

**H.R. 5515—FY19 NATIONAL DEFENSE
AUTHORIZATION BILL**

**SUBCOMMITTEE ON TACTICAL AIR
AND LAND FORCES**

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DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

LEGISLATIVE PROVISIONS

SUBTITLE B—ARMY PROGRAMS

Section 111—National Guard and Reserve Component Equipment Report

This section would modify the annual National Guard and Reserve Component Equipment report, as required by section 10541 of title 10, United States Code, to include an assessment by the Chief of Staff of the Army and the Chief of the National Guard Bureau regarding modernization equipment parity between the active component, Army Reserve, and Army National Guard.

Section 112—Limitation on Availability of Funds for M27 Infantry Automatic Rifle Program

This section would limit the obligation or expenditure of 20 percent of the funds for the Marine Corps M27 infantry automatic rifle program until the Commandant of the Marine Corps provides an assessment of the Marine Corps views on the Army's Small Arms Ammunition Configuration Study, and whether the outcomes of this study are informing future small arms procurement for the Marine Corps. The assessment shall also include details regarding the Marine Corps near- and long-term small arms modernization strategy.

SUBTITLE C—NAVY PROGRAMS

Section 125—Multiyear Procurement Authority for F/A–18E/F Aircraft and EA–18G Aircraft

Subject to section 2306b of title 10, United States Code, this section would authorize the Secretary of the Navy to enter into one or more multiyear contracts, beginning with the fiscal year 2019 program year, for the procurement of F/A–18E/F aircraft and EA–18G aircraft.

Section 126—Modifications to F/A–18 Aircraft to Mitigate Physiological Episodes

This section would require the Secretary of the Navy to modify the F/A-18 aircraft to reduce the occurrence of, and mitigate the risk posed by, physiological episodes affecting crewmembers of the aircraft, and require the Secretary to include certain minimum modifications, and submit to the congressional defense committees a written update on the status of all modifications to the F/A–18 aircraft

carried out pursuant to this section not later than February 1, 2019, and annually thereafter through February 1, 2021.

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

Section 151—Certification on Inclusion of Technology to Minimize Physiological Episodes in Certain Aircraft

This section would require that not later than 15 days before entering into a contract for the procurement of a covered aircraft, the Secretary concerned would submit to the congressional defense committees a written statement certifying that the aircraft to be procured under a contract would include the most recent technological advancements necessary to minimize the impact of physiological episodes on aircraft crewmembers.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

LEGISLATIVE PROVISIONS

SUBTITLE B—PROGRAM REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

Section 214—Limitation Pending Certification on the Joint Surveillance Target Attack Radar System Recapitalization Program

This section would restrict obligation of funding for the Advanced Battle-Management System (ABMS) of Systems initiative of the Department of the Air Force, as well as a portion of the proposed divestment of legacy E-8C aircraft contained in the fiscal year 2019 budget request. The restriction would remain in effect until the Secretary of the Air Force certifies to the congressional defense committees that the Joint Surveillance Target Attack Radar System (JSTARS) Recapitalization (Recap) program, as submitted and described in the fiscal year 2018 budget request, is proceeding unhindered with originally planned activities associated with engineering, manufacturing, and development; low-rate initial production; production; and initial contractor support. This section also would require the Comptroller General of the United States to provide a report to the congressional defense committees that assesses the acquisition strategy associated with ABMS, and would require the Secretary of the Air Force to submit a report to the congressional defense committees that includes a strategy for accelerating the JSTARS Recap program, while also managing appropriately the legacy fleet of E-8C aircraft.

Section 215—Limitation on Availability of Funds for F-35 Continuous Capability Development and Delivery

This section would limit the obligation or expenditure of 25 percent of the funds for the F-35 continuous capability development and delivery program until 15 days after the Secretary of Defense provides the congressional defense committees a detailed cost estimate and baseline schedule for the program. This section does not apply to any funds authorized to be appropriated by this Act for the development of F-35 dual capable aircraft capability.

Section 216—Limitation on Availability of Funds Pending Report on Agile Software Development and Software Operations

This section would temporarily restrict funding for software development efforts that use agile development and operations methodology until the Secretary of the Air Force provides a report to the congressional defense committees that describes the cost-estimation tools, the types of contracts, and the mitigation efforts to avoid duplicative development related to the strategy for modernizing and upgrading existing software at worldwide Air Force Air Operations Centers.

SUBTITLE C—REPORTS AND OTHER MATTERS

Section 222—Report on T-45 Aircraft Physiological Episode Mitigation Actions

This section would require the Secretary of the Navy to submit a report to the congressional defense committees by March 1, 2019, on modifications made to T-45 aircraft and associated ground equipment to mitigate the risk of physiological episodes among T-45 aircraft crewmembers, and would require the Secretary include certain elements in such report.

Section 223—Report on Efforts of the Air Force to Mitigate Physiological Episodes Affecting Aircraft Crewmembers

This section would require the Secretary of the Air Force to submit a report to the congressional defense committees by March 1, 2019, on all efforts of the Air Force to reduce the occurrence of, and mitigate the risk posed by, physiological episodes affecting crewmembers of covered aircraft and would require the inclusion of certain elements in such report. In this section, the term “covered aircraft” would mean F-35A aircraft of the Air Force, T-6A aircraft of the Air Force, and any other aircraft of the Air Force as determined by the Secretary of the Air Force.

BILL LANGUAGE

1 **Subtitle B—Army Programs**

2 **SEC. 111 [Log 67688]. NATIONAL GUARD AND RESERVE**
3 **COMPONENT EQUIPMENT REPORT.**

4 (a) IN GENERAL.—Section 10541(b) of title 10,
5 United States Code, is amended by adding at the end the
6 following new paragraph:

7 “(10) A joint assessment by the Chief of Staff
8 of the Army and the Chief of the National Guard
9 Bureau on the efforts of the Army to achieve parity
10 among the active component, the Army Reserve, and
11 the Army National Guard with respect to equipment
12 and capabilities. Each assessment shall include a
13 comparison of the inventory of high priority items of
14 equipment available to each component of the Army
15 described in preceding sentence, including—

16 “(A) AH–64 Attack Helicopters;

17 “(B) UH–60 Black Hawk Utility Heli-
18 copters;

19 “(C) Abrams Main Battle Tanks;

20 “(D) Bradley Infantry Fighting Vehicles;

21 “(E) Stryker Combat Vehicles; and

22 “(F) any other items of equipment identi-
23 fied as high priority by the Chief of Staff of the
24 Army or the Chief of the National Guard Bu-
25 reau.”.

1 (b) **EFFECTIVE DATE.**—The amendment made by
2 subsection (a) shall apply with respect to reports required
3 to be submitted under section 10541 of title 10, United
4 States Code, after the date of the enactment of this Act.

1 **SEC. 112 [Log 67284]. LIMITATION ON AVAILABILITY OF**
2 **FUNDS FOR M27 INFANTRY AUTOMATIC**
3 **RIFLE PROGRAM.**

4 (a) **LIMITATION.**—Of the funds authorized to be ap-
5 propriated by this Act or otherwise made available for fis-
6 cal year 2019 for the M27 Infantry Automatic Rifle pro-
7 gram of the Marine Corps, not more than 80 percent may
8 be obligated or expended until the date on which the Com-
9 mandant of the Marine Corps submits to the Committees
10 on Armed Services of the Senate and the House of Rep-
11 resentatives the assessment described in subsection (b).

12 (b) **ASSESSMENT.**—The assessment described in this
13 subsection is a written summary of the views of the Ma-
14 rine Corps with respect to the Small Arms Ammunition
15 Configuration Study of the Army, including—

16 (1) an explanation of how the study informs the
17 future small arms modernization requirements of the
18 Marine Corps; and

19 (2) near-term and long-term modernization
20 strategies for the small arms weapon systems of the
21 Marine Corps, including associated funding and
22 schedule profiles.

1 **SEC. 125 [Log 67233]. MULTIYEAR PROCUREMENT AUTHOR-**
2 **ITY FOR F/A-18E/F AIRCRAFT AND EA-18G AIR-**
3 **CRAFT.**

4 (a) **AUTHORITY FOR MULTIYEAR PROCUREMENT.**—
5 Subject to section 2306b of title 10, United States Code,
6 the Secretary of the Navy may enter into one or more
7 multiyear contracts, beginning with the fiscal year 2019
8 program year, for the procurement of the following:

9 (1) F/A-18E/F aircraft.

10 (2) EA-18G aircraft.

11 (b) **CONDITION FOR OUT-YEAR CONTRACT PAY-**
12 **MENTS.**—A contract entered into under subsection (a)
13 shall provide that any obligation of the United States to
14 make a payment under the contract for a fiscal year after
15 fiscal year 2019 is subject to the availability of appropria-
16 tions or funds for that purpose for such later fiscal year.

17 (c) **AUTHORITY FOR ADVANCE PROCUREMENT AND**
18 **ECONOMIC ORDER QUANTITY.**—The Secretary of the
19 Navy may enter into one or more contracts, beginning in
20 fiscal year 2019, for advance procurement associated with
21 the aircraft for which authorization to enter into a
22 multiyear procurement contract is provided under sub-
23 section (a), which may include one or more contracts for
24 the procurement of economic order quantities of material
25 and equipment for such aircraft.

1 **SEC. 126 [Log 67811]. MODIFICATIONS TO F/A-18 AIRCRAFT**
2 **TO MITIGATE PHYSIOLOGICAL EPISODES.**

3 (a) MODIFICATIONS REQUIRED.—The Secretary of
4 the Navy shall modify the F/A-18 aircraft to reduce the
5 occurrence of, and mitigate the risk posed by, physiological
6 episodes affecting crewmembers of the aircraft. The modi-
7 fications shall include, at minimum—

8 (1) replacement of the F/A-18 cockpit altim-
9 eter;

10 (2) upgrade of the F/A-18 onboard oxygen gen-
11 eration system;

12 (3) redesign of the F/A-18 aircraft life support
13 systems required to meet onboard oxygen generation
14 system input specifications;

15 (4) installation of equipment associated with
16 improved F/A-18 physiological monitoring and alert
17 systems; and

18 (5) installation of an automatic ground collision
19 avoidance system.

20 (b) REPORT REQUIRED.—Not later than February 1,
21 2019, and annually thereafter through February 1, 2021,
22 the Secretary of the Navy shall submit to the congres-
23 sional defense committees a written update on the status
24 of all modifications to the F/A-18 aircraft carried out by
25 the Secretary pursuant to subsection (a).

1 (c) WAIVER.—The Secretary of the Navy may waive
2 the requirement to make a modification under subsection
3 (a) if the Secretary certifies to the congressional defense
4 committees that the specific modification is inadvisable
5 and provides a detailed justification for excluding the
6 modification from the Navy’s planned upgrades for the F/
7 A–18 aircraft.

1 **Subtitle E—Defense-wide, Joint,**
2 **and Multiservice Matters**

3 **SEC. 151 [Log 67732]. CERTIFICATION ON INCLUSION OF**
4 **TECHNOLOGY TO MINIMIZE PHYSIOLOGICAL**
5 **EPISODES IN CERTAIN AIRCRAFT.**

6 (a) **CERTIFICATION REQUIRED.**—Not later than 15
7 days before entering into a contract for the procurement
8 of a covered aircraft, the Secretary concerned shall submit
9 to the congressional defense committees a written state-
10 ment certifying that the aircraft to be procured under the
11 contract will include the most recent technological ad-
12 vancements necessary to minimize the impact of physio-
13 logical episodes on aircraft crewmembers.

14 (b) **WAIVER.**—The Secretary concerned may waive
15 the requirement of subsection (a) if the Secretary—

16 (1) determines the waiver is required in the in-
17 terest of national security; and

18 (2) not later than 15 days before entering into
19 a contract for the procurement of a covered aircraft,
20 notifies the congressional defense committees of the
21 rationale for the waiver.

22 (c) **TERMINATION.**—The requirement to submit a
23 certification under subsection (a) shall terminate on Sep-
24 tember 30, 2021.

25 (d) **DEFINITIONS.**—In this section:

1 (1) The term “covered aircraft” means a fight-
2 er aircraft, an attack aircraft, or a fixed wing train-
3 er aircraft.

4 (2) The term “Secretary concerned” means—

5 (A) the Secretary of the Navy, with respect
6 to covered aircraft of Navy; and

7 (B) the Secretary of the Air Force, with
8 respect to covered aircraft of the Air Force.

1 **SEC. 214 [Log 67236]. LIMITATION PENDING CERTIFI-**
2 **CATION ON THE JOINT SURVEILLANCE TAR-**
3 **GET ATTACK RADAR SYSTEM RECAPITALIZA-**
4 **TION PROGRAM.**

5 (a) **LIMITATION.**—Until a period of 15 days has
6 elapsed following the date on which the Secretary of the
7 Air Force submits to the congressional defense committees
8 the certification described in subsection (b)—

9 (1) of the total amount of funds authorized to
10 be appropriated by this Act or otherwise made avail-
11 able for the Air Force for fiscal year 2019 for the
12 covered programs not more than 50 percent may be
13 obligated or expended for the programs; and

14 (2) the Secretary of the Air Force may not di-
15 vest more than one legacy E-8 Joint Surveillance
16 Target Attack Radar System aircraft.

17 (b) **CERTIFICATION.**—The certification described in
18 this subsection is a written statement of the Secretary of
19 the Air Force certifying that—

20 (1) the Secretary has awarded one or more con-
21 tracts under the Joint Surveillance Target Attack
22 Radar System recapitalization program for—

23 (A) engineering, manufacturing, and devel-
24 opment

25 (B) low-rate initial production;

26 (C) production; and

1 (D) initial contractor support; and
2 (2) the program is proceeding in accordance
3 with the plans for the program set forth in the
4 budget request of the President submitted to Con-
5 gress under section 1105 of title 31, United States
6 Code, for fiscal year 2018.

7 (c) GAO REPORT AND BRIEFING.—

8 (1) REPORT REQUIRED.—Not later than March
9 1, 2020, the Comptroller General of the United
10 States shall submit to the congressional defense
11 committees a report on Increment 1, Increment 2,
12 and Increment 3 of the 21st Century Advanced Bat-
13 tle-Management System of Systems capability of the
14 Air Force. The report shall include a review of—

15 (A) the technologies that compose the ca-
16 pability and the level of maturation of such
17 technologies;

18 (B) the resources budgeted for the capa-
19 bility;

20 (C) the fielding plan for the capability;

21 (D) any risk assessments associated with
22 the capability; and

23 (E) the overall acquisition strategy for the
24 capability.

1 (2) INTERIM BRIEFING.—Not later than March
2 1, 2019, the Comptroller General of the United
3 States shall provide to the Committee on Armed
4 Services of the House of Representatives a briefing
5 on the topics to be covered by the report under para-
6 graph (1), including any preliminary data and any
7 issues or concerns of the Comptroller General relat-
8 ing to the report.

9 (d) AIR FORCE REPORT.—Not later than February
10 5, 2019, the Secretary of the Air Force shall submit to
11 the congressional defense committees a report on the leg-
12 acy fleet of E–8C Joint Surveillance Target Attack Radar
13 System aircraft that includes—

14 (1) the modernization and sustainment strat-
15 egy, and associated costs, for the airframe and mis-
16 sion systems that will be used to maintain the legacy
17 fleet of such aircraft until the Joint Surveillance
18 Target Attack Radar System recapitalization pro-
19 gram achieves initial operational capability; and

20 (2) a plan that describes how the Secretary
21 will—

22 (A) continue to provide combatant com-
23 manders with the current level of E–8C force
24 support;

1 (B) accelerate the Joint Surveillance Tar-
2 get Attack Radar System recapitalization pro-
3 gram to significantly decrease the time needed
4 to achieve initial operational capability without
5 adversely affecting currently programmed E-8C
6 manpower levels; and

7 (C) maintain acceptable levels of risk while
8 carrying out the activities described in subpara-
9 graphs (A) and (B).

10 (e) COVERED PROGRAM DEFINED.—In this section,
11 the term “covered program” means any program com-
12 prising Increment 1, Increment 2, or Increment 3, of the
13 21st Century Advanced Battle-Management System of
14 Systems capability of the Air Force, except the term does
15 not include any activities under the legacy E-8C program
16 or the Joint Surveillance Target Attack Radar System re-
17 capitalization program of the Air Force.

1 **SEC. 215 [Log 67792]. LIMITATION ON AVAILABILITY OF**
2 **FUNDS FOR F-35 CONTINUOUS CAPABILITY**
3 **DEVELOPMENT AND DELIVERY.**

4 (a) **LIMITATION.**—Except as provided in subsection
5 (b), of the funds authorized to be appropriated by this Act
6 or otherwise made available for fiscal year 2019 for the
7 F-35 continuous capability development and delivery pro-
8 gram, not more than 75 percent may be obligated or ex-
9 pended until a period of 15 days has elapsed following the
10 date on which the Secretary of Defense submits to the
11 congressional defense committees a detailed cost estimate
12 and baseline schedule for the program, which shall include
13 any information required for a major defense acquisition
14 program under section 2435 of title 10, United States
15 Code.

16 (b) **EXCEPTION.**—The limitation in subsection (a)
17 does not apply to any funds authorized to be appropriated
18 or otherwise made available for the development of the F-
19 35 dual capable aircraft capability.

1 **SEC. 216 [Log 67240]. LIMITATION ON AVAILABILITY OF**
2 **FUNDS PENDING REPORT ON AGILE SOFT-**
3 **WARE DEVELOPMENT AND SOFTWARE OPER-**
4 **ATIONS.**

5 (a) **LIMITATION.**—Of the of funds described in sub-
6 section (d), not more than 75 percent may be obligated
7 or expended until a period of 30 days has elapsed following
8 the date on which the Secretary of the Air Force submits
9 the report required under subsection (b).

10 (b) **REPORT.**—Subject to subsection (c), the Sec-
11 retary of the Air Force shall submit to the congressional
12 defense committees a report that includes a description
13 of each of the following:

14 (1) The specific cost-estimating tools and meth-
15 odologies used to formulate Air Force budgets for
16 software application development using Agile Soft-
17 ware Development and Software Operations (re-
18 ferred to in this section as “Agile DevOps”) in sup-
19 port of modernization and upgrade activities for Air
20 Operations Centers.

21 (2) The types of contracts used to execute Agile
22 DevOps activities and the rationale for using each
23 type of contract.

24 (3) How intellectual property ownership issues
25 associated with software applications developed with
26 Agile DevOps processes will be addressed to ensure

1 future sustainment, maintenance, and upgrades to
2 software applications after the applications are field-
3 ed.

4 (4) The Secretary's strategy for ensuring that
5 software applications developed for Air Operations
6 Centers are transportable and translatable among all
7 the Centers to avoid any duplication of efforts.

8 (5) Any tools and software applications that
9 have been developed for the Air Operations Centers
10 and the costs and cost categories associated with de-
11 veloping each such tool and software application.

12 (c) REVIEW.—Before submitting the report under
13 subsection (b), the Secretary of the Air Force shall ensure
14 that the report is reviewed and approved by the Director
15 of Defense Pricing and the Defense Procurement and Ac-
16 quisition Policy.

17 (d) FUNDS DESCRIBED.—The funds described in this
18 subsection are the following:

19 (1) Funds authorized to be appropriated by this
20 Act or otherwise made available for fiscal year 2019
21 for research, development, test, and evaluation, Air
22 Force, for Air and Space Operations Centers (PE
23 0207410F, Project 674596).

24 (2) Funds authorized to be appropriated by this
25 Act or otherwise made available for fiscal year 2019

- 1 for other procurement, Air Force, for Air and Space
- 2 Operations Centers.

1 **SEC. 222 [Log 67790]. REPORT ON T-45 AIRCRAFT PHYSIO-**
2 **LOGICAL EPISODE MITIGATION ACTIONS.**

3 (a) REPORT REQUIRED.—Not later than March 1,
4 2019, the Secretary of the Navy shall submit to the con-
5 gressional defense committees a report on modifications
6 made to T-45 aircraft and associated ground equipment
7 to mitigate the risk of physiological episodes among T-
8 45 aircraft crewmembers.

9 (b) ELEMENTS.—The report required under sub-
10 section (a) shall include—

11 (1) a list of all modifications to the T-45 air-
12 craft and associated ground equipment carried out
13 during fiscal years 2017 through 2019 to mitigate
14 the risk of physiological episodes among T-45 crew-
15 members;

16 (2) the results achieved by such modifications
17 as determined by relevant testing and operational
18 activities;

19 (3) the cost of such modifications; and

20 (4) any plans of the Navy for future modifica-
21 tions.

1 **SEC. 223 [Log 67791]. REPORT ON EFFORTS OF THE AIR**
2 **FORCE TO MITIGATE PHYSIOLOGICAL EPI-**
3 **ISODES AFFECTING AIRCRAFT CREW-**
4 **MEMBERS.**

5 (a) **REPORT REQUIRED.**—Not later than March 1,
6 2019, the Secretary of the Air Force shall submit to the
7 congressional defense committees a report on all efforts
8 of the Air Force to reduce the occurrence of, and mitigate
9 the risk posed by, physiological episodes affecting crew-
10 members of covered aircraft.

11 (b) **ELEMENTS.**—The report required under sub-
12 section (a) shall include—

13 (1) information on the rate of physiological epi-
14 sodes affecting crewmembers of covered aircraft;

15 (2) a description of the specific actions carried
16 out by the Air Force to address such episodes, in-
17 cluding a description of any upgrades or other modi-
18 fications made to covered aircraft to address such
19 episodes;

20 (3) schedules and cost estimates for any up-
21 grades or modifications identified under paragraph
22 (3); and

23 (4) an explanation of any organizational or
24 other changes to the Air Force carried out to ad-
25 dress such physiological episodes.

- 1 (c) COVERED AIRCRAFT DEFINED.—In this section,
2 the term “covered aircraft” means—
- 3 (1) F-35A aircraft of the Air Force;
 - 4 (2) T-6A aircraft of the Air Force; and
 - 5 (3) any other aircraft of the Air Force as deter-
6 mined by the Secretary of the Air Force.

DIRECTIVE REPORT LANGUAGE

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DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

AIRCRAFT PROCUREMENT, ARMY

Items of Special Interest

Unmanned aerial system units for Army National Guard

The committee understands the Army's current fielding plan for MQ-1C Gray Eagle units includes Active Duty combat aviation brigades and intelligence units, and that at present no systems are planned for fielding to the Army National Guard. However, the committee notes that there are many missions involving military support to civilian authorities for which the MQ-1C Gray Eagle could contribute, including wildfire response, search and rescue, border security, counter-narcotics, and communications support during emergencies. Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by March 1, 2019, on the potential utility, feasibility, and cost of establishing MQ-1C Gray Eagle units in the Army National Guard. The briefing shall include, at a minimum, a detailed analysis of the resources needed to create a minimum of two Gray Eagle companies in the Army National Guard, and an analysis of how such units could provide support to civilian authorities for domestic emergencies.

MISSILE PROCUREMENT, ARMY

Items of Special Interest

Stinger missile modernization program

The committee supports the Army's accelerated strategy to restore capacity and capability in Short-Range Air Defense (SHORAD) teams, to include reconstituting man-portable air defense teams using Stinger missiles to counter current and emerging threats from fixed-wing aircraft, rotary-wing aircraft, and unmanned air systems (UAS). However, the committee has significant concerns regarding the adequacy of the Army's Stinger missile inventory, as well as the resiliency of the associated industrial base that produces key components, including those required for the Stinger missile seeker.

The committee recognizes the requirement for Stinger missiles will likely increase as a result of increased demand for SHORAD capability. The Army's current acquisition strategy does not include any new production of Stinger missiles, and instead implements a service life extension program (SLEP) for existing Stinger missiles. The committee notes that the last new Stinger missile

was produced in 2001, and that missiles expire annually due to attrition and decay. While the Stinger SLEP program does extend the missile life by 10 years and improves counter-UAS capability by adding a proximity fuze, the current SLEP program will not mitigate the decline in Stinger missile inventory. Further, the Stinger SLEP program does not address the capability of the Stinger guidance section, electronics or seeker.

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by December 3, 2018, on the Stinger Modernization Program. The briefing should address the Army's strategy to mitigate the decline of the Stinger missile inventory, to include required funding, maintenance of the Stinger industrial base, and modernization of the Stinger program in the out-years.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Items of Special Interest

Armored brigade combat team modernization

In the committee report accompanying the National Defense Authorization Act for Fiscal Year 2018 (H. Rept. 115-200), the committee expressed concerns about the stability of armored brigade combat team (ABCT) modernization funding in fiscal year 2018 and beyond, noting that the Army was currently modernizing one ABCT every 2 years at best. Furthermore, in H. Rept. 115-200 the committee encouraged the Army to fully modernize at least one ABCT per year, and the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91) authorized the additional funding necessary to modernize one complete ABCT. The committee is encouraged by the Army's increased investment for ABCT modernization in the budget request.

Given this increased investment for ABCT modernization, the committee believes the Army should examine the cost benefits of using multiyear procurement contracts for combat vehicle platforms comprising ABCTs. However, the committee is also aware the Army has concerns over the loss of fiscal flexibility that occurs when it commits to a multiyear contract.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by December 3, 2018, on the results of a cost-benefit analysis comparing a traditional 5-year multiyear contract for ABCT platforms with an alternative 3-year multiyear contract with 2 successive single-year options.

In addition, the committee is concerned that the Army's current nomenclature for a critical part of the ABCT, the M1 Abrams tank, has become so complicated that it fails to communicate the importance of the Army's planned upgrades for the tank. Specifically, the committee is concerned that Army's use of "M1A1 situational awareness," "M1A2 system enhancement program version 3," and "M1A2 system enhancement program version 4" to refer to Army upgrade

programs for the M1 Abrams tank fails to clearly and concisely convey the significant capability upgrades resident in these efforts. The committee encourages the Army to change, as soon as possible, to clearer M1 Abrams upgrade program descriptions such as the “M1A3” and “M1A4” to more efficiently describe these programs. The committee believes that such a change does not require any additional testing or funding.

M240 medium machine gun modernization

The committee is concerned the Army may be assuming too much risk in the small arms industrial base with respect to the family of M240 medium machine guns. Current funding profiles could lead to a potential production line shutdown. The shutdown of existing production lines would create significant operational impacts if requirements increase. The committee notes that the budget request included \$2.1 million for M240 production; however, no funding is projected for new production in fiscal year 2020 or fiscal year 2021. The committee encourages the Army to closely monitor this critical industrial base and work with the original equipment manufacturer to develop courses of action to ensure the production line remains viable and capable of supporting potential increased requirements.

The committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives by September 28, 2018. This briefing shall include, at a minimum:

- (1) the projected service life of the current M240 inventory;
- (2) the Army’s plan and schedule to replace the current M240 inventory either with newer M240 models or an entirely new system;
- (3) how the Army will address increased requirements caused by increases in end strength and combat formations;
- (4) relevant cost analysis for restarting the M240 production line after a period of dormancy; and
- (5) a description of interaction and communication with the original equipment manufacturer regarding capacity challenges and minimum sustaining production rates.

Additionally, the committee directs the Secretary of the Army to provide an advisability and feasibility study to the House Committee on Armed Services by September 28, 2018, on transitioning the existing fleet of M240B medium machine guns to the lighter-weight M240L configuration. This assessment shall include the estimated costs associated with this transition and using current inventories of M240Bs.

OTHER PROCUREMENT, ARMY

Items of Special Interest

Mine resistant ambush protected sustainment

The committee commends the military services for retaining the most capable mine resistant ambush protected (MRAP) vehicles to meet military operational and training needs, as well as standardizing the fleet to improve long-term sustainment. The committee notes the Army has an enduring requirement of 8,222 MRAP vehicles, and that MRAP vehicles continue to be a critical high demand force protection asset for overseas contingency operations in the U.S. Central Command's area of responsibility. The committee also notes that since the military services finalized the enduring requirements for MRAP vehicles, the military services face an increasingly complex and significantly worse global threat environment.

In this environment, the committee believes demand for MRAP vehicles could increase. Additionally, MRAP vehicles may be needed to fulfill emerging requirements that may not have been fully considered as part of the Army's long-term tactical wheeled vehicle modernization strategy, such as requirements for key leader or command and control vehicles. The committee notes with concern that the Army's budget request contained no funding for MRAP vehicle modifications or improvements for the existing inventory of MRAP vehicles. The committee encourages the Army to take necessary steps to ensure the MRAP vehicle industrial base remains viable.

Therefore, the committee directs the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Secretary of the Army, to provide a briefing to the House Committee on Armed Services by December 14, 2018, that details the Army's long-term strategy for planning, programming, and budgeting for long-term sustainment, research and development, and procurement of MRAP vehicle platforms.

AIRCRAFT PROCUREMENT, NAVY

Items of Special Interest

MQ-4

The budget request contained \$577.8 million for procurement of three MQ-4C unmanned aircraft. The committee understands the MQ-4C will be a forward-deployed, land-based, autonomously operated system that provides a persistent maritime intelligence, surveillance, and reconnaissance (ISR) capability using a multi-sensor mission payload. The MQ-4C's unique combination of long endurance and advanced sensors will support combatant commanders and provide a common operational picture of the maritime environment.

The committee supports the budget request of \$577.8 million for procurement of three MQ-4C aircraft. However, how, when, and what quantity of MQ-4C aircraft will be integrated into the Department of Defense's ISR Global Force Management Allocation Process (GFMAP) for airborne ISR aircraft is still

unclear. Therefore, the committee also directs the Chairman of the Joint Chiefs of Staff (CJCS), in consultation with the Secretary of the Navy, to provide a briefing to the House Committee on Armed Services, not later than October 15, 2018, that details the strategy and plan to integrate MQ-4C into the CJCS ISR GFMAP process. At a minimum, the briefing should illustrate the methodology that will be used to determine the quantity of MQ-4C aircraft involved in the process, the scheduling start date, the type of aircraft capability, and the capacity of intelligence discipline capability the MQ-4C will provide to the combatant commanders.

OTHER PROCUREMENT, NAVY

Items of Special Interest

MH-60R dipping sonar upgrades

The committee notes numerous advancements in anti-submarine warfare systems preceding the Department of the Navy's MH-60R Mid-Life Upgrade in fiscal years 2020 through 2023. Specifically, the committee is encouraged by advances in dipping sonar utilizing low frequency detection and beam-forming technologies, allowing multiple boundary interaction and interoperability with shipboard sonars and sonobuoys to expand the lethality of Navy forces. The committee is concerned that the current MH-60R anti-submarine warfare system, the airborne low frequency sonar that serves as the primary anti-submarine warfare sensor in the carrier strike group, has a high component failure rate.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by February 1, 2019, on the potential use of existing advanced technologies to upgrade the MH-60R fleet. If available manufactured systems meet or exceed current legacy technologies reliability or capability, then the Department of the Navy is encouraged to conduct a full and open competition for MH-60R dipping sonar upgrades, repairs, and replacements as part of the fleet sustainment of these capabilities.

AIRCRAFT PROCUREMENT, AIR FORCE

Items of Special Interest

F-35 canopy transparencies

The F-35 canopy transparency is the transparent enclosure over the cockpit of the F-35 aircraft. The committee notes that the F-35 program uses a sole-source contract to procure F-35 canopy transparencies.

The committee understands that the F-22 program uses a two-source acquisition strategy for canopy transparencies, and that competition from that acquisition strategy has resulted in a more secure supply chain, increased innovation, longer product service life, and lower operating costs. Accordingly, the

committee believes a two-source acquisition strategy for F-35 canopy transparencies could provide similar benefits.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than December 14, 2018, on the costs, benefits, analysis, and schedule impacts of the F-35 program using a two-source acquisition strategy for F-35 canopy transparencies.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

Items of Special Interest

Future digital munitions and integration

The committee recognizes the importance for the Army to retain lethality overmatch within its aviation portfolio. The committee continues to support the Army's Future Vertical Lift and Joint Multi-Role technology demonstration initiatives. However, the committee is concerned about the Army's ability to mitigate Apache helicopter and Grey Eagle Unmanned Aerial System munitions and launcher obsolescence limitations for the foreseeable future. The committee believes existing and emerging threats are key factors to ensuring lethality overmatch. As digital aviation-launched munitions evolve, the need for the Army to retain flexibility in aircraft to munitions integration is critical to ensuring Army Aviation platforms retain a decisive edge.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services not later than September 15, 2018, on the following:

- (1) all requirements, acquisition program plans, and developmental initiatives that address the modernization strategy for all aviation platform munitions and launchers beyond currently fielded systems; and
- (2) recommendations on the utility for any development efforts that would modernize aviation launchers and munitions.

Future Vertical Lift

The committee understands that dedicated investment in incremental rotorcraft upgrades has kept America's current vertical lift aviation capabilities viable, and will continue to enable the fleet to bridge capability gaps through the near term. The committee believes that as more dangerous threats emerge at an accelerated pace in the mid-term, unwavering investment in advanced future disruptive technologies like Future Vertical Lift (FVL) will enable rotorcraft aviation to retain overmatch through significant capability improvements in reach, speed, protection, and lethality.

The committee notes that the Army leads the Department of Defense's rotorcraft technology portfolio, which needs additional research and development funding to regain America's world leadership in rotorcraft innovation. Because of America's eroding lead in rotorcraft capability, the committee encourages the Department to explore opportunities to accelerate the FVL program in order to meet national security challenges. The committee expects the Department to maximize full and open competition in doing so.

The committee believes that fiscal years 2019 and 2020 are pivotal years for the FVL modernization efforts, as critical technology demonstrations provide essential evidence during the completion of the FVL analysis of alternatives, and the Army uses this data and analysis to inform its path forward. Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by December 3, 2018, on the outcome of the analysis of alternatives and on any other analysis utilized in deciding the Army's priority of rotorcraft investment for FVL prior to the release of a request for proposal.

Initial Maneuver-Short Range Air Defense capability

The committee is aware that the Army's critical capability gap for Air and Missile Defense remains protecting maneuvering forces. The committee understands that Army maneuver formations require short range air defense (SHORAD) and counter-UAS (CUAS) capabilities that can cover a wide range of air threats to include: unmanned aircraft systems (UAS), rotary wing (RW), fixed wing (FW), and rockets artillery and mortars (RAM). As such, the committee understands the Army is pursuing cross-domain, multi-dimensional solutions that can address these threats as part of a maneuver short-range air defense and indirect fires protection capability. The committee encourages the Army to consider areas where commonality exists between current CUAS and SHORAD mission platforms and technologies.

The committee understands the Army has formalized a directed requirement to initiate integration and procurement of an initial Maneuver-Short Range Air Defense (IM-SHORAD) capability on a Stryker combat vehicle. The IM-SHORAD directed requirement requires capability to counter threats posed by UAS, RW, FW, and RAM, as well as address an emerging operational need in support of Operation Atlantic Resolve to provide air and missile defense protection of Stryker and Armored Brigade Combat Teams. The committee understands the acquisition strategy to support this directed requirement is still being developed.

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by September 14, 2018, on the Army's accelerated acquisition strategy for the IM-SHORAD initiative, as well as identify requirements that are similar to both the SHORAD and CUAS missions. The briefing should also address capabilities currently under development or already fielded that could simultaneously address the CUAS and M-SHORAD mission areas.

M119 105mm self-propelled artillery system technology

The committee understands the Army is examining the operational benefits of procuring a self-propelled 105mm howitzer in order to address existing capability gaps for infantry brigade combat teams (IBCTs) indirect fires capabilities. The committee understands that recent demonstrations as part of the Army's Maneuver and Fires Integration Experiment at Fort Sill produced positive results. The committee supports continued demonstrations of this capability and is aware of a potential future demonstration under consideration by the 18th Airborne Corps. The committee understands the demonstrated system incorporated artillery soft recoil technology with existing 105mm artillery systems and then integrated these technologies onto an existing light tactical vehicle. The committee expects the outcomes from these demonstrations to inform future operational requirements and procurement strategies.

The committee believes this capability could enable the Army to achieve significant improvements in combat capability and lethality through only a modest reinvestment of funding for current or future planned M119 105mm howitzer modifications. Further, the committee also believes a light, self-propelled 105mm artillery system could substantially improve the deterrence posture of the U.S. Army and allied armies in Europe that may face sophisticated, quick-fire counter-battery systems.

The committee directs the Secretary of the Army, in coordination with the Directors of the Long-Range Precision Fires and Soldier Lethality cross-functional teams, to provide a briefing to the House Committee on Armed Services by December 14, 2018, on the advisability and feasibility of rapidly accelerating the testing, evaluation, and procurement of a self-propelled 105mm howitzer to address the indirect fire capability gaps in IBCTs. The briefing shall include feedback and results from recent demonstrations of self-propelled 105mm howitzer technology, specifically the demonstration that occurred as part of the Army's Maneuver and Fires Integration Experiment at Fort Sill.

Mobile camouflage system

The committee notes the longstanding success of our allied partner nations who employ mobile camouflage systems on their combat vehicles, especially within the North Atlantic Treaty Organization and the European theater. These relatively inexpensive camouflage net systems provide enhanced signature management protection, reduce heat and temperature inside and around combat vehicles, and yield fuel savings without interfering with the operation of the vehicles. Army commanders have expressed an immediate operational need for mobile camouflage systems, in particular woodland, desert, and Arctic variants. The committee is aware of the Army's ongoing operational testing of mobile camouflage systems at the National Training Center, and encourages further acceleration of those efforts.

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by September 28, 2018, that outlines the

mobile camouflage system test results and the Army's plan and timeline to fund the accelerated development and fielding of these systems to the warfighter.

Squad multipurpose equipment transport

The committee understands the Army is conducting a 12-month technology demonstration leading to a capabilities production document and eventual procurement of a squad multipurpose equipment transport system (SMET). The SMET is an unmanned ground vehicle that will transport equipment for specific missions, resupply, and extended operations, thereby reducing soldier load and increasing squad mobility. The committee supports the Army's use of other transaction authority to achieve a rapid start to this effort, and encourages the Army to seek additional ways to expedite acquisition of this critical capability.

The committee directs the Army's Program Executive Officer for Combat Support and Combat Service Support to provide a briefing to the House Committee on Armed Services by November 30, 2018, that includes:

- (1) options to accelerate this acquisition strategy;
- (2) courses of action to ensure the delivered system meets all key performance parameters;
- (3) findings and analysis from the user evaluations conducted by two brigade combat teams; and
- (4) an assessment of each variant's reliance on generators versus batteries, power generation capabilities, noise signatures, abilities to adapt to additional systems such as flail and mine rollers, dual stretchers, backhoe and loader kits, as well as any other capabilities considered to be essential by the program executive officer.

Supercavitating ammunition technology

In the committee report accompanying the National Defense Authorization Act for Fiscal Year 2018 (H. Rept. 115-200), the committee noted that supercavitating ammunition can be used in various operational environments, including air-to-air, water-to-water, air-to-water, and water-to-air, and that this technology could potentially address critical mission capability gaps for the warfighter. The committee also directed the U.S. Army Program Executive Officer (PEO) for Ammunition, who acts as the single manager of all conventional ammunition, to provide a briefing to the House Committee on Armed Services on the current status of supercavitating ammunition technology across the Department ammunition enterprise. The briefing acknowledged that the entire ammunition enterprise of the Department of Defense recognizes the value of supercavitating ammunition, and indicated that several efforts are underway to evaluate its performance. The committee notes that this technology is currently in use by the Department of the Navy and that other organizations in the Department of Defense are evaluating supercavitating small caliber ammunition. The committee

is pleased that the Department of Defense is continuing to evaluate the performance of this technology and remains supportive of these efforts.

Therefore, the committee directs the PEO for Ammunition, in coordination with all relevant Department of Defense agencies, to provide a briefing to the House Committee on Armed Services by September 14, 2018, on all current test and evaluation activity currently ongoing and planned for supercavitating ammunition technology.

Third Generation Forward-Looking Infrared development

The committee is aware of a growing parity in U.S. Army sights and sensors against current and emerging threats, particularly when it comes to combat vehicle platforms. The committee is concerned that the Third Generation Forward-Looking Infrared (FLIR) development program is proceeding at too slow of a pace to ensure it will enter production as an integrated system in the next Abrams tank and Bradley Fighting Vehicle upgrades.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by March 15, 2019, on the Army's plans to synchronize the Third Generation FLIR program with the M1A2 SEP V4 Abrams Upgrade and M2A5 Bradley Fighting Vehicle upgrade. The briefing should also include potential courses of action for, and costs associated with, the acceleration of Third Generation FLIR development.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, NAVY

Items of Special Interest

Passive rocket propelled grenade armor protection technology

The committee notes there have been significant improvements in passive rocket propelled grenade (RPG) armor protection over legacy RPG armor systems, which are heavy and cumbersome, and present form, fit, and function constraints, particularly for Marine Corps ground combat tactical vehicle fleets operating in expeditionary environments. The committee encourages the Secretary of the Navy to consider lightweight RPG armor solutions that provide protection against RPG attacks while maintaining the ability to fold flat against the vehicle to allow for rapid deployment and transport from amphibious ships and aircraft.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by February 1, 2019, on the testing, evaluation, and integration of lightweight, textile, and flexible RPG armor solutions that provide protection against RPG attacks, while maintaining the ability to fold flat against the vehicle to allow for rapid deployment and transport from amphibious ships and aircraft.

TITLE X—GENERAL PROVISIONS

ITEMS OF SPECIAL INTEREST

OTHER MATTERS

Friendly Force Identification in Close Air Support

The committee is aware that tactical aircraft controllers use a multitude of commercial-off-the-shelf infrared (IR) strobes for friendly force identification in close combat operations, and that U.S. Special Operations Command (SOCOM) has validated and approved a Thermal-Identification, Friend or Foe (T-IFF) Capability Production Document (CPD) to improve existing capability. The committee notes the T-IFF program would provide for an “out of band” beacon which should align with current advanced targeting pods used on tactical aircraft. The committee also notes that SOCOM is planning two user evaluations in 2018 to assess potential commercial off-the-shelf solutions that could also potentially meet the requirements in the T-IFF CPD.

While the committee is supportive of these efforts and encourages their acceleration, it is concerned that current infrared marking strobes currently fielded to U.S. ground forces, to include U.S. Special Operation Forces, are not easily detectable to tactical aircraft performing close air support, and could result in fratricide. Additionally, the committee is aware of multiple programs in progress across the military services to address this requirement. These efforts and requirements must be coordinated and communicated across the military services and SOCOM to expeditiously provide upgraded IR strobes that can be detected by advanced targeting pods.

The committee directs the Commander, U.S. Special Operations Command, in coordination with the Chief of Staff of the Army and the Chief of Staff of the Air Force, to provide a briefing to the House Committee on Armed Services by December 14, 2018, on their efforts to synchronize a friendly force identification mechanism, such as IR strobes, for use during combat close air support operations. The briefing should also include efforts to ensure that these mechanisms are detectable by advanced targeting pods used on current tactical aircraft.