,592			0	2,592
56	STRATEGIC PLATFORM SUPPORT EQUIP	0	7,985			0	7,985
	AVIATION ELECTRONIC EQUIPMENT						
57	ASHORE ATC EQUIPMENT	0	83,475			0	83,475
58	AFLOAT ATC EQUIPMENT	0	65,113			0	65,113
59	ID SYSTEMS	0	23,815			0	23,815
60	JOINT PRECISION APPROACH AND LANDING SYSTEM (.....	0	100,751			0	100,751
61	NAVAL MISSION PLANNING SYSTEMS	0	13,947			0	13,947
	OTHER SHORE ELECTRONIC EQUIPMENT						
62	MARITIME INTEGRATED BROADCAST SYSTEM	0	1,375			0	1,375
63	TACTICAL/MOBILE C4I SYSTEMS	0	22,771			0	22,771
64	DCGS-N	0	18,872			0	18,872
65	CANES	0	389,585			0	389,585
66	RADIAC	0	10,335			0	10,335
67	CANES-INTELL	0	48,654			0	48,654
68	GPETE	0	8,133			0	8,133
69	MASF	0	4,150			0	4,150
70	INTEG COMBAT SYSTEM TEST FACILITY	0	5,934			0	5,934
71	EMI CONTROL INSTRUMENTATION	0	4,334			0	4,334

72	ITEMS LESS THAN \$5 MILLION	0	159,815	0	-54,800	0	105,015
	NGSSR available prior year funds			[0]	[-54,800]		
	SHIPBOARD COMMUNICATIONS						
73	SHIPBOARD TACTICAL COMMUNICATIONS	0	56,106			0	56,106
74	SHIP COMMUNICATIONS AUTOMATION	0	124,288			0	124,288
75	COMMUNICATIONS ITEMS UNDER \$5M	0	45,120			0	45,120
	SUBMARINE COMMUNICATIONS						
76	SUBMARINE BROADCAST SUPPORT	0	31,133			0	31,133
77	SUBMARINE COMMUNICATION EQUIPMENT	0	62,214			0	62,214
	SATELLITE COMMUNICATIONS						
78	SATELLITE COMMUNICATIONS SYSTEMS	0	47,421			0	47,421
79	NAVY MULTIBAND TERMINAL (NMT)	0	64,552			0	64,552
	SHORE COMMUNICATIONS						
80	JOINT COMMUNICATIONS SUPPORT ELEMENT (JCSE)	0	4,398			0	4,398
	CRYPTOGRAPHIC EQUIPMENT						
81	INFO SYSTEMS SECURITY PROGRAM (ISSP)	0	157,551			0	157,551
82	MIO INTEL EXPLOITATION TEAM	0	985			0	985
	CRYPTOLOGIC EQUIPMENT						
83	CRYPTOLOGIC COMMUNICATIONS EQUIP	0	15,906			0	15,906
	OTHER ELECTRONIC SUPPORT						
90	COAST GUARD EQUIPMENT	0	70,689			0	70,689
	SONOBUOYS						
92	SONOBUOYS—ALL TYPES	0	237,639	0	49,100	0	286,739
	Program increase for sonobuoys			[0]	[49,100]		
	AIRCRAFT SUPPORT EQUIPMENT						
93	MINOTAUR	0	5,077			0	5,077
94	WEAPONS RANGE SUPPORT EQUIPMENT	0	83,969			0	83,969
95	AIRCRAFT SUPPORT EQUIPMENT	0	187,758			0	187,758
96	ADVANCED ARRESTING GEAR (AAG)	0	16,059			0	16,059
97	METEOROLOGICAL EQUIPMENT	0	15,192			0	15,192
99	LEGACY AIRBORNE MCM	0	6,674			0	6,674
100	LAMPS EQUIPMENT	0	1,189			0	1,189

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
101	AVIATION SUPPORT EQUIPMENT	0	58,873			0	58,873
102	UMCS-UNMAN CARRIER AVIATION(UCA)MISSION CNTRL	0	60,937			0	60,937
	SHIP GUN SYSTEM EQUIPMENT						
103	SHIP GUN SYSTEMS EQUIPMENT	0	5,540			0	5,540
	SHIP MISSILE SYSTEMS EQUIPMENT						
104	HARPOON SUPPORT EQUIPMENT	0	208			0	208
105	SHIP MISSILE SUPPORT EQUIPMENT	0	262,077			0	262,077
106	TOMAHAWK SUPPORT EQUIPMENT	0	84,087			0	84,087
	FBM SUPPORT EQUIPMENT						
107	STRATEGIC MISSILE SYSTEMS EQUIP	0	258,910			0	258,910
	ASW SUPPORT EQUIPMENT						
108	SSN COMBAT CONTROL SYSTEMS	0	173,770			0	173,770
109	ASW SUPPORT EQUIPMENT	0	26,584			0	26,584
	OTHER ORDNANCE SUPPORT EQUIPMENT						
110	EXPLOSIVE ORDNANCE DISPOSAL EQUIP	0	7,470			0	7,470
111	ITEMS LESS THAN \$5 MILLION	0	6,356			0	6,356
	OTHER EXPENDABLE ORDNANCE						
112	ANTI-SHIP MISSILE DECOY SYSTEM	0	86,356			0	86,356
113	SUBMARINE TRAINING DEVICE MODS	0	69,240			0	69,240
114	SURFACE TRAINING EQUIPMENT	0	192,245			0	192,245
	CIVIL ENGINEERING SUPPORT EQUIPMENT						
115	PASSENGER CARRYING VEHICLES	0	6,123			0	6,123
116	GENERAL PURPOSE TRUCKS	0	2,693			0	2,693
117	CONSTRUCTION & MAINTENANCE EQUIP	0	47,301			0	47,301
118	FIRE FIGHTING EQUIPMENT	0	10,352			0	10,352
119	TACTICAL VEHICLES	0	31,475			0	31,475

121	POLLUTION CONTROL EQUIPMENT	0	2,630	0	2,630
122	ITEMS LESS THAN \$5 MILLION	0	47,972	0	47,972
123	PHYSICAL SECURITY VEHICLES	0	1,171	0	1,171
	SUPPLY SUPPORT EQUIPMENT				
124	SUPPLY EQUIPMENT	0	19,693	0	19,693
125	FIRST DESTINATION TRANSPORTATION	0	4,956	0	4,956
126	SPECIAL PURPOSE SUPPLY SYSTEMS	0	668,639	0	668,639
	TRAINING DEVICES				
127	TRAINING SUPPORT EQUIPMENT	0	4,026	0	4,026
128	TRAINING AND EDUCATION EQUIPMENT	0	73,454	0	73,454
	COMMAND SUPPORT EQUIPMENT				
129	COMMAND SUPPORT EQUIPMENT	0	32,390	0	32,390
130	MEDICAL SUPPORT EQUIPMENT	0	974	0	974
132	NAVAL MIP SUPPORT EQUIPMENT	0	5,606	0	5,606
133	OPERATING FORCES SUPPORT EQUIPMENT	0	16,024	0	16,024
134	C4ISR EQUIPMENT	0	6,697	0	6,697
135	ENVIRONMENTAL SUPPORT EQUIPMENT	0	27,503	0	27,503
136	PHYSICAL SECURITY EQUIPMENT	0	138,281	0	138,281
137	ENTERPRISE INFORMATION TECHNOLOGY	0	42,680	0	42,680
	OTHER				
140	NEXT GENERATION ENTERPRISE SERVICE	0	184,443	0	184,443
141	CYBERSPACE ACTIVITIES	0	16,523	0	16,523
9999	CLASSIFIED PROGRAMS				
	CLASSIFIED PROGRAMS				
	SPARES AND REPAIR PARTS				
142	SPARES AND REPAIR PARTS	0	374,195	0	374,195
	TOTAL OTHER PROCUREMENT, NAVY	0	10,948,518	0	10,948,518
	PROCUREMENT, MARINE CORPS				
	TRACKED COMBAT VEHICLES				
1	AAV7A1 PIP	0	87,476	0	87,476
2	AMPHIBIOUS COMBAT VEHICLE FAMILY OF VEHICLES	72	478,874	72	478,874
	TOTAL OTHER PROCUREMENT, NAVY	0	-372,300	0	-372,300

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
3	LAV PIP	0	41,988			0	41,988
	ARTILLERY AND OTHER WEAPONS						
4	155MM LIGHTWEIGHT TOWED HOWITZER	0	59			0	59
5	ARTILLERY WEAPONS SYSTEM	0	174,687	36	59,600	36	234,287
	Ground-Based Anti-Ship Missile NSM			[36]	[59,600]		
6	WEAPONS AND COMBAT VEHICLES UNDER \$5 MILLION	0	24,867			0	24,867
	OTHER SUPPORT						
7	MODIFICATION KITS	0	3,067			0	3,067
	GUIDED MISSILES						
8	GROUND BASED AIR DEFENSE	0	18,920			0	18,920
9	ANTI-ARMOR MISSILE-JAVELIN	98	19,888			98	19,888
10	FAMILY ANTI-ARMOR WEAPON SYSTEMS (FOAAWS)	0	21,891			0	21,891
11	ANTI-ARMOR MISSILE-TOW	0	34,985			0	34,985
12	GUIDED MLRS ROCKET (GMLRS)	952	133,689			952	133,689
	COMMAND AND CONTROL SYSTEMS						
13	COMMON AVIATION COMMAND AND CONTROL SYSTEM (C)	0	35,057			0	35,057
	REPAIR AND TEST EQUIPMENT						
14	REPAIR AND TEST EQUIPMENT	0	24,405			0	24,405
	OTHER SUPPORT (TEL)						
15	MODIFICATION KITS	0	1,006			0	1,006
	COMMAND AND CONTROL SYSTEM (NON-TEL)						
16	ITEMS UNDER \$5 MILLION (COMM & ELEC)	0	69,725			0	69,725
17	AIR OPERATIONS C2 SYSTEMS	0	15,611			0	15,611
	RADAR + EQUIPMENT (NON-TEL)						
19	GROUND/AIR TASK ORIENTED RADAR (G/ATOR)	8	284,283			8	284,283
	INTELL/COMM EQUIPMENT (NON-TEL)						

20	GCSS-MC	0	1,587	0	1,587
21	FIRE SUPPORT SYSTEM	0	24,934	0	24,934
22	INTELLIGENCE SUPPORT EQUIPMENT	0	50,728	0	50,728
24	UNMANNED AIR SYSTEMS (INTEL)	0	24,853	0	24,853
25	DCGS-MC	0	38,260	0	38,260
26	UAS PAYLOADS	0	5,489	0	5,489
	OTHER SUPPORT (NON-TEL)				
29	NEXT GENERATION ENTERPRISE NETWORK (NGEN)	0	78,922	0	78,922
30	COMMON COMPUTER RESOURCES	0	35,349	0	35,349
31	COMMAND POST SYSTEMS	0	33,713	0	33,713
32	RADIO SYSTEMS	0	343,250	0	343,250
33	COMM SWITCHING & CONTROL SYSTEMS	0	40,627	0	40,627
34	COMM & ELEC INFRASTRUCTURE SUPPORT	0	43,782	0	43,782
35	CYBERSPACE ACTIVITIES	0	53,896	0	53,896
	CLASSIFIED PROGRAMS				
9999	CLASSIFIED PROGRAMS	0	3,797	0	3,797
	ADMINISTRATIVE VEHICLES				
37	COMMERCIAL CARGO VEHICLES	0	22,460	0	22,460
	TACTICAL VEHICLES				
38	MOTOR TRANSPORT MODIFICATIONS	0	10,739	0	10,739
39	JOINT LIGHT TACTICAL VEHICLE	752	381,675	752	381,675
40	FAMILY OF TACTICAL TRAILERS	0	2,963	0	2,963
	ENGINEER AND OTHER EQUIPMENT				
42	ENVIRONMENTAL CONTROL EQUIP ASSORT	0	385	0	385
43	TACTICAL FUEL SYSTEMS	0	501	0	501
44	POWER EQUIPMENT ASSORTED	0	23,430	0	23,430
45	AMPHIBIOUS SUPPORT EQUIPMENT	0	5,752	0	5,752
46	EOD SYSTEMS	0	20,939	0	20,939
	MATERIALS HANDLING EQUIPMENT				
47	PHYSICAL SECURITY EQUIPMENT	0	23,063	0	23,063
	GENERAL PROPERTY				
48	FIELD MEDICAL EQUIPMENT	0	4,187	0	4,187

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
49	TRAINING DEVICES	0	101,765			0	101,765
50	FAMILY OF CONSTRUCTION EQUIPMENT	0	19,305			0	19,305
51	ULTRA-LIGHT TACTICAL VEHICLE (ULTV)	0	678			0	678
	OTHER SUPPORT						
52	ITEMS LESS THAN \$5 MILLION	0	9,174			0	9,174
	SPARES AND REPAIR PARTS						
53	SPARES AND REPAIR PARTS	0	27,295			0	27,295
	TOTAL PROCUREMENT, MARINE CORPS	1,882	2,903,976	36	59,600	1,918	2,963,576
	AIRCRAFT PROCUREMENT, AIR FORCE						
	TACTICAL FORCES						
1	F-35	48	4,567,018	12	976,667	60	5,543,685
	Additional 12 F-35As			[12]	[976,667]		
2	F-35	0	610,800			0	610,800
4	F-15EX	12	1,269,847			12	1,269,847
5	F-15EX	0	133,500			0	133,500
	TACTICAL AIRLIFT						
7	KC-46A MDAP	15	2,850,151			15	2,850,151
	OTHER AIRLIFT						
8	C-130J	0	37,131			0	37,131
10	MC-130J	4	362,807			4	362,807
11	MC-130J	0	39,987			0	39,987
	HELICOPTERS						
12	UH-1H REPLACEMENT	8	194,016			8	194,016
13	COMBAT RESCUE HELICOPTER	16	973,473			16	973,473
	MISSION SUPPORT AIRCRAFT						

15	CIVIL AIR PATROL A/C	0	2,811	0	2,811
	OTHER AIRCRAFT				
16	TARGET DRONES	38	133,273	38	133,273
18	COMPASS CALL	0	161,117	0	161,117
20	MQ-9	0	29,409	0	79,409
	Program increase	[0]		50,000	
				[50,000]	
	STRATEGIC AIRCRAFT				
22	B-1	0	3,853	0	0
	USAF-requested transfer to RDAF Line 174	[0]		-3,853	
				[-3,853]	
23	B-2A	0	31,476	0	31,476
24	B-1B	0	21,808	0	21,315
	USAF-requested transfer to RDAF Line 174	[0]		-493	
				[-493]	
25	B-52	0	53,949	0	53,949
26	LARGE AIRCRAFT INFRARED COUNTERMEASURES	0	9,999	0	9,999
	TACTICAL AIRCRAFT				
27	A-10	0	135,793	0	135,793
28	E-11 BACN/HAG	0	33,645	0	33,645
29	F-15	0	349,304	0	349,304
30	F-16	0	615,760	0	640,760
	Additional radars	[0]		25,000	
				[25,000]	
32	F-22A	0	387,905	0	387,905
33	F-35 MODIFICATIONS	0	322,185	0	322,185
34	F-15 EPAW	6	31,995	6	31,995
35	INCREMENT 3.2B	0	5,889	0	5,889
36	KC-46A MDAP	0	24,085	0	24,085
	AIRLIFT AIRCRAFT				
37	C-5	0	62,108	0	62,108
38	C-17A	0	66,798	0	66,798
40	C-32A	0	2,947	0	2,947
41	C-37A	0	12,985	0	12,985
	TRAINER AIRCRAFT				
42	GLIDER MODS	0	977	0	977

SEC. 4101. PROCUREMENT (In Thousands of Dollars)									
Line	Item	FY 2021 Request		Senate Change		Senate Authorized		Cost	
		Qty	Cost	Qty	Cost	Qty	Cost		
43	T-6	0	26,829			0		26,829	
44	T-1	0	4,465			0		4,465	
45	T-38	0	36,806	0	7,700	0		44,506	
	T-38 ejection seats			[0]	[7,700]				
	OTHER AIRCRAFT								
46	U-2 MODS	0	110,618			0		110,618	
47	KC-10A (ATCA)	0	117			0		117	
49	VC-25A MOD	0	1,983			0		1,983	
50	C-40	0	9,252			0		9,252	
51	C-130	0	5,871			0		5,871	
52	C-130J MODS	0	140,032			0		140,032	
53	C-135	0	88,250			0		88,250	
55	COMPASS CALL	0	193,389			0		193,389	
57	RC-135	0	191,332			0		191,332	
58	E-3	0	172,141			0		172,141	
59	E-4	0	58,803			0		58,803	
	Funds rephased to future fiscal years								
60	E-8	0	11,037			0		11,037	
	Secure information transmission capability								
61	AIRBORNE WARNING AND CNTRL SYS (AWACS) 40/45	0	53,343			0		53,343	
62	FAMILY OF BEYOND LINE-OF-SIGHT TERMINALS	0	1,573			0		1,573	
63	H-1	0	4,410			0		4,410	
64	H-60	0	44,538			0		44,538	
65	RQ-4 MODS	0	40,468			0		40,468	
66	HC/MC-130 MODIFICATIONS	0	20,780			0		20,780	
67	OTHER AIRCRAFT	0	100,774			0		100,774	

68	MQ-9 MODS	0	188,387	0	188,387	0	
70	CV-22 MODS	0	122,306	0	122,306	0	
	CV-22 ABSS			0	5,000	0	
				[0]	[5,000]		
	AIRCRAFT SPARES AND REPAIR PARTS						
71	INITIAL SPARES/REPAIR PARTS	0	926,683	0	926,683	0	956,683
	F-35A initial spares increase			0	30,000	0	
				[0]	[30,000]		
	COMMON SUPPORT EQUIPMENT						
73	AIRCRAFT REPLACEMENT SUPPORT EQUIP	0	132,719	0	132,719	0	132,719
	POST PRODUCTION SUPPORT						
74	B-2A	0	1,683	0	1,683	0	1,683
75	B-2B	0	46,734	0	46,734	0	46,734
76	B-52	0	1,034	0	1,034	0	1,034
79	E-11 BACN/HAG	0	63,419	0	63,419	0	63,419
80	F-15	0	2,632	0	2,632	0	2,632
81	F-16	0	14,163	0	14,163	0	14,163
83	OTHER AIRCRAFT	0	4,595	0	4,595	0	4,595
84	RQ-4 POST PRODUCTION CHARGES	0	32,585	0	32,585	0	32,585
	INDUSTRIAL PREPAREDNESS						
85	INDUSTRIAL RESPONSIVENESS	0	18,215	0	18,215	0	18,215
	WAR CONSUMABLES						
86	WAR CONSUMABLES	0	36,046	0	36,046	0	36,046
	OTHER PRODUCTION CHARGES						
87	OTHER PRODUCTION CHARGES	0	1,439,640	0	1,439,640	0	1,514,640
	Classified increase			[0]	[75,000]		
	CLASSIFIED PROGRAMS						
9999	CLASSIFIED PROGRAMS	0	21,692	0	21,692	0	21,692
	TOTAL AIRCRAFT PROCUREMENT, AIR FORCE	147	17,908,145	12	1,160,321	159	19,068,466
	MISSILE PROCUREMENT, AIR FORCE						
	MISSILE REPLACEMENT EQUIPMENT—BALLISTIC						
1	MISSILE REPLACEMENT EQ-BALLISTIC	0	75,012	0	75,012	0	75,012
	TACTICAL						

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
2	REPLAC EQUIP & WAR CONSUMABLES	0	4,495			0	4,495
4	JOINT AIR-SURFACE STANDOFF MISSILE	376	475,949	-60	-75,000	316	400,949
	Realignment to support NDS requirements in Pacific			[-60]	[-75,000]		
5	LRASMO	5	19,800	20	75,000	25	94,800
	Additional Air Force LRASM missiles			[20]	[75,000]		
6	SIDEWINDER (AIM-9X)	331	164,769			331	164,769
7	AMRAAM	414	453,223			414	453,223
8	PREDATOR HELLFIRE MISSILE	548	40,129			548	40,129
9	SMALL DIAMETER BOMB	1,179	45,475			1,179	45,475
10	SMALL DIAMETER BOMB II	1,133	273,272			1,133	273,272
	INDUSTRIAL FACILITIES						
11	INDUSTRI'L PREPAREDNS/POL PREVENTION	0	814			0	814
	CLASS IV						
13	ICBM FUZE MOD	20	3,458			20	3,458
14	ICBM FUZE MOD AP	0	43,450			0	43,450
15	MM III MODIFICATIONS	0	85,310			0	85,310
16	AGM-65D MAVERICK	0	298			0	298
17	AIR LAUNCH CRUISE MISSILE (ALCM)	0	52,924			0	52,924
	MISSILE SPARES AND REPAIR PARTS						
18	MSL SPRS/REPAIR PARTS (INITIAL)	0	9,402			0	9,402
19	MSL SPRS/REPAIR PARTS (REPLEN)	0	84,671			0	84,671
	SPECIAL PROGRAMS						
25	SPECIAL UPDATE PROGRAMS	0	23,501			0	23,501
	CLASSIFIED PROGRAMS						
9999	CLASSIFIED PROGRAMS	0	540,465			0	540,465
	TOTAL MISSILE PROCUREMENT, AIR FORCE	4,006	2,396,417	-40	0	3,966	2,396,417

PROCUREMENT, SPACE FORCE					
SPACE PROCUREMENT, SF					
1	ADVANCED EHF	0	14,823	0	14,823
2	AF SATELLITE COMM SYSTEM	0	48,326	0	48,326
3	COUNTERSPACE SYSTEMS	0	65,540	0	65,540
4	FAMILY OF BEYOND LINE-OF-SIGHT TERMINALS	0	66,190	0	66,190
5	GENERAL INFORMATION TECH—SPACE	0	3,299	0	3,299
6	GPSIII FOLLOW ON	2	627,796	2	627,796
7	GPS III SPACE SEGMENT	0	20,122	0	20,122
8	GLOBAL POSITIONING (SPACE)	0	2,256	0	2,256
9	SPACEBORNE EQUIP (COMSEC)	0	35,495	0	35,495
10	MILSATCOM	0	15,795	0	15,795
11	SBR HIGH (SPACE)	0	160,891	0	160,891
12	SPECIAL SPACE ACTIVITIES	0	78,387	0	78,387
13	NATIONAL SECURITY SPACE LAUNCH	3	1,043,171	3	1,043,171
14	NUDET DETECTION SYSTEM	0	6,638	0	6,638
15	ROCKET SYSTEMS LAUNCH PROGRAM	0	47,741	0	47,741
16	SPACE FENCE	0	11,279	0	11,279
17	SPACE MODS	0	96,551	0	109,051
	Cobra Dane service life extension				12,500
	SPACELIFT RANGE SYSTEM SPACE				[12,500]
18	SPARES	0	100,492	0	100,492
19	SPARES AND REPAIR PARTS	0	1,272	0	1,272
	TOTAL PROCUREMENT, SPACE FORCE	5	2,446,064	0	2,458,564
PROCUREMENT OF AMMUNITION, AIR FORCE					
ROCKETS					
1	ROCKETS	0	14,962	0	14,962
CARTRIDGES					
2	CARTRIDGES	0	123,365	0	123,365
BOMBS					

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
3	PRACTICE BOMBS	0	59,725			0	59,725
6	JOINT DIRECT ATTACK MUNITION	10,000	206,989			10,000	206,989
7	B61	0	35,634			0	35,634
	OTHER ITEMS						
9	CAD/PAD	0	47,830			0	47,830
10	EXPLOSIVE ORDNANCE DISPOSAL (EOD)	0	6,232			0	6,232
11	SPARES AND REPAIR PARTS	0	542			0	542
12	MODIFICATIONS	0	1,310			0	1,310
13	ITEMS LESS THAN \$5,000,000	0	4,753			0	4,753
	FLARES						
15	FLARES	0	40,088			0	40,088
	FUZES						
16	FUZES	0	40,983			0	40,983
	SMALL ARMS						
17	SMALL ARMS	0	13,925			0	13,925
	TOTAL PROCUREMENT OF AMMUNITION, AIR FORCE	10,000	596,338	0	0	10,000	596,338
	OTHER PROCUREMENT, AIR FORCE						
	PASSENGER CARRYING VEHICLES						
1	PASSENGER CARRYING VEHICLES	0	9,016			0	9,016
	CARGO AND UTILITY VEHICLES						
2	MEDIUM TACTICAL VEHICLE	0	15,058			0	15,058
3	CAP VEHICLES	0	1,059			0	1,059
4	CARGO AND UTILITY VEHICLES	0	38,920			0	38,920
	SPECIAL PURPOSE VEHICLES						
5	JOINT LIGHT TACTICAL VEHICLE	0	30,544			0	30,544

6	SECURITY AND TACTICAL VEHICLES	0	319	0	319	0	319
7	SPECIAL PURPOSE VEHICLES	0	43,157	0	43,157	0	43,157
	FIRE FIGHTING EQUIPMENT						
8	FIRE FIGHTING/CRASH RESCUE VEHICLES	0	8,621	0	8,621	0	8,621
9	MATERIALS HANDLING EQUIPMENT						
	MATERIALS HANDLING VEHICLES	0	12,897	0	12,897	0	12,897
	BASE MAINTENANCE SUPPORT						
10	RUNWAY SNOW REMOV AND CLEANING EQU	0	3,577	0	3,577	0	3,577
11	BASE MAINTENANCE SUPPORT VEHICLES	0	43,095	0	43,095	0	43,095
	COMM SECURITY EQUIPMENT(COMSEC)						
13	COMSEC EQUIPMENT	0	54,864	0	54,864	0	54,864
	INTELLIGENCE PROGRAMS						
14	INTERNATIONAL INTEL TECH & ARCHITECTURES	0	9,283	0	9,283	0	9,283
	PDI: Mission Partner Environment BICES-X local upgrades			0	1,500	0	1,500
				[0]	[1,500]		
15	INTELLIGENCE TRAINING EQUIPMENT	0	6,849	0	6,849	0	6,849
16	INTELLIGENCE COMM EQUIPMENT	0	33,471	0	33,471	0	33,471
	ELECTRONICS PROGRAMS						
17	AIR TRAFFIC CONTROL & LANDING SYS	0	29,409	0	29,409	0	29,409
18	BATTLE CONTROL SYSTEM—FIXED	0	7,909	0	7,909	0	7,909
19	THEATER AIR CONTROL SYS IMPROVEMEN	0	32,632	0	32,632	0	32,632
20	WEATHER OBSERVATION FORECAST	0	33,021	0	33,021	0	33,021
21	STRATEGIC COMMAND AND CONTROL	0	31,353	0	31,353	0	31,353
22	CHEYENNE MOUNTAIN COMPLEX	0	10,314	0	10,314	0	10,314
23	MISSION PLANNING SYSTEMS	0	15,132	0	15,132	0	15,132
25	INTEGRATED STRAT PLAN & ANALY NETWORK (SPAN)	0	9,806	0	9,806	0	9,806
	SPCL COMM-ELECTRONICS PROJECTS						
26	GENERAL INFORMATION TECHNOLOGY	0	39,887	0	39,887	0	39,887
27	AF GLOBAL COMMAND & CONTROL SYS	0	2,602	0	2,602	0	2,602
29	MOBILITY COMMAND AND CONTROL	0	10,541	0	10,541	0	10,541
30	AIR FORCE PHYSICAL SECURITY SYSTEM	0	96,277	0	96,277	0	96,277
31	COMBAT TRAINING RANGES	0	195,185	0	195,185	0	195,185
32	MINIMUM ESSENTIAL EMERGENCY COMM N	0	29,664	0	29,664	0	29,664

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
33	WIDE AREA SURVEILLANCE (WAS)	0	59,633			0	59,633
34	C3 COUNTERMEASURES	0	105,584			0	105,584
36	DEFENSE ENTERPRISE ACCOUNTING & MGT SYS	0	899			0	899
38	THEATER BATTLE MGT C2 SYSTEM	0	3,392			0	3,392
39	AIR & SPACE OPERATIONS CENTER (AOC)	0	24,983			0	24,983
	AIR FORCE COMMUNICATIONS						
41	BASE INFORMATION TRANSPT INFRAST (BITI) WIRED	0	19,147			0	19,147
42	AFNET	0	84,515			0	84,515
43	JOINT COMMUNICATIONS SUPPORT ELEMENT (JCSE)	0	6,185			0	6,185
44	USCENTCOM	0	19,649			0	19,649
45	USSTRATCOM	0	4,337			0	4,337
	ORGANIZATION AND BASE						
46	TACTICAL C-E EQUIPMENT	0	137,033			0	137,033
47	RADIO EQUIPMENT	0	15,264			0	15,264
49	BASE COMM INFRASTRUCTURE	0	132,281	0	14,000	0	146,281
	PDI: Mission Partner Environment PACNET			[0]	[14,000]		
	MODIFICATIONS						
50	COMM ELECT MODS	0	21,471			0	21,471
	PERSONAL SAFETY & RESCUE EQUIP						
51	PERSONAL SAFETY AND RESCUE EQUIPMENT	0	49,578			0	49,578
	DEPOT PLANT+MTRLS HANDLING EQ						
52	POWER CONDITIONING EQUIPMENT	0	11,454			0	11,454
53	MECHANIZED MATERIAL HANDLING EQUIP	0	12,110			0	12,110
	BASE SUPPORT EQUIPMENT						
54	BASE PROCURED EQUIPMENT	0	21,142			0	21,142
55	ENGINEERING AND EOD EQUIPMENT	0	7,700			0	7,700

SEC. 4101. PROCUREMENT
(In Thousands of Dollars)

Line	Item	FY 2021 Request		Senate Change		Senate Authorized	
		Qty	Cost	Qty	Cost	Qty	Cost
20	JOINT SERVICE PROVIDER	0	157,538			0	157,538
21	FOURTH ESTATE NETWORK OPTIMIZATION (4ENO)	0	42,084			0	42,084
	MAJOR EQUIPMENT, DLA						
23	MAJOR EQUIPMENT	0	417,459			0	417,459
	MAJOR EQUIPMENT, DDMACT						
24	MAJOR EQUIPMENT	0	7,993			0	7,993
	MAJOR EQUIPMENT, DODEA						
25	AUTOMATION/EDUCATIONAL SUPPORT & LOGISTICS	0	1,319			0	1,319
	MAJOR EQUIPMENT, DPAA						
26	MAJOR EQUIPMENT, DPAA	10	500			10	500
	MAJOR EQUIPMENT, DEFENSE SECURITY COOPERATION AGENCY						
27	REGIONAL CENTER, PROCUREMENT	0	1,598			0	1,598
	MAJOR EQUIPMENT, DEFENSE THREAT REDUCTION AGENCY						
28	VEHICLES	0	215			0	215
29	OTHER MAJOR EQUIPMENT	0	9,994			0	9,994
	MAJOR EQUIPMENT, MISSILE DEFENSE AGENCY						
31	THAAD	41	495,396	0	106,400	41	601,796
	8th THAAD battery components			[0]	[76,300]		
	HEMTT life-of-type buy			[0]	[30,100]		
34	AEGIS BMD	34	356,195			34	356,195
35	AEGIS BMD AP	0	44,901			0	44,901
36	BMDs AM/TPY-2 RADARS	0	0	0	243,300	0	243,300
	8th THAAD battery radar equipment			[0]	[243,300]		
37	SM-3 IAS	6	218,322	5	128,000	11	346,322
	Additional SM-3 Block IIA interceptors			[5]	[128,000]		
38	ARROW 3 UPPER TIER SYSTEMS	1	77,000			1	77,000

39	SHORT RANGE BALLISTIC MISSILE DEFENSE (SRBMD)	1	50,000	0	0	1	50,000
40	AEGIS ASHORE PHASE III	0	39,114	0	0	0	39,114
41	IRON DOME	1	73,000	1	0	1	73,000
42	AEGIS BMD HARDWARE AND SOFTWARE	49	104,241	49	0	49	104,241
	MAJOR EQUIPMENT, NSA						
48	INFORMATION SYSTEMS SECURITY PROGRAM (ISSP)	0	101	0	0	0	101
	MAJOR EQUIPMENT, OSD						
49	MAJOR EQUIPMENT, OSD	0	3,099	0	0	0	3,099
	MAJOR EQUIPMENT, TJS						
50	MAJOR EQUIPMENT, TJS	0	8,329	0	0	0	8,329
51	MAJOR EQUIPMENT—TJS CYBER	0	1,247	0	0	0	1,247
	MAJOR EQUIPMENT, WHS						
53	MAJOR EQUIPMENT, WHS	0	515	0	0	0	515
	CLASSIFIED PROGRAMS						
9999	CLASSIFIED PROGRAMS	0	554,264	0	0	0	554,264
	AVIATION PROGRAMS						
55	ARMED OVERWATCH/TARGETING	5	101,000	5	0	5	0
	Lack of validated requirement and analysis				[0]		[-101,000]
56	MANNED ISR	0	0	0	0	0	40,100
	SOCOM DHC-8 combat loss replacement				[0]		[40,100]
59	ROTARY WING UPGRADES AND SUSTAINMENT	0	211,041	0	0	0	211,041
60	UNMANNED ISR	0	25,488	0	0	0	25,488
61	NON-STANDARD AVIATION	0	61,874	0	0	0	61,874
62	U-28	0	3,825	0	0	0	24,700
	SOCOM aircraft maintenance support combat loss replacement				[0]		[24,700]
63	MH-47 CHINOOK	0	135,482	0	0	0	135,482
64	CV-22 MODIFICATION	0	14,829	0	0	0	14,829
65	MQ-9 UNMANNED AERIAL VEHICLE	0	6,746	0	0	0	6,746
66	PRECISION STRIKE PACKAGE	0	243,111	0	0	0	243,111
67	AC/MC-130J	0	163,914	0	0	0	163,914
68	C-130 MODIFICATIONS	0	20,414	0	0	0	20,414
	SHIPBUILDING						

SEC. 4101. PROCUREMENT (In Thousands of Dollars)									
Line	Item	FY 2021 Request		Senate Change		Senate Authorized		Cost	
		Qty	Cost	Qty	Cost	Qty	Cost		
69	UNDERWATER SYSTEMS	0	20,556			0		20,556	
	AMMUNITION PROGRAMS								
70	ORDNANCE ITEMS <\$5M	0	186,197			0		186,197	
	OTHER PROCUREMENT PROGRAMS								
71	INTELLIGENCE SYSTEMS	0	94,982	0	13,400	0	13,400	108,382	
	Transfer from MMP-Light to man-pack			[0]	[13,400]				
72	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	0	11,645			0		11,645	
73	OTHER ITEMS <\$5M	0	96,333			0		96,333	
74	COMBATANT CRAFT SYSTEMS	0	17,278			0		17,278	
75	SPECIAL PROGRAMS	0	78,865			0		78,865	
76	TACTICAL VEHICLES	0	30,158			0		30,158	
77	WARRIOR SYSTEMS <\$5M	0	260,733	0	-12,200	0	-12,200	248,533	
	MMP-Light unexecutable, transfer to man-pack			[0]	[-12,200]				
78	COMBAT MISSION REQUIREMENTS	0	19,848			0		19,848	
79	GLOBAL VIDEO SURVEILLANCE ACTIVITIES	0	2,401			0		2,401	
80	OPERATIONAL ENHANCEMENTS INTELLIGENCE	0	13,861			0		13,861	
81	OPERATIONAL ENHANCEMENTS	0	247,038	0	12,500	0	12,500	259,538	
	SOCOM Syria exfiltration reconstitution			[0]	[12,500]				
	CBDP								
82	CHEMICAL BIOLOGICAL SITUATIONAL AWARENESS	0	147,150			0		147,150	
83	CB PROTECTION & HAZARD MITIGATION	0	149,944			0		149,944	
	TOTAL PROCUREMENT, DEFENSE-WIDE	148	5,324,487	5	444,100	153	444,100	5,768,587	
	TOTAL PROCUREMENT	34,422	130,684,160	78	3,330,678	34,500	3,330,678	134,014,838	