

SUMMARY OF DISCRETIONARY AUTHORIZATIONS IN THE BILL

The President requested discretionary budget authority of \$741.9 billion for programs within the jurisdiction of the committee for fiscal year 2020. Of this amount, \$642.5 billion was requested for “base” Department of Defense programs, \$66.7 billion was requested for Overseas Contingency Operations requirements covering the entire fiscal year, \$23.2 billion was requested for Department of Energy national security programs and the Defense Nuclear Facilities Safety Board, and \$0.3 billion was requested for defense-related activities associated with the Maritime Administration.

The committee recommends an overall discretionary authorization of \$724.9 billion in fiscal year 2020. The committee authorization is a \$16.8 billion increase above the levels provided for in the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232).

The table preceding the detailed program adjustments in division D of this report summarizes the committee’s recommended discretionary authorizations by appropriation account for fiscal year 2020 and compares these amounts to the President’s request.

BUDGET AUTHORITY IMPLICATION

The President’s total request for the national defense budget function (050) in fiscal year 2020 is \$750.0 billion, as estimated by the Congressional Budget Office. In addition to funding for programs addressed in this bill, the total 050 request includes discretionary funding for national defense programs not in the committee’s jurisdiction, discretionary funding for programs that do not require additional authorization in fiscal year 2020, and mandatory programs.

The table preceding the detailed program adjustments in division D of this report details changes to the budget request for all aspects of the national defense budget function.

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

AIRCRAFT PROCUREMENT, ARMY

Items of Special Interest

CH-47F Chinook Block II

The budget request contained \$18.2 million in advanced procurement for the CH-47F Block II program. The CH-47F Block II program is designed to upgrade the current CH-47F Block I heavy-lift rotorcraft to improve readiness and commonality, extend the useful life of the Block I version, and restore additional payload capacity for the airframe. The committee understands the budget request fully funds the completion of the engineering and manufacturing development (EMD) phase of the Block II program, and that subject to successful completion of the EMD phase, the Army plans to

conduct a Milestone C low-rate production decision beginning in fiscal year 2021. However, the committee notes the current Future Years Defense Program (FYDP) provides no follow-on procurement funding for the CH-47 Block II program. Further, the committee notes that the formal analysis of alternatives for the CH-47 Block II indicated the Army must begin to remanufacture or recapitalize CH-47 Block I rotorcraft between fiscal years 2024 and 2028 and sustain full-rate production of 12 aircraft per year by fiscal year 2030 in order to maintain fleet readiness. Given the lack of programmed funding in the FYDP for CH-47 Block II production, the committee is concerned about potential impacts this could have on the heavy-lift rotorcraft industrial base, as well as the effects this could have on the Army's long-term plans to maintain fleet readiness beyond the FYDP.

Therefore, the committee recommends \$46.2 million, an increase of \$28.0 million, in CH-47 Helicopter advanced procurement for the CH-47F Block II aircraft.

Further, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by September 2, 2019, on the potential readiness impacts to the current CH-47F fleet should Block II production be delayed post-FYDP, a cost-benefit analysis comparing CH-47 Block II upgrade program to CH-47F remanufacture and recapitalization efforts, the impacts to current MH-47G aircraft production given the delay of Block II production, analysis used to assess the strategic risk to the industrial base including the supplier base, and the current strategy for modernizing the heavy-lift rotorcraft fleet.

UH-72A Light Utility Helicopter

The committee understands the UH-72A Lakota helicopter provides general aviation support for aviation units in the Active and Reserve Components. The committee supports the requirement to conduct mid-life sustainment and product improvement activities for the UH-72A, and supports funding to conduct the analysis, engineering, certification, and risk reduction activities necessary to update the UH-72A Life Cycle Support Plan. The committee also recognizes that the UH-72A was initially fielded without aircraft survivability equipment, which could potentially limit the Active Component and Army National Guard utilization of the UH-72A platform. As reflected in division D of this Act, the committee recommends additional funding for the National Guard and Reserve Component Equipment Account (NGREA). The committee understands that while no requirements have been formally identified for UH-72A Lakota ballistic armor or aircraft survivability equipment by the National Guard Bureau, should a requirement be put forth, the committee expects the Army National Guard to utilize NGREA funds.

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by February 1, 2020, on the Army's long-term sustainment strategy for the UH-72A Lakota helicopter fleet.

MISSILE PROCUREMENT, ARMY

Items of Special Interest

Indirect Fire Protection Capability Increment 2 system of systems

The committee understands that the Indirect Fire Protection Capability Increment 2 system of systems (IFPC Inc 2) is a mobile, ground-based weapon system intended to defend fixed and semi-fixed sites and address numerous capability gaps for cruise missile defense (CMD), counter-unmanned aerial systems (C-UAS), and counter-rocket, artillery, and mortar (C-RAM). The committee notes that since March 2018, the Army has evaluated existing air defense systems in order to rapidly acquire and field an interim capability while concurrently evaluating solutions for an enduring IFPC Inc 2 system to meet the full spectrum of requirements and threats. The committee understands that based on the Army's analysis of cost, schedule, and performance, as well as the fielding requirements for an interim CMD capability required by section 112 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232), the Army will field two interim IFPC batteries of Iron Dome in fiscal year 2020, while concurrently developing and evaluating a complete system solution—radar, launcher, and interceptor—for an enduring IFPC capability.

The committee supports the Army's IFPC system acquisition strategy, including the immediate procurement of two Iron Dome batteries to meet the statutory schedule requirements for an interim capability, however, the committee requires additional fidelity into the acquisition strategy and plan for the enduring IFPC requirement. Accordingly, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by November 1, 2019, on the progress of fielding an Iron Dome interim IFPC system for CMD, as well as an update on the status of development of an enduring capability for IFPC Inc 2 to include the acquisition strategy for the enduring requirement with the associated funding profiles required to remain in compliance with section 112 of the National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232).

M240 medium machine gun industrial base

The committee remains concerned with the stability of the M240 medium machine gun small arms industrial base. The budget request included \$0.9 million for M240 production, however no additional funds are projected in the Future Years Defense Program (FYDP). The committee understands that this lack of funding beyond 2020 may result in a shutdown of the M240 production line, resulting in a significant negative impact on the U.S. small arms industrial base. The committee encourages the Army to develop and implement a long-term investment and sustainment plan for the family of M240 medium machine guns that ensures appropriate support for fielded weapons and mitigates risk to the small arms industrial base. As a part of this investment and sustainment plan, the committee encourages the Army to establish a recapitalization program, wherein legacy M240B models would be replaced by the modern, lighter-weight, and more reliable M240L model.

TOW 2B missile system

The committee is aware that the Army is developing the next version of its TOW 2B tactical missile system that will serve as the primary anti-armor weapon for the Optionally Manned Fighting Vehicle (OMFV) program. The committee also understands that the Army wants to accelerate development and fielding of the OMFV, but it is not clear that the development and fielding schedule for the new TOW 2B missile is aligned with the schedule for OMFV.

Accordingly, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by February 3, 2020, on the current plans for development and fielding of the TOW 2B missile, including how the Army will synchronize the availability of a new TOW 2B missile with fielding of the OMFV.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES,
ARMY

Items of Special Interest

Vehicle active protection systems

The committee understands the Army is working quickly to procure and field non-developmental item (NDI) vehicle active protection systems (V-APS) for combat and tactical vehicles to address immediate operational needs. The committee notes for example the Army will procure equipment sets of Trophy APS for installation on the M1 Abrams tanks of four armored brigades, including a brigade set for U.S. European Command's prepositioned stocks. While the committee supports the Army's NDI V-APS efforts and is encouraged by the successful testing, integration, and operational effectiveness of Trophy on Abrams tanks, the committee is concerned that the Army has no strategy to develop or acquire training devices related to Trophy or other V-APS systems under consideration for the Bradley and Stryker armored vehicles.

The committee also understands the Army is concurrently developing an objective, long-term V-APS solution that would field an open architecture compliant V-APS system with other vehicle protection capabilities, and that current NDI V-APS systems, such as Trophy, are potential candidates for further development and integration. The committee expects the Army to benefit from the data collected during this expedited NDI V-APS effort to better inform their long-term strategy as well as look for ways to accelerate development and procurement. Additionally, the Committee needs to better understand if the Army is considering "hybrid" solutions that would include fielding an advanced APS, that would work in concert with passive protection technologies, such as improved armor, to deliver substantial survivability enhancements.

Accordingly, the committee directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide a briefing to the House Committee on Armed Services not later than November 29, 2019, on the requirements and acquisition strategy for both near-term and long-term V-APS efforts, including technology, schedule, and funding profiles associated with development and acquisition of training devices for the various V-APS being developed, installed, or planned for installation on combat and tactical

vehicles. The briefing should also include courses of action for accelerating the development of the objective V-APS long-term solution and options for expanding the fielding of NDI APS solutions to additional current or future combat vehicles, a detailed summary of recent Stryker APS testing to date, and an analysis of the relative merits of hybrid protection technologies.

PROCUREMENT OF AMMUNITION, ARMY

Items of Special Interest

Army vertical lift munitions

The committee expects that the Army's future vertical lift systems will be equipped to operate successfully against peer and near-peer adversaries. Such systems will need new weapon capabilities and munitions that can effectively engage adversary targets from standoff ranges that are beyond line-of-sight or over-the-horizon. To be successful, these munitions must operate despite adversary technologies for jamming, spoofing, and GPS denial.

Therefore, the committee directs the Secretary of the Army to submit a report to the Committees on Armed Services of the Senate and the House of Representatives by February 1, 2020, on Army vertical lift munition range and operating environment capabilities gaps, if any, and potential developmental and off-the-shelf solutions associated with those gaps. The report shall include the following:

(1) an identification and assessment of current U.S. vertical lift munition capabilities and capabilities gaps, if any, against near-peer adversaries;

(2) an identification and assessment of U.S. and allied off-the-shelf and developmental solutions to meet these capability gaps, if any, including munitions that the United States has tested or will test;

(3) an identification and assessment of any completed or planned testing of developmental munitions in calendar years 2019 and 2020, including: an assessment of the effectiveness and suitability of the tested munitions; an assessment of whether the tested munitions could replace, supplement, or duplicate current capabilities; a comparison of the tested munitions capabilities to relevant currently fielded munitions; and plans, if any, to do a near-term fielding or operational evaluation of the tested munitions; and

(4) an estimate of the cost and schedule for the Army to develop and produce new capabilities, and acquire and field as an interim solution any existing capabilities that have been tested and would provide an acceptable solution for capability gaps.

M58 Mine Clearing Line Charge

The committee encourages the Army to accelerate modifications and upgrades to the M58 Mine Clearing Line Charge (MICLIC) system. The committee notes the current fielded MCLIC system has been operational since the 1970s and continues to be employed by the Army and Marine Corps. Furthermore, according to the report submitted to the committee by the Army, as required in the committee report accompanying the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115-676), the MICLIC's system operational readiness rate is 73 percent, which is below the re-

quirement of 78 percent. The committee also notes that employment success rates are only 50 percent based on data from units rotating through Combat Training Centers. The committee notes with concern that the MICLIC has not seen any significant upgrade in capability since its introduction, and does not meet the mission readiness and employment requirements.

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by November 1, 2019, on the Army's plan for upgrading or replacing the M58 MICLIC system. The briefing should include:

(1) the updated capability requirements for a solution that addresses the readiness and reliability concerns of the current MICLIC;

(2) a plan and timeline to upgrade the current system or field a newer variant; and

(3) a funding profile over time for costs associated with the research, development, test, and production of a new system.

Self-propelled 155mm and 105mm artillery systems

The committee understands the Army continues to examine the operational benefits of procuring a self-propelled 105mm and 155mm howitzer mounted on the High Mobility Multipurpose Wheeled Vehicle (HMMWV) in order to address existing capability gaps for infantry brigade combat teams (IBCTs) indirect fires capabilities. The committee understands that recent demonstrations at Fort Sill as part of the Army's Maneuver and Fires Integration Experiment produced positive results. In the report to accompany the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115-676) the committee directed the Army to assess the advisability and feasibility of accelerating the technology development and procurement of potential HMMWV-mounted self-propelled 105mm and 155mm howitzers. The committee notes the Army indicated in this report that developing such a capability is both advisable and feasible and that the Fires Center of Excellence at Fort Sill is exploring options for rapid prototyping and operational assessments of a HMWWV-mounted 155mm howitzer to address IBCT capability gaps. The committee supports these ongoing efforts and encourages the Army to continue further study and development of HMWWV-mounted self-propelled 105mm and 155mm howitzers.

OTHER PROCUREMENT, ARMY

Items of Special Interest

Advanced medium mobile power sources

The budget request contained \$58.5 million for generators and associated equipment of which \$44.2 million was included for advanced medium mobile power sources (AMMPS). AMMPS is a modernization program to provide 5–60 kilowatt (kW) generators in either a skid, trailer mounted, or microgrid configuration. The committee notes AMMPS replaces legacy generators and will provide the Department of Defense with an upgraded standard fleet of tactical electric power. The committee understands AMMPS has improved fuel efficiency by an average of 21 percent with a return on

investment in the range of 10 to 31 months from fuel savings. The committee also notes that AMMPS significantly reduces the logistics footprint and burden through utilization of 52 percent commonality of parts across all models as well as demonstrating improved reliability. The committee is encouraged by Department of Defense efforts to increase fuel efficiency, improve combat capability, decrease tactical risk, and reduce overall cost of generators. For example, the committee is aware the Army and Marine Corps are incorporating microgrid control capability on all current 30kW to 60kW generator set models that automatically starts and stops generators based on load demand. The committee encourages the military services to incorporate an energy storage module with generator sets to provide even more energy-efficient power.

AN/PEQ-15 Pointer, Illuminator, Aiming Laser capability enhancement/upgrade strategy

The committee is aware of the Army's Soldier Lethality Cross-Functional Team's efforts to enhance the capability of the AN/PEQ-15 Pointer, Illuminator, Aiming Laser. The committee is concerned, however, that the AN/PEQ-15 is approaching obsolescence, is no longer under a formal sustainment program of record, and is not optimized for use with the Army's new ENVG-B night vision device. A solution is needed that will provide a capability bridge until a new family of weapons sights is developed, tested, produced, and fielded. The committee is aware that the Army has tested a possible AN/PEQ-15 replacement through a limited user evaluation that distributed 700 test items to selected brigade combat teams. The committee supports the Army's rapid development and acquisition approach for such a bridge capability and directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on the strategy for development and replacement of the AN/PEQ-15.

Global Positioning System denied environments

The committee recognizes the need to improve the capability of U.S. forces to operate in denied environments where access to the Global Positioning System (GPS) is not assured. Potential adversaries are using advanced air defense systems and GPS-jamming and spoofing systems to deny or disrupt U.S. forces access, information gathering, precision strike, and navigation.

The committee notes that section 1239 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91) required the Secretary of Defense to develop a strategy to counter this specific threat. The committee recognizes that the Department of Defense has made progress with GPS satellite-related GPS III and M-Code development. The committee is concerned, however, that U.S. forces should avoid becoming reliant on a single solution or technology, especially with increasing ground-based threats to satellites.

The committee is also concerned about an apparent capability gap in which current air-to-ground weapon programs do not provide adequate range or precision-strike capabilities needed for operating environments in which access to GPS is not assured. The

committee encourages the Department of Defense to consider available off-the-shelf systems to meet this capability gap quickly.

Accordingly, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services not later than November 1, 2019, on efforts, including developmental and non-developmental item acquisition programs, to address U.S. munition capability gaps for longer range systems operating in GPS-denied or -degraded environment.

High Mobility Multipurpose Wheeled Vehicle recapitalization

The committee encourages the Secretary of the Army to use the funds made available for High Mobility Multipurpose Wheeled Vehicle (HMMWV) modernization or recapitalization to procure new HMMWVs or fully restore HMMWVs to a “like-new” zero-hours, zero-miles condition through the installation of a new, modernized powertrain. The committee believes that modernizing or recapitalizing HMMWVs with a more capable powertrain could better support future advanced technology insertions as well as other capability upgrades to the HMMWV fleet, which in turn should reduce sustainment costs and logistics challenges associated with obsolete, expensive, or less-suitable parts.

Requirements and Capabilities for Military Shelter Systems Ballistic Protection

The committee notes that in forward deployed environments, service members must often work, eat, and rest in military shelter systems. The committee further notes the importance of providing service members with military shelter systems that, under certain threat conditions, offer protection against small arms fire and fragmentation. Under such operational conditions, military shelter systems may require ballistic protection that can be quickly transported, assembled, and disassembled as required to meet mission requirements.

The committee directs the Secretary of the Army to provide the House Committee on Armed Services, no later than December 1, 2019, with a briefing on the requirements for and capabilities of the Army’s expeditionary military shelter systems. The briefing shall include an analysis of the ballistic protection capabilities and transportation requirements of such military shelter systems.

Tactical Communications and Protective System

The committee is aware that the Tactical Communications and Protective System (TCAPS) and TCAPS-Lite programs provide active hearing protection simultaneously protecting service members’ hearing while enabling situational awareness and mission command. The Army notes in their budget justification documents that these hearing protection systems are also intended to limit lost in-service time related to hearing injuries as well as reduce post-service disability compensation. The committee understands that the TCAPS and TCAPS-Lite programs have been cancelled and that combat earplugs will be relied upon to meet hearing protection requirements. The committee is concerned that combat earplugs have had significant issues related to performance and quality control in the past that likely resulted in hearing loss to military personnel.

Considering the Army's decision to discontinue the TCAPS and TCAPS-Lite programs, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services no later than September 1, 2019, on the Army's plan to provide advanced, active hearing protection with an appropriate noise reduction rating that simultaneously enables situational awareness and mission command and control. This briefing should also address the level of protection and functionality combat earplugs provide for service members and how those levels of protection and functionality compare to a TCAPS headset and TCAPS-Lite active hearing devices. The committee encourages the Department of Defense to develop a list of evaluated, off-the-shelf active hearing protection devices authorized for service and review this list as part of the required briefing.

Transportable Tactical Command Communications

The committee recognizes that the Transportable Tactical Command Communications (T2C2) system provides satellite communications to early entry ground forces and provides increased capability in mission command, as well as significant advancements in situational awareness. The committee understands that T2C2 expeditionary satellite antennas provide increased operational flexibility and speed of maneuver while supporting forces in austere locations with high bandwidth requirements. Continued investment in the basic technology comprising the T2C2 system could enable immediate enhancements to the capability and allow the Army to standardize its expeditionary satellite system. The committee encourages the Army to consider the operational benefits of a common expeditionary terminal, based on T2C2, that would meet relevant tactical satellite communication requirements and potentially extend the operational footprint well beyond current technology, support intelligence, surveillance, and reconnaissance and mission command systems, and reduce demand on satellite resources. The committee believes the Army could realize significant advantages from developing a consistent and interoperable satellite communications capability across multiple programs and encourages further acceleration of those efforts in light of potential and considerable life-cycle cost savings.

AIRCRAFT PROCUREMENT, NAVY

Items of Special Interest

Carrier strike group anti-submarine warfare capabilities

The committee is increasingly concerned with the aircraft carrier's organic anti-submarine warfare (ASW) capabilities. The carrier strike group's (CSG) primary ASW sensor continues to have a high component failure rate that has depleted the spares inventory, impacting deployed and non-deployed readiness. The Navy also recently canceled the Surface Ship Torpedo Defense (SSTD) program that would have provided a much-needed defensive capability for the aircraft carrier. The budget request acknowledged the reliability issues of the Airborne Low Frequency Sonar (ALFS) system and is requesting funds for a variety of improvement initiatives to increase reliability. Rather than continuing to fund legacy systems,

the committee believes that advances in anti-submarine warfare systems, manufactured in the United States and in use worldwide, could provide a better alternative. The committee is encouraged by advances in dipping sonar utilizing low frequency detection and beam-forming technologies, allowing multiple boundary interactions, and interoperability with shipboard sonars and sonobuoys. Moreover, these advances in technology are derived from U.S. sources.

Therefore, the committee encourages the Secretary of the Navy to consider procuring one helicopter-mounted and one unmanned surface vessel-mounted low frequency (less than 2KHz) active sonar system to demonstrate other viable alternative technologies currently available for a CSG ASW risk reduction effort.

The committee recommends \$2.5 million for MH-60 modifications and \$2.5 million for the Littoral Combat Ship Anti-Submarine Warfare Mission Module to support a technology demonstration of alternative low frequency active sonars.

F/A-18 infrared search and track

The budget request contained \$1.2 billion for F-18 aircraft, of which \$85.8 million is for the infrared search and track (IRST) technology procurement.

The committee notes that IRST is an evolutionary program that will provide the F/A-18E/F (Lot 26 and up) with an alternative fire control system to detect and track objects from a significant distance while operating in a contested environment involving high-electronic attack and radar-denied capabilities employed by adversaries. According to the Government Accountability Office, the IRST program entered low-rate production in December 2018, with an unstable design and undemonstrated critical manufacturing processes, but despite those shortfalls, the Secretary of the Navy awarded contracts to procure 24 IRST systems to date, or 14 percent of the 170 total planned systems. The committee notes the Navy did not conduct a production readiness review to assess design stability and manufacturing readiness that could have informed the decision whether or not to award low-rate production contracts. As a result, the Secretary may need to retrofit up to 18 early production IRST systems at a cost of \$2.0 million each. The committee assesses that the Navy could reduce procurement of IRST systems in the near term without negatively affecting IRST production, and notes that the production readiness review is scheduled to occur at least 6 months prior to the IRST system deliveries associated with the December 2018 contract award.

Therefore, the committee recommends \$1.1 billion, a decrease of \$67.4 million, for F-18 aircraft and the associated IRST technology procurement.

MH-53E modernization and sustainment strategy

The committee is concerned with the readiness and modernization trajectory of the Navy MH-53E fleet. Without sufficient resources and attention, MH-53E readiness levels will continue to decline. The committee notes that the Marine Corps CH-53E reset program has improved readiness levels and that the Army has achieved similar success using similar reset programs for a variety of rotorcraft platforms. Therefore, the committee directs the Sec-

retary of the Navy to provide a briefing to the House Committee on Armed Services not later than September 1, 2019, on the MH-53E fleet modernization and sustainment strategy. This briefing shall include an assessment of the feasibility and cost of reversing MH-53 readiness declines through a reset program similar to the Marine CH-53E reset program.

Navy Reserve F/A-18 aircraft

The committee remains concerned over the health and readiness of the Navy Reserve combat aircraft fleet, a strategic reserve available to the U.S. Navy. The Reserve fleet provides critical adversary support and strike fighter weapons training to Active Duty forces and must maintain a high mobilization readiness level for deployment in the event of war or national emergency. The aging aircraft the Reserve squadrons fly are no longer compatible with today's carrier air wing and these aircraft are increasingly less capable than the F/A-18E/F Super Hornets. The committee believes this could impact the ability of Navy Reserve squadrons in meeting requirements for advanced strike employment, as well as simulating current advanced threat aircraft. Recapitalizing and modernizing the Reserve squadrons with newer platforms would enable the Navy Reserve units to maintain dedicated advanced adversary squadrons with next generation capability in order to provide realistic threat-representative training for naval aviators and to maintain operational readiness that provides a relevant and deployable force multiplier to the Active Duty air wings.

The committee encourages the Secretary of the Navy, in coordination with the Chief of the Navy Reserve, to continue to recapitalize the squadrons to maintain the Navy Reserve combat aircraft fleet.

Recapitalization of Navy Reserve P-3C squadrons

The budget request contained \$1.2 billion for six P-8A Poseidon aircraft. The budget request for fiscal year 2020 did not take into account the increased warfighter requirement of 21 additional P-8A aircraft. This increase is driven by the proliferation of adversarial submarine fleets and their increasingly active operational tempo. The new requirement includes 12 aircraft to recapitalize the two maritime patrol and reconnaissance squadrons assigned to the Navy Reserve. These squadrons currently operate legacy P-3C Orion aircraft and the Chief of Navy Reserve estimates they will decommission by 2023 unless they are outfitted with new aircraft. The committee is encouraged by the Navy's recognition of the Navy Reserve force and the contribution they can provide to the increased requirement for the P-8A. However, the committee was discouraged that the Navy failed to budget for the additional aircraft to meet the warfighting requirement.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by March 1, 2020, that outlines a plan to recapitalize the two Navy Reserve squadrons with P-8A aircraft prior to 2023. The briefing should include estimated acquisition costs, acquisition timelines, aircraft fielding schedules, and manpower impacts to the Navy Reserve. The committee also notes that this information should have been briefed at the beginning of the budget cycle.

The committee recommends \$1.75 billion for P-8A procurement, an increase of \$541.2 million, to procure three additional aircraft in fiscal year 2020.

WEAPONS PROCUREMENT, NAVY

Items of Special Interest

Advanced Low-Cost Munitions Ordnance

The committee continues to support the accelerated development and deployment of the Advanced Low-Cost Munitions Ordnance (ALaMO), a guided 57mm projectile, with fire-and-forget capability. This projectile is designed to counter the growing threats posed by small boat swarms, unmanned aerial systems, and other emerging threats. Furthermore, the committee supports expanding the testing to fully establish the ALaMO capabilities in additional tactical scenarios, including against both surface and air targets, and informing the operational utility across the threat spectrum.

SHIPBUILDING AND CONVERSION, NAVY

Items of Special Interest

Amphibious Forces Modernization

While the Secretary of the Navy has been taking certain steps to modernize forces to operate in a contested environment, the committee believes that the Department of the Navy needs to aggressively assess and optimize future forces.

Therefore, the committee directs the Secretary of the Navy to submit a brief to the House Committee on Armed Services by February 1, 2020 as to options to improve procurement protocols with legacy and future forces force structure requirements. Such briefing shall include each of the following: amphibious warfare concepts and requirements as they relate to shipbuilding and modernization; options to garner efficiencies into amphibious ship acquisition; an assessment to optimize the current and projected aviation and surface connectors strategy; options to expand aviation projection from amphibious vessels; options to expand command and control networks; options to incorporate vertical launch systems; and a fiscal assessment of these options.

AN/SPY-6(V) on DDG-51 Flight IIA

The committee notes the President's budget request for the Air and Missile Defense Radar (AMDR) stated that fiscal year 2020 funds "are required to scale AMDR to backfit Active Electronically-Steered Array and digital beamforming technology on a Flight IIA DDG and to complete development of Advanced Distributed Radar (ADR) capability for integration into AMDR." The committee fully supports the funding of these efforts in fiscal year 2020 and encourages the Navy to accelerate the procurement of AN/SPY-6 radars for the modernization of DDG 51 Flight IIA ships into fiscal year 2021. As such, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by March 1, 2020, on the cost and technical feasibility of an accelerated plan for modernizing DDG 51 Flight IIA ships with AN/SPY-6 radars.

Classified Briefing on Funding Requirements for Strategic Weapons Systems

The committee notes the Navy provides the most survivable leg of the triad with Ohio Class SSBNs and the Trident II (D5) strategic weapon systems (SWS) they carry. SSBNs are responsible for a significant majority of the United States' operationally deployed nuclear warheads. The Chief of Naval Operations has made clear the priority the Navy places on the sustainment and modernization of the undersea leg of the triad, directing the Navy to "be ready to deploy USS Columbia (SSBN 826) as quickly as possible-beating the current schedule-in order to preserve our ability to defeat the threat."

If critical and necessary programs such as Increment 8 are further delayed due to funding issues, the Columbia class will be without critical subsystems such as a navigator and the United States will fail to meet international commitments to the United Kingdom under the Polaris Sales Agreement by not delivering inertial navigation equipment to the United Kingdom Shipyard in 2025.

If critical and necessary programs such as Increment 15 are further delayed due to funding issues, future integration on the Columbia and Dreadnought systems and delivery of a required network cross-domain solution capability to meet DOD cyber requirements will not be met in time. Elimination of this funding will result in significant obsolescence-related risk to the Ohio fire control system in addition to increasing cybersecurity-related risk.

Proposed reductions in Navy Strategic Systems Programs (SSP) support equipment impacts include additional maintenance costs on the current support equipment and an increase in the risk of being able to support missile processing and disposal requirements at the strategic weapon facilities. This, in turn, increases the risk of being unable to support SSBN onload/offload requirements.

If the Life Extension 2 funding cuts are sustained, the Navy's ability to field the next life extended missile on the Columbia Class is at significant risk. Additionally, the delay in schedule could impact international agreements with the United Kingdom as that government will procure the TRIDENT II D5LE2 SWS missiles for their Dreadnought platform.

The committee directs the Secretary of the Navy to provide a classified briefing to the House Committee on Armed Services no later than December 1, 2019, on the ramifications of failing to adequately fund its strategic weapons system.

Composite materials

The committee notes that composite materials may offer superior capabilities over legacy steel applications both in terms of long-term maintenance and increased operational availability. The committee believes that the Secretary of the Navy should assess composite options in the analysis of alternatives as they consider complex naval components and elements. Specifically, the committee believes that an assessment of composite shafting and deckhouse modules should be included in any future naval vessel acquisition to include the development of the Large Surface Combatant, the next block of Virginia-class submarines, and the development of the next generation attack submarine.

DDG Aegis modernization

The committee recognizes the need and importance to deliver increased warfighting capability to the over seven dozen ships that comprise the existing fleet of Aegis destroyers via the ongoing destroyer modernization program as well as through new construction of the Flight III Arleigh Burke Aegis destroyers. Together, these efforts will provide our nation with the most powerful frontline warships, which will include robust integrated air and missile defense capabilities. However, the committee is concerned that there is an excessive amount of variance of Aegis baselines within the current fleet, and that the Navy should consider potential ways to accelerate modernization efforts that will reduce combat system variances. The committee also understands that there are new initiatives which leverage advances in digital technology, solid-state hardware, small and modular virtualization techniques, and other innovative hardware and software upgrades that can better sustain the in-service destroyers to the end of their extended service lives.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on initiatives that support a complementary approach to provide more rapid fielding of improvements for Aegis fleet readiness, lethality, and survivability.

Frigate requirements review

The committee supports the Navy's efforts to leverage mature technologies and systems for the new Frigate class (FFG(X)), and continues to encourage the Secretary of the Navy to emphasize risk reduction efforts, commonality, and reduced life-cycle sustainment costs in developing a best-value solution. The committee also believes that the Navy should not trade warfighting capabilities for other considerations, particularly in anti-submarine warfare (ASW). Given ongoing efforts by adversarial nations to increase the capability, lethality, and size of their respective submarine fleets, the committee recognizes the projected role the FFG(X) will play in performing ASW missions. As such, it is imperative that the platform be deployed with the most capable ASW technology available.

Future Fleet Architecture

The committee notes that the National Defense Strategy indicates that the United States is in a great powers competition to include the Russian Federation and the People's Republic of China. The committee also believes that this great powers competition will heavily rely on our naval force structure to optimally address Russia and China in both the Pacific and the Arctic, as well as impending tensions with the Iranian regime in the Persian Gulf. The committee believes that it is imperative to include a larger long-term force structure to address these global challenges. The committee also believes that to ensure a continued projection of naval power around the world, the Navy should include in their forthcoming 2019 Force Structure Assessment necessary vessels to address sufficient operations in the Arctic. Therefore, the committee directs the Secretary of the Navy to brief the House Committee on Armed Services by December 31, 2019 regarding the force structure plan to compete with adversaries in the Pacific and Arctic Oceans and the Persian Gulf. This briefing should also address the defense in-

dustrial base and any associated maritime sector weaknesses that need to be addressed to support the expanded force structure.

John Lewis fleet oiler replenishment ships

The budget request included \$1.1 billion for procurement of the *John Lewis* (T-AO) class fleet replenishment oiler. The committee continues to be supportive of the Navy's plan to procure the T-AO oilers. This ship will operate as the primary fuel pipeline from resupply ports to station ships, providing replenishment of bulk petroleum products, dry stores/packaged cargo, fleet freight, mail, and personnel to combatants and support forces underway. As a secondary mission, the T-AO will accompany and stay on-station with the carrier strike group to provide replenishment as required to customer ships. This ship will be a critical leg of the Navy's logistical framework. The committee understands that the Navy chose to accelerate the procurement of one T-AO from fiscal year 2021 to fiscal year 2020 but due to long lead procurement items, this ship will not start construction until 2021.

Therefore, the committee recommends \$607.2 million, a reduction of \$447.0 million, for the T-AO program.

MK 18 unmanned underwater vehicle

The committee is encouraged by the Navy's ongoing efforts to explore, demonstrate, and prove the utility of unmanned underwater vehicles (UUVs) across multiple concepts of operation. The committee recognizes that the MK 18 program is a scalable and modular, open system architecture vehicle that is currently conducting operations and being equipped with the sensors that could allow it to perform additional U.S. Navy mine countermeasures UUV missions. Furthermore, the MK 18 could be adapted via the engineering change proposal process to meet numerous emerging technical needs that could satisfy cross-domain requirements. The Navy is strongly encouraged to assure consideration of cross-domain employment of UUVs in this critical mission area.

Naval Oceanographic Office vessel requirements

The committee notes that the Naval Oceanographic Office (NAVOCEANO) operates seven oceanographic ships. These seven ships are designated the T-AGS 60 class and are designed to provide multipurpose oceanographic capabilities in coastal and deep-ocean areas for NAVOCEANO. The committee is aware of existing commercial advances in autonomous survey vessel technology and notes that there are unmanned vessels currently being used to support surveying and other important commercial hydrography and oceanography missions. The committee is concerned that the Navy is not taking advantage of commercially available autonomous vessel technologies to facilitate its charting and mapping missions. The committee believes employment of an autonomous survey ship by the Navy Oceanographic Office would result in dramatic savings in both procurement and operation and maintenance costs while increasing the rate at which uncharted portions of the ocean floor become accurately mapped. The use of existing unmanned surface vessel (USV) designs and technology for an autonomous survey vessel would also allow the Navy to rapidly gain valuable experience in the operational use of USVs in a low threat environment.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by March 1, 2020, that includes NAVOCEANO's ship requirements and an assessment of the opportunities to modernize this fleet to support autonomous operations.

Navy Cyclone-class patrol craft replacement

The committee notes that the legacy Cyclone-class patrol vessels located in Bahrain are being decommissioned and eventually replaced with the littoral combat ship. The committee is aware that the U.S. Coast Guard's Sentinel-class fast response cutter is in serial production and that the U.S. Coast Guard is pursuing a 64-vessel program of record. The committee believes that there is merit in reviewing all available options to replace the Cyclone-class patrol vessels.

Therefore, the committee directs the Secretary of the Navy to submit a report to the congressional defense committees not later than February 1, 2020, that assesses options for the replacement of the Cyclone-class patrol vessels. Specifically, this report shall include a comparison of the Cyclone-class patrol vessels, Independence variant littoral combat ship, Freedom-class variant littoral combat ship, the Sentinel-class fast response cutter, and larger surface combatants in terms of one-time procurement costs, annual recurring personnel costs, and annual recurring maintenance costs. Additionally, this report shall assess the ability to meet the mission requirements of the current patrol craft. This report may include a classified annex.

Navy study on lethality of surface combatant ships against swarm technology

The committee is concerned that the Navy may be assuming too much risk with respect to the development of swarm tactics by adversaries. The committee directs the Secretary of the Navy to conduct a study on the lethality of surface combatant ships, both large and small against swarm technology, and deliver a report to Congress not later than January 1, 2021. Such study shall include each of the following at a minimum:

(1) a threat analysis of current threat capabilities from foreign adversaries regarding swarm tactics using manned or unmanned aerial vehicles, unmanned underwater vehicles, and unmanned surface vehicles within ten nautical miles of coast line, sea ports and adversary ships;

(2) a description of the current capabilities used by the Navy that have the capability or are designed specifically to counter swarm technology through kinetic means; electronic warfare; or directed energy; and

(3) a description of future requirements for large and small surface combatant ships, including the capability of defending against swarm tactics and advancing technology; the capability of engaging swarm targets from port and starboard sides with the same effects as the bow; the capability of adding additional systems onto the hull of a surface combatant ship, both large and small, to enhance lethality against swarm and other threats; and a comparison between directly manned weapon systems and remote weapon stations.

Report on operational energy planning assumptions for the future surface combatant

The committee understands that hybrid electric drive (HED) propulsion systems provide both greater efficiency and extended range. Equally important, such drives provide the power needed for future weapons systems that will be used on U.S. Navy vessels, and often come with lower life-cycle costs than conventional propulsion systems. Given these benefits, the committee believes the Navy should be pursuing HED propulsion systems more aggressively, to include consideration on the future large surface combatant.

The committee directs the Secretary of the Navy to provide a report to the House Committee on Armed Services not later than February 1, 2020, on the propulsion systems being considered for the future surface combatant. In addition to describing the type of system, for example, integrated propulsion and hybrid electric drive, the report shall include initial cost, life-cycle cost, range, and the system's ability to provide adequate power for future weapons systems including directed energy and rail gun. The report should also include potential opportunities to prototype new propulsion systems in order to accelerate the technology, and field a more mature system that can be integrated into a ship.

Virginia-class submarine

The committee has heard consistent testimony from combatant commanders about the important role that the attack submarine fleet plays in persistent operations around the world and in potential conflict scenarios against near-peer competitors. The committee has also repeatedly expressed concern about the current and looming shortfall in the Navy's attack submarine fleet. The 2016 Force Structure Assessment increased the required force structure of attack submarines from 48 to 66, the largest increase of any ship type in the assessment. At the same time, the fiscal year 2020 30-year shipbuilding plan shows that the attack submarine force will experience the largest and most persistent gap below its required level between fiscal year 2020 and fiscal year 2049, reaching a low of 42 submarines in 2027.

The committee has heard testimony from Department of the Navy leadership on the benefits that increasing Virginia-class submarine production would have on the submarine industrial base. Navy leadership has testified that the industrial base has existing capacity to handle the increased workload as indicated in the fiscal year 2019 and fiscal year 2020 30-year shipbuilding plans. Navy leadership has testified that strengthening the submarine industrial base through increasing Virginia-class submarine procurement above the two-per-year build rate will be beneficial for the Columbia-class submarine program through increased capacity in advance of serial production beginning in the mid-2020s and addressing potential workload and workforce gaps in early procurement years. Navy leaders have also testified that the Virginia-class submarine program is among the best-performing acquisition programs in the Department of Defense. Therefore, the committee highly supports the addition of a third submarine in fiscal year 2020 and believes there are additional savings that can be achieved across the class due to the increase in economic order quantity.

PROCUREMENT, MARINE CORPS

Items of Special Interest

Rapid acquisition of Rifle Integrated Controller

The committee understands the Marine Corps is currently evaluating a rifle accessory control unit (RACU) using a two-phase process through the Marine Corps Foreign Comparative Test (FCT) program that should result in fielding capability improvements in the operational performance and close-combat lethality of individual marines. The committee understands the phase 2 evaluation should conclude by the end of fiscal year 2019 and that the Marine Corps will use the information and data gathered during the FCT program to inform future requirements. The committee recognizes the challenges that exist for an individual marine to operate separate situational awareness, communications, target designators, thermal sights, and other battle management devices and notes a RACU system would consolidate these disparate capabilities into one unified capability.

The committee expects the Marine Corps to expeditiously complete the phase 2 evaluation and, subject to a successful evaluation, expects the capability to result in a validated requirement. The committee encourages the Commandant of the Marine Corps to consider a rapid acquisition strategy to accelerate the operational testing, procurement, and fielding of a RACU utilizing existing acquisition reform authorities.

AIRCRAFT PROCUREMENT, AIR FORCE

Items of Special Interest

A-10 aircraft

The budget request contained \$168.9 million for A-10 aircraft modifications and upgrades, of which \$100.0 million was included for the new A-10 wing replacement program to begin procurement of 112 sets of additional wings. This procurement would retrofit the remaining A-10 fleet giving the Air Force a total of 281 A-10 aircraft to 2030 and beyond.

The committee continues to believe that sustainment of the 281-aircraft A-10 fleet provides the Air Force a cost- and mission-effective close air support capacity and capability that will meet joint force requirements. The committee recognizes that A-10 fleet modernization requires future display system upgrades for better identification of friendly and enemy forces. Additional modernization also requires updates to weapon delivery and management systems, along with an upgraded electronic warfare suite, that will keep pace with advancements in threat surface-to-air technology and provide better protection for pilots. Finally, the committee encourages the Air Force to explore upgraded communications systems with improved interconnectivity and security to support data-gathering enhancements for aircraft and engine structural integrity monitoring.

The committee looks forward to receiving the test and evaluation report from the Director, Operational Test and Evaluation regarding the F-35A and A-10C test comparison required by section 134 of the National Defense Authorization Act for Fiscal Year 2017

(Public Law 114–328). The committee recalls that the committee report accompanying the National Defense Authorization Act for Fiscal Year 2019 (H. Rept. 115–676) required the Secretary of the Air Force to submit a report to the House Committee on Armed Services on the cost of the additional 112 A–10 replacement wings using a second contract compared to the cost of exercising the option to procure the 112 A–10 replacement wings on the original contract. The committee understands that this report will be made available after the new contract for A–10 wings is awarded later in fiscal year 2019. Finally, the committee encourages the Secretary of the Air Force to consider a multiyear contracting strategy for the next wing replacement program that could achieve significant cost savings for the A–10 wing replacement program.

Air National Guard F–16 Radar Upgrades

The committee recognizes that F–16s will remain a critical component of the Air National Guard (ANG) inventory through the 2040s making it essential to maintain the operational viability of these aircraft. The committee further recognizes that Active Electronically Scanned Array (AESA) radar upgrades for the F–16 make the aircraft more survivable and lethal in a combat environment when deployed, provides increased capability for homeland defense and aerospace control alert missions, as well as reduces maintenance and logistics challenges.

The committee strongly supports continuing the F–16 AESA radar upgrades for both the Air Force and ANG, including the use of National Guard and Reserve Equipment Account funding referenced elsewhere in this Act. Furthermore, the committee directs the Chief of Staff of the Air Force, in coordination with the Chief of the National Guard Bureau, to provide a report to the House Armed Services Committee not later than February 1, 2020, that details an operational risk assessment, requirements determination, and acquisition and fielding strategy with associated funding profiles for upgrading the ANG’s F–16s with AESA radars.

B–1 readiness recovery plan

The committee notes that the nation’s ability to meet its long-range precision strike requirements may be placed at increased risk by aging structural problems with the B–1 bomber aircraft. The committee is concerned B–1 readiness does not have the priority and resources to improve B–1 mission capable rates. This is evidenced by fully mission capable aircraft currently in single digits and aircrew being rerouted from flying the B–1 to other aircraft due to lack of B–1 aircraft for training.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, on the Air Force’s current plans to increase the readiness of the B–1 that shall include the following elements:

- (1) aircraft structural issues;
- (2) plan for continued structural deficiency data analysis and testing;
- (3) projected repair timelines; and
- (4) future mitigation strategies.

Additionally, this briefing shall include the following information during any B-1 degradation period:

- (1) pilot and maintainer training plan; and
- (2) recovery timeline to meet future deployment tasking.

B-2 Spirit Defensive Management System

The committee continues to support the B-2 Defensive Management System Modernization (DMS-M) program and notes the importance of this program to ensuring that our nation's only operational stealth bomber remains mission effective. DMS-M is the largest upgrade in the B-2's history and is essential to maintaining the aircraft's survivability by ensuring the fleet remains effective against modern integrated air defense systems. This upgrade is critically needed to guarantee that the nation's premier strike platform can hold at risk the most heavily defended targets and deter aggression anywhere in the world.

The committee is concerned, however, about the significant DMS-M schedule delays and many substantial challenges highlighted in a recent Defense Digital Service Discovery Sprint report. Unless the B-2 DMS-M program makes significant changes there may continue to be delays that will impact the success of the program. During testimony at a Seapower and Projection Forces subcommittee hearing on March 14, 2019, the Air Force confirmed its commitment to the DMS-M program, and the committee agrees that the program is necessary to ensure the B-2 can operate in all future environments.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services by February 28, 2020, on its efforts to address the major areas of concern across the DMS-M program identified by the Defense Digital Service. Such brief shall include the associated schedule and closure plan to address the following items: sufficient government software development expertise; contract definitization schedule; delivery schedule; determination of software baseline; and assessment of related program support of DMS-M.

C-130H aircraft propellers and engines

The committee notes that the C-130H aircraft that are flown primarily by the Air National Guard and Air Force Reserve continue to provide critical tactical airlift capabilities and will continue to support this mission for years to come. The committee is disappointed with the amount of time it has taken for the Air Force to address a safety of flight issue with the legacy propeller system of the C-130H. The inherent danger associated with legacy propellers came to light in the mishap report from the KC-130T Hercules aircraft of the United States Marine Corps Reserve that crashed in Leflore County, Mississippi, killing 17 service members. The Air Force convened an additional review board which identified a potential hazard with propellers that were produced before 1971. This review appears arbitrary considering that the failed blade on the Marine Corps mishap C-130T was manufactured in 1983.

Procurement of new composite propeller blades is the obvious solution to this serious safety of flight and readiness issue. The Air Force has moved slowly in addressing the issue and still refers to the propeller upgrade as a performance enhancement and not a

safety requirement. A new composite blade would also decrease maintenance time and improve logistics support, which will result in increased readiness. Delays are unacceptable considering the inherent safety of flight and readiness risks surrounding this issue.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services by October 31, 2019, on the long-awaited acquisition strategy for procuring new blades. This plan should include estimated costs, timelines, and a unit upgrade schedule, as well as a plan to expedite procurement for squadrons scheduled to deploy in CY2020. The briefing should also include the Air Force plan to incorporate C-130H T-56 Series 3.5 Engine Enhancement Packages. Congress has repeatedly added additional funds for these upgrades and the Air Force has yet to budget for them despite the demonstrated performance benefits and fuel efficiencies.

E-8 Joint Surveillance Target Attack Radar System re-engineering program

The budget request included \$28.7 million for the E-8C Joint Surveillance Target and Attack Radar System (JSTARS) but no funding to address re-engineing.

The committee understands that recently-completed analyses of the E-8C JSTARS platform updated and extended the service life projection concluding that the JSTARS fleet can operate well into the 2030s and potentially beyond. As such, the committee supports the requested funding for E-8C JSTARS modernization and sustainment as necessary to ensure that the platform remains operational and capable for the remainder of its service life. However, the committee is concerned that the funding requested in the fiscal year 2020 Air Force budget fails to address the E-8C propulsion system, which the committee understands is the number one issue driving excessive non-mission capable maintenance metrics for the fleet. The committee is concerned that, without a substantive solution, issues associated with the propulsion system will continue to drive up costs and hinder availability.

The committee recommends \$56.7 million, an increase of \$28.0 million, in Aircraft Procurement, Air Force, for JSTARS re-engineing.

F-15C/F-15EX

The budget request contained \$1.1 billion for development and procurement of eight F-15EX aircraft.

Air Force officials testified before the Subcommittee on Tactical Air and Land Forces on May 2, 2019, about their concerns with the current tactical aircraft inventory capacity and capability to fully execute and support the air superiority mission as required by the 2018 National Defense Strategy. The committee notes that the Air Force's capacity and capability concerns are based on the combination of having procured only 187 F-22 aircraft compounded by the earlier than expected deterioration of the current fleet of F-15C aircraft, which the F-22 was intended to replace. The Air Force testified that two-thirds of the F-15C fleet is past its certified service life and that 13 percent of the combat-coded aircraft are grounded due to failed aircraft structural integrity inspections. The committee understands that the Air Force considered a range of op-

tions to mitigate the identified capability and capacity gaps for the air superiority mission, to include extending the service life of the F-15C fleet and increasing the production rate of F-35A aircraft.

The committee notes that analysis by the Department of Defense determined that a service life extension on the F-15C fleet would provide a limited return on investment for the amount of financial and other resources required to complete a successful life extension program to address the known structural integrity and mission systems issues or the cost and schedule risk associated with emergent fleet issues that are unknown but may be identified as each aircraft enters the service life inspection and extension program. The committee notes that the Navy realized unexpected and excessive cost and schedule growth during the service life extension program for the legacy fleet of F/A-18A/B/C/D aircraft.

The committee understands that the Department's analysis evaluated increasing F-35A production quantities but determined that although the F-35A and F-15EX aircraft have similar procurement costs, the difference in operations and sustainment costs between the two aircraft is notable. Furthermore, the committee notes that the Department's analysis evaluated other aspects of current performance related to the F-35A program outlined by the committee elsewhere in this title and that the Department decided to forego this option due to affordability concerns.

Therefore, the committee supports the Department's decision to procure the F-15EX aircraft to mitigate warfighter risk and to fill current and projected air superiority mission gaps. Additionally, the committee includes a provision elsewhere in this title that would require the Secretary of Defense to designate the F-15EX program as a major program within the F-15 program element, and would require the Secretary to provide additional acquisition documentation to the congressional defense committees before proceeding apace with procurement of F-15EX aircraft.

MQ-9 Reaper funding profile

The committee notes that the procurement profile for the MQ-9 Reaper unmanned aerial system includes inconsistent quantities from year to year. The committee understands that uneven, unpredictable procurement quantities create production inefficiencies and increase program costs. For example, the fiscal year 2020 budget request shows MQ-9 unit cost rising from \$15.8 million in fiscal year 2019 to over \$22.0 million in fiscal year 2020. The committee is concerned by these inefficiencies and encourages the Air Force to budget appropriately in the Future Years Defense Program for stable, predictable procurement quantities for the MQ-9 Reaper.

Tanker force structure and modernization

The committee notes that the Department of Defense Mobility Capability Requirement Study identified a tanker force structure inventory requirement of 479 aircraft. Integral to this capability is the delivery of mission capable KC-46A aircraft and the continued development of additional tanker aircraft after the expiration of the current KC-46A contract with lot 13 in 2027. The committee notes that the Secretary of the Air Force has completed a capability-based assessment and signed out the initial capability document for the requirements associated with the next-generation tanker,

but has not started an analysis of alternatives. The committee believes that the Secretary of the Air Force has several viable options to ensure future tanker capability, to include acquiring a non-developmental commercial derivative tanker while “bridging” from the end of the KC-46A production to the new developmental tanker.

Therefore, the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees by September 30, 2020, on a 30-year vision for the tanker force structure. The report shall include the following:

- (1) the current KC-46A tanker acquisition timeline through lot 13;
- (2) future tanker production options to include an acquisition timeline comparison of a “bridging” non-developmental commercial derivative tanker and new tanker development; and
- (3) modernization options for the entire tanker force structure through the 30-year vision timeline.

Additionally, the committee continues to support the fixed-price development and production of the KC-46A contract. The committee believes that there have been several lessons learned with unique fixed-price type contracts that were employed in this contract. Therefore, in accordance with a recommendation included in the Government Accountability Office (GAO) report entitled “KC-46 Tanker Modernization: Aircraft Delivery Has Begun, but Deficiencies Could Affect Operations and Will Take Time to Correct” (GAO-19-480), the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees by March 1, 2020, on the lessons learned regarding the utilization of a fixed-price contract for development.

PROCUREMENT, DEFENSE-WIDE

Items of Special Interest

F-35 Joint Strike Fighter program

The budget request contained \$10.3 billion for the procurement of 78 F-35 aircraft, and associated spares, modifications, depot activations, and advanced procurement for fiscal year 2021 aircraft for the Air Force, Navy, and Marine Corps. The budget request contained \$1.6 billion for research and development related to the conclusion of system design and development, deployability and suitability initiatives, Block 4 and Continuous Capability Development and Delivery (C2D2), and dual-capable aircraft efforts. The committee notes that the unfunded priority lists for the Air Force, Navy, and Marine Corps contained 12 F-35A, 2 F-35C, and 2 F-35B/2 F-35C aircraft, respectively.

The committee supports the F-35 program and believes it is a necessary and essential capability within the tactical aircraft portfolio for the United States and its foreign partners and allies. The committee is concerned, however, that many substantial challenges are unresolved across the F-35 system enterprise as was highlighted in two recent Government Accountability Office reports (GAO-19-321 and GAO-19-341) as well as during testimony at the May 2, 2019, Subcommittee on Tactical Air and Land Forces hearing on Air Force acquisition and modernization programs. It is

clear that unless the F-35 program can demonstrate measurable progress in reducing costs and inefficiencies associated with the production line, concurrency with new parts procurement and fielded parts repairs, global supply chain management and distribution activities, operations and sustainment costs, the Autonomic Logistics Information System, and Block 4 development and subsequent fielding utilizing the C2D2 construct, the Department of Defense and other F-35 partners and customers may not be able to achieve total inventory objective requirements. The committee is also concerned about the F-35 program's readiness to achieve a favorable full-rate production review scheduled at the end of 2019. The program may not be demonstrating satisfactory control of manufacturing processes and production line efficiencies, acceptable performance and reliability related to post-production activities and validated requirements, and adequate and effective sustainment and support systems in place to meet demands of all F-35 customers.

Consequently, the committee includes three provisions elsewhere in this title that would authorize the F-35 program to procure economic quantities of production material to reduce costs; increase congressional oversight and program transparency related to costs for capability development and fielding; and ensure that the F-35 program has established suitable, measurable, and achievable performance metrics across various elements of the program.

Mitigation of military aviation physiological incidents

The budget request for the Department of the Navy contained \$278.0 million to address physiological episode (PE) mitigation and repairs for the Naval Aviation Enterprise, and the total funding included in the 2020 to 2024 Future Years Defense Program for the Department of the Navy is \$788.4 million. The budget request for the Department of the Air Force contained \$6.9 million in PE64706F for life support systems to address physiological episode mitigation for the Air Force aviation enterprise. The committee understands the Air Force plans to request reprogramming authority during fiscal year 2019 to realign \$87.1 million for procurement of the Enhanced On-Board Oxygen Generation System for 445 T-6 training aircraft.

The committee commends the ongoing efforts of the Department of the Navy to address modifications to F/A-18 aircraft to mitigate PEs and notes that it has been designated as the number one safety priority to resolve within the Naval Aviation Enterprise. The committee notes these efforts include replacement of the F/A-18 cockpit altimeter; upgrade of the F/A-18 On-Board Oxygen Generation System (OBOGS); redesign of the F/A-18 aircraft life support systems required to meet OBOGS input specifications; and installation of equipment associated with improved F/A-18 physiological monitoring and alert systems.

The committee is aware that since approximately 2010, the Air Force has experienced increases in the rate of physiological episodes affecting aircrew in the F-22, F-15C, F-35A, and T-6A aircraft. The committee notes the Air Force Physiological Episodes Action Team assessed that for more than a decade, the Air Force has underinvested in basic aerospace physiology science, research, and development. While the Air Force has made progress in some areas

of human-machine-environment interface during that time period, other areas were not as well studied, which left gaps in Air Force data resulting in limited understanding of aircrew life support requirements related to PE for aircrew flying high-performance tactical aircraft.

Therefore, the committee directs the Secretary of the Air Force, in consultation with the Secretary of the Navy, to provide a briefing to the House Committee on Armed Services not later than March 1, 2020, that determines the availability and feasibility of procuring PE sensor devices in pilot helmets that warn of imminent incapacitation and can also collect and report data on human performance during flight.

LEGISLATIVE PROVISIONS

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Section 101—Authorization of Appropriations

This section would authorize appropriations for procurement at the levels identified in section 4101 of division D of this Act.

SUBTITLE B—NAVY PROGRAMS

Section 111—Modification of Annual Report on Cost Targets for Certain Aircraft Carriers

This section would amend section 126(c) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114–328), that requires an annual report on cost reduction efforts for CVN–79 and CVN–80. This section would amend Public Law 114–328 to include CVN–81, and reflect changes made to the cost cap language.

Section 112—Repeal of Requirement to Adhere to Navy Cost Estimates for Certain Aircraft Carriers

This section would repeal section 122 of the John Warner National Defense Authorization Act for Fiscal Year 2007 (Public Law 109–364), as amended by section 121 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113–66), section 122 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114–92), and section 121(a) of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115–91).

Section 113—Ford Class Aircraft Carrier Support for F–35C Aircraft

This section would require the Secretary of the Navy to ensure that the aircraft carrier to be designated CVN–79 is capable of deploying with the F–35 prior to accepting delivery.

Section 114—Prohibition on Use of Funds for Reduction of Aircraft Carrier Force Structure

This section would limit the Secretary of Defense from reducing the aircraft carrier force structure below the level required by section 5062 of title 10, United States Code.

The committee continues to believe that the nation’s preeminent power projection capability is embodied with the aircraft carrier

strike group. The ability to rapidly relocate a strategic asset and launch long-range, deep penetrating strike from a location that is not hampered by sovereign limitations represents the linchpin in our nation's national security. The committee concurs with the Navy's assessment that the aircraft carrier is more survivable today than at any point in the last 75 years.

The committee continues to support an expansion of the aircraft carrier force structure to obtain the Navy's requirement of 12 aircraft carriers. The committee is supportive of the two-carrier procurement authorized in section 121 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232) and is supportive of further efforts to reduce the span between aircraft carrier construction.

Additionally, the budget request contained no funds for the Refueling and Complex Overhaul (RCOH) of the USS Harry S. Truman. The committee is encouraged that the administration reversed its recommendation to retire the USS Harry S. Truman before the planned RCOH and agrees with the overwhelming view within Congress that maintaining this strategic asset for another 25 years is crucial to national security. Therefore, the committee recommends \$17.0 million to begin procurement of the long lead items associated with the USS Harry S. Truman RCOH.

Section 115—Design and Construction of Amphibious Transport Dock Designated LPD–31

This section would authorize the Secretary of the Navy to enter into a contract for the amphibious transport dock ship designated LPD–31. Additionally, the Secretary would be authorized to use incremental funding authority to complete the construction.

Section 116—Limitation on Availability of Funds Pending Quarterly Updates on the CH–53K King Stallion Helicopter Program

This section would limit obligation or expenditure of 50 percent of the procurement funds for the CH–53K King Stallion helicopter until 30 days after the Secretary of the Navy provides the House Committee on Armed Services the first required quarterly briefing on program status and resolution of technical deficiencies as compared to the CH–53K joint integrated program schedule. This section does not apply to any funds authorized to be appropriated by this Act for the development of the CH–53K.

Section 117—Limitation on Availability of Funds for VH–92A Helicopter

This section would limit the fiscal year 2020 available funding for the VH–92A helicopter to no more than 75 percent until the Secretary of the Navy provides the House Committee on Armed Services a report on the program's status. This report must include the estimated impact of relocating the aircraft manufacturing process on the manufacturing readiness level, cost, schedule, and sustainment of the program.

Section 118—National Defense Reserve Fleet Vessel

This section would direct the Secretary of the Navy to enter into a contract for one sealift vessel, subject to certain requirements.

SUBTITLE C—AIR FORCE PROGRAMS

Section 121—Modification of Requirement to Preserve Certain C-5 Aircraft

This section would amend section 141(d) of the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112–239) to reinstate the requirement for the Secretary of the Air Force to continue to preserve certain C-5 aircraft in a storage condition that would allow a recall of retired aircraft to future service in the Air Force Reserve, Air National Guard, or Active Force structure.

Section 122—Modification of Limitation on Use of Funds for KC-46A Aircraft

This section would amend section 146 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115–232), to limit the use of funds for KC-46A aircraft pending submittal of certification, to include a military flight release.

Section 123—F-15EX Aircraft Program

This section would require the Secretary of Defense to designate the F-15EX program as a major subprogram and subject it to relevant reporting requirements and criteria pertinent to a major subprogram. The section would allow the Secretary of the Air Force to procure two F-15EX aircraft for prototype development but would prohibit the procurement of any additional aircraft until 30 days after the Secretary submits F-15EX program plans for development, acquisition, and fielding to the congressional defense committees.

Section 124—Prohibition on Availability of Funds for Reduction in KC-10 Primary Mission Aircraft Inventory

This section would prohibit the retirement of any primary inventory KC-10 aircraft in fiscal year 2020.

Section 125—Limitation on Availability of Funds for VC-25B Aircraft

This section would prohibit the Secretary of the Air Force from obligating or expending any funds to exercise the over-and-above clause of the VC-25B contract until the Secretary submits a certification to the congressional defense committees.

Section 126—Limitation on Availability of Funds for Retirement of RC-135 Aircraft

This section would prohibit any use of funds authorized to be appropriated in fiscal year 2020 for the Air Force to retire, or prepare to retire, any RC-135 aircraft until 60 days after the date on which the Secretary of Defense certifies to the congressional defense committees that equivalent RC-135 capacity and capability exists to

meet combatant commander requirements for indications and warning, intelligence preparation of the operational environment, and direct support to kinetic and non-kinetic operations.

Section 127—Report on Aircraft Fleet of the Civil Air Patrol

This section would require the Secretary of the Air Force to submit a report to the congressional defense committees not later than 90 days after the date of the enactment of this Act on the Civil Air Patrol (CAP) that identifies and assesses the suitability of the current CAP aircraft fleet size, types of aircraft, and operating locations to meet mission requirements.

SUBTITLE D—DEFENSE-WIDE, JOINT, AND MULTISERVICE MATTERS

Section 131—Economic Order Quantity Contracting and Buy-to-Budget Acquisition for F-35 Aircraft Program

This section would authorize the Secretary of Defense to procure economic order quantities of material and equipment for the F-35 program. This section would also authorize the Secretary to procure F-35 aircraft exceeding the quantity otherwise authorized by this Act if procurement of additional aircraft would not require additional funds to be authorized or appropriated.

Section 132—Program Requirements for the F-35 Aircraft Program

This section would require the Secretary of Defense to designate Block 4 capability as a major subprogram of the F-35 program and subject Block 4 to relevant reporting requirements and criteria pertinent to a major subprogram. This section would require the Secretaries of the Air Force and the Navy to develop a joint service cost position for F-35 life-cycle costs, and require the Director, Cost Assessment and Program Evaluation to develop an independent life-cycle cost estimate for comparison. This section would also require the Secretary of Defense to revise the Department of Defense's program element structure for F-35 beginning with the fiscal year 2021 President's budget request and subsequent budget requests to provide sufficient transparency regarding future F-35 costs. Finally, this section would require the Comptroller General of the United States to provide an annual report for five consecutive years, submitted each year not later than 30 days after the President's annual budget submission to Congress, that reviews the F-35 program.

Section 133—Reports on F-35 Aircraft Program

This section would require the Secretary of Defense to provide reports to the congressional defense committees on F-35 reliability and maintainability metrics, Block 4 capability development and fielding activities, and modernization and upgrade plans for the F-35 Autonomic Logistics Information System.