

**H.R. 4909—FY17 NATIONAL DEFENSE
AUTHORIZATION BILL**

**SUBCOMMITTEE ON TACTICAL AIR
AND LAND FORCES**

SUMMARY OF BILL LANGUAGE.....	1
BILL LANGUAGE.....	6
DIRECTIVE REPORT LANGUAGE	20

SUMMARY OF BILL LANGUAGE

Table Of Contents

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

LEGISLATIVE PROVISIONS

SUBTITLE B—ARMY PROGRAMS

Section 111—Multiyear Procurement Authority for AH-64E Apache Helicopters

Section 112—Multiyear Procurement Authority for UH-60M and HH-60M Black Hawk Helicopters

Section 113—Assessment of Certain Capabilities of the Department of the Army

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

Section 142—Fire Suppressant and Fuel Containment Standards for Certain Vehicles

Section 143—Report on Department of Defense Munitions Strategy for the Combatant Commands

Section 144—Comptroller General Review of F-35 Lightning II Aircraft Sustainment Support

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

LEGISLATIVE PROVISIONS

SUBTITLE C—REPORTS AND OTHER MATTERS

Section 223—Independent Review of F/A-18 Physiological Episodes and Corrective Actions

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

LEGISLATIVE PROVISIONS

SUBTITLE B—ARMY PROGRAMS

Section 111—Multiyear Procurement Authority for AH-64E Apache Helicopters

This section would authorize the Secretary of the Army to enter into one or more multiyear contracts for AH-64E Apache helicopters beginning in fiscal year 2017, in accordance with section 2306b of title 10, United States Code.

Section 112—Multiyear Procurement Authority for UH-60M and HH-60M Black Hawk Helicopters

This section would authorize the Secretary of the Army to enter into one or more multiyear contracts for UH-60M and HH-60M Black Hawk helicopters beginning in fiscal year 2017, in accordance with section 2306b of title 10, United States Code.

Section 113—Assessment of Certain Capabilities of the Department of the Army

This section would require the Secretary of Defense, in consultation with the Secretary of the Army and the Chief of Staff of the Army, to provide an assessment to the congressional defense committees by April 1, 2017, of the ways, and associated costs, to reduce or eliminate shortfalls in responsiveness and capacity of the following capabilities:

- (1) AH-64-equipped Attack Reconnaissance Battalion capacity to meet future needs;
- (2) Air defense artillery (ADA) capacity, responsiveness, and the capability of short range ADA to meet existing and emerging threats (including unmanned aerial systems, cruise missiles, and manned aircraft), including an assessment of the potential for commercial-off-the-shelf solutions;
- (3) Chemical, biological, radiological, and nuclear capabilities and modernization;
- (4) Field artillery capabilities and the changes in doctrine and war plans resulting from the memorandum of the Secretary of Defense dated June 19, 2008, regarding the Department of Defense policy on cluster munitions and unintended harm to civilians, as well as required modernization or munition inventory shortfalls;

- (5) Fuel distribution and water purification capacity and responsiveness;
- (6) Army watercraft and port opening capabilities and responsiveness;
- (7) Transportation (fuel, water, and cargo) capacity and responsiveness;
- (8) Military police capacity; and
- (9) Tactical mobility and tactical wheeled vehicle capacity and capability, to include adequacy of heavy equipment prime movers.

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

Section 142—Fire Suppressant and Fuel Containment Standards for Certain Vehicles

This section would require the Secretary of the Army, or his designee, and the Secretary of the Navy, or his designee, to establish and maintain policy guidance regarding the establishment of, and updates to, fire suppressant and fuel containment standards that meet survivability requirements across various classes of vehicles, including light tactical vehicles, medium tactical vehicles, heavy tactical vehicles, and ground combat vehicles for the Army and Marine Corps. This section would also require the Secretary of the Army and the Secretary of the Navy to provide a report to the congressional defense committees, not later than 180 days after the date of the enactment of this Act, that contains policy guidance for each class of vehicle including armor, fire suppression systems, self-sealing material and containment technologies, and any other information as determined by the Secretaries.

The committee believes that operational performance requirements should be based on the vehicle type, mission, and employment. The committee notes that inclusion of fire suppression in performance specifications should be by vehicle design and risk driven.

Section 143—Report on Department of Defense Munitions Strategy for the Combatant Commands

This section would require the Secretary of Defense to submit to the congressional defense committees by April 1, 2017, a report on the munitions strategy for each of the United States combatant commands. It shall include an identification of munitions requirements, an assessment of munitions gaps and shortfalls, and necessary munitions investments. Such strategy shall cover the 10-year period beginning with 2016.

The committee notes that section 1254 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291) required the the Secretary of Defense to submit to the congressional defense committees a report on the munitions strategy for the U.S. Pacific Command (USPACOM). The committee has reviewed this report and commends the Secretary of Defense and Chairman of the Joint Chiefs of Staff in their detailed assessment. As the Secretary completes the broader report on the munitions

strategy for the combatant commands required by this section, the committee expects the Secretary only to provide updates where necessary to the munitions strategy of USPACOM previously submitted pursuant to Public Law 113-291.

Section 144—Comptroller General Review of F-35 Lightning II Aircraft Sustainment Support

This section would require the Comptroller General of the United States to conduct an analysis of status of and approaches considered in the sustainment support strategy for the F-35 Joint Strike Fighter program. This section would also require the Comptroller General to submit a report of the analysis to the congressional defense committees by April 1, 2017. The committee encourages the Comptroller General to consider best practices for contractor logistic support during the conduct of this review.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

LEGISLATIVE PROVISIONS

SUBTITLE C—REPORTS AND OTHER MATTERS

Section 223—Independent Review of F/A-18 Physiological Episodes and Corrective Actions

This section would require the Secretary of the Navy to establish an independent review team to review the Navy's data on, and mitigation efforts related to, the increase in F/A-18 physiological events since January 1, 2009. This section would also require the Secretary to submit a report to the congressional defense committees by December 1, 2017, on the findings of the review team.

BILL LANGUAGE

1 **Subtitle B—Army Programs**

2 **SEC. 111 [Log 62772]. MULTIYEAR PROCUREMENT AUTHOR-**
3 **ITY FOR AH-64E APACHE HELICOPTERS.**

4 (a) AUTHORITY FOR MULTIYEAR PROCUREMENT.—

5 Subject to section 2306b of title 10, United States Code,
6 the Secretary of the Army may enter into one or more
7 multiyear contracts, beginning with the fiscal year 2017
8 program year, for the procurement of AH-64E Apache
9 helicopters.

10 (b) CONDITION FOR OUT-YEAR CONTRACT PAY-

11 MENTS.—A contract entered into under subsection (a)
12 shall provide that any obligation of the United States to
13 make a payment under the contract for a fiscal year after
14 fiscal year 2017 is subject to the availability of appropria-
15 tions for that purpose for such later fiscal year.

1 **SEC. 112 [Log 62773]. MULTIYEAR PROCUREMENT AUTHOR-**
2 **ITY FOR UH-60M AND HH-60M BLACK HAWK**
3 **HELICOPTERS.**

4 (a) **AUTHORITY FOR MULTIYEAR PROCUREMENT.—**
5 Subject to section 2306b of title 10, United States Code,
6 the Secretary of the Army may enter into one or more
7 multiyear contracts, beginning with the fiscal year 2017
8 program year, for the procurement of UH-60M and HH-
9 60M Black Hawk helicopters.

10 (b) **CONDITION FOR OUT-YEAR CONTRACT PAY-**
11 **MENTS.—**A contract entered into under subsection (a)
12 shall provide that any obligation of the United States to
13 make a payment under the contract for a fiscal year after
14 fiscal year 2017 is subject to the availability of appropria-
15 tions for that purpose for such later fiscal year.

1 **SEC. 113 [Log 62847]. ASSESSMENT OF CERTAIN CAPABILI-**
2 **TIES OF THE DEPARTMENT OF THE ARMY.**

3 (a) ASSESSMENT.—The Secretary of Defense, in con-
4 sultation with the Secretary of the Army and the Chief
5 of Staff of the Army, shall conduct an assessment of the
6 following capabilities with respect to the Department of
7 the Army:

8 (1) The capacity of AH–64 Apache-equipped at-
9 tack reconnaissance battalions to meet future needs.

10 (2) Air defense artillery capacity and respon-
11 siveness, including—

12 (A) the capacity of short-range air defense
13 artillery to address existing and emerging
14 threats, including threats posed by unmanned
15 aerial systems, cruise missiles, and manned air-
16 craft; and

17 (B) the potential for commercial off-the-
18 shelf solutions.

19 (3) Chemical, biological, radiological, and nu-
20 clear capabilities and modernization needs.

21 (4) Field artillery capabilities, including—

22 (A) modernization needs;

23 (B) munitions inventory shortfalls; and

24 (C) changes in doctrine and war plans con-
25 sistent with the Memorandum of the Secretary
26 of Defense dated June 19, 2008, regarding the

1 Department of Defense policy on cluster muni-
2 tions and unintended harm to civilians.

3 (5) Fuel distribution and water purification ca-
4 pacity and responsiveness.

5 (6) Watercraft and port-opening capabilities
6 and responsiveness.

7 (7) Transportation capacity and responsiveness,
8 particularly with respect to the transportation of
9 fuel, water, and cargo.

10 (8) Military police capacity.

11 (9) Tactical mobility and tactical wheeled vehi-
12 cle capacity, including heavy equipment prime mov-
13 ers.

14 (b) REPORT.—Not later than April 1, 2017, the Sec-
15 retary of Defense shall submit to the congressional defense
16 committees a report containing—

17 (1) the assessment conducted under subsection
18 (a);

19 (2) recommendations for reducing or elimi-
20 nating shortfalls in responsiveness and capacity with
21 respect to each of the capabilities described in such
22 subsection; and

23 (3) an estimate of the costs of implementing
24 such recommendations.

1 (c) FORM.—The report under subsection (b) shall be
2 submitted in unclassified form, but may include a classi-
3 fied annex.

1 **SEC. 142 [Log 63491]. FIRE SUPPRESSANT AND FUEL CON-**
2 **TAINMENT STANDARDS FOR CERTAIN VEHI-**
3 **CLES.**

4 (a) GUIDANCE REQUIRED.—

5 (1) The Secretary of the Army shall issue guid-
6 ance regarding fire suppressant and fuel contain-
7 ment standards for covered vehicles of the Army.

8 (2) The Secretary of the Navy shall issue guid-
9 ance regarding fire suppressant and fuel contain-
10 ment standards for covered vehicles of the Marine
11 Corps.

12 (b) ELEMENTS.—The guidance regarding fire sup-
13 pressant and fuel containment standards issued pursuant
14 to subsection (a) shall—

15 (1) meet the survivability requirements applica-
16 ble to each class of covered vehicles;

17 (2) include standards for vehicle armor, vehicle
18 fire suppression systems, and fuel containment tech-
19 nologies in covered vehicles; and

20 (3) balance cost, survivability, and mobility.

21 (c) REPORT TO CONGRESS.—Not later than 180 days
22 after the date of the enactment of this Act, the Secretary
23 of the Army and the Secretary of the Navy shall each sub-
24 mit to the congressional defense committees a report that
25 includes—

1 (1) the policy guidance established pursuant to
2 subsection (a), set forth separately for each class of
3 covered vehicle; and

4 (2) any other information the Secretaries deter-
5 mine to be appropriate.

6 (d) COVERED VEHICLES.—In this section, the term
7 “covered vehicles” means ground vehicles acquired on or
8 after October 1, 2018, under a major defense acquisition
9 program (as such term is defined in section 2430 of title
10 10, United States Code), including light tactical vehicles,
11 medium tactical vehicles, heavy tactical vehicles, and
12 ground combat vehicles.

1 **SEC. 143 [Log 62774]. REPORT ON DEPARTMENT OF DE-**
2 **FENSE MUNITIONS STRATEGY FOR THE COM-**
3 **BATANT COMMANDS.**

4 (a) REPORT REQUIRED.—Not later than April 1,
5 2017, the Secretary of Defense shall submit to the con-
6 gressional defense committees a report on the munitions
7 strategy for the combatant commands, including an identi-
8 fication of munitions requirements, an assessment of mu-
9 nitions gaps and shortfalls, and necessary munitions in-
10 vestments. Such strategy shall cover the 10-year period
11 beginning with 2016.

12 (b) ELEMENTS.—The report on munitions strategy
13 required by subsection (a) shall include the following:

14 (1) An identification of current and projected
15 munitions requirements, by class or type.

16 (2) An assessment of munitions gaps and short-
17 falls, including a census of current munitions capa-
18 bilities and programs, not including ammunition.

19 (3) A description of current and planned muni-
20 tions programs, including with respect to procure-
21 ment; research, development, test, and evaluation;
22 and deployment activities.

23 (4) Schedules, estimated costs, and budget
24 plans for current and planned munitions programs.

25 (5) Identification of opportunities and limita-
26 tions within the associated industrial base.

1 (6) Identification and evaluation of technology
2 needs and applicable emerging technologies.

3 (7) An assessment of how current and planned
4 munitions programs, and promising technologies,
5 may affect existing operational concepts and capa-
6 bilities of the military departments or lead to new
7 operational concepts and capabilities.

8 (8) An assessment of programs and capabilities
9 by other countries to counter the munitions pro-
10 grams and capabilities of the Armed Forces, not in-
11 cluding with respect to ammunition, and how such
12 assessment affects the munitions strategy of each
13 military department.

14 (9) An assessment of how munitions capability
15 and capacity may be affected by changes consistent
16 with the Memorandum of the Secretary of Defense
17 dated June 19, 2008, regarding the Department of
18 Defense policy on cluster munitions and unintended
19 harm to civilians.

20 (10) Any other matters the Secretary deter-
21 mines appropriate.

22 (c) FORM.—The report under subsection (a) may be
23 submitted in classified or unclassified form.

1 **SEC. 144 [Log 62775]. COMPTROLLER GENERAL REVIEW OF**
2 **F-35 LIGHTNING II AIRCRAFT SUSTAINMENT**
3 **SUPPORT.**

4 (a) REVIEW.—Not later than September 30, 2017,
5 the Comptroller General of the United States shall submit
6 to the congressional defense committees a report on the
7 sustainment support structure for the F-35 Lightning II
8 aircraft program.

9 (b) ELEMENTS.—The review under subsection (a)
10 shall include, with respect to the F-35 Lightning II air-
11 craft program, the following:

12 (1) The status of the sustainment support
13 strategy for the program, including goals for per-
14 sonnel training, required infrastructure, and fleet
15 readiness.

16 (2) Approaches, including performance-based
17 logistics, considered in developing the sustainment
18 support strategy for the program.

19 (3) Other information regarding sustainment
20 and logistics support for the program that the
21 Comptroller General determines to be of critical im-
22 portance to the long-term viability of the program.

1 **SEC. 223 [Log 63638]. INDEPENDENT REVIEW OF F/A-18**
2 **PHYSIOLOGICAL EPISODES AND CORRECTIVE**
3 **ACTIONS.**

4 (a) INDEPENDENT REVIEW REQUIRED.—The Sec-
5 retary of the Navy shall conduct an independent review
6 of the plans, programs, and research of the Department
7 of the Navy with respect to—

8 (1) physiological events affecting aircrew of the
9 F/A-18 Hornet and the F/A-18 Super Hornet air-
10 craft during the covered period; and

11 (2) the efforts of the Navy and Marine Corps
12 to prevent and mitigate the affects of such physio-
13 logical events.

14 (b) CONDUCT OF REVIEW.—In conducting the review
15 under subsection (a), the Secretary of the Navy shall—

16 (1) designate an appropriate senior official in
17 the Office of the Secretary of the Navy to oversee
18 the review; and

19 (2) consult experts from outside the Depart-
20 ment of Defense in appropriate technical and med-
21 ical fields.

22 (c) REVIEW ELEMENTS.—The review under sub-
23 section (a) shall include an evaluation of—

24 (1) any data of the Department of the Navy re-
25 lating to the increased frequency of physiological
26 events affecting aircrew of the F/A-18 Hornet and

1 the F/A–18 Super Hornet aircraft during the cov-
2 ered period;

3 (2) aircraft mishaps potentially related to such
4 physiological events;

5 (3) the cost and effectiveness of all material,
6 operational, maintenance, and other measures car-
7 ried out by the Department of the Navy to mitigate
8 such physiological events during the covered period;

9 (4) material, operational, maintenance, or other
10 measures that may reduce the rate of such physio-
11 logical events in the future; and

12 (5) the performance of—

13 (A) the onboard oxygen generation system
14 in the F/A–18 Super Hornet;

15 (B) the overall environmental control sys-
16 tem in the F/A–18 Hornet and F/A–18 Super
17 Hornet; and

18 (C) other relevant subsystems of the F/A–
19 18 Hornet and F/A–18 Super Hornet, as deter-
20 mined by the Secretary.

21 (d) REPORT REQUIRED.—Not later than December
22 1, 2017, the Secretary of Navy shall submit to the con-
23 gressional defense committees a report that includes the
24 results of the review under subsection (a).

1 (e) COVERED PERIOD.—In this section, the term
2 “covered period” means the period beginning on January
3 1, 2009, and ending on the date of the submission of the
4 report under subsection (d).

DIRECTIVE REPORT LANGUAGE

Table Of Contents

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

MISSILE PROCUREMENT, ARMY

Items of Special Interest

Joint air-to-ground missile increment 2 acquisition strategy

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Items of Special Interest

M240 medium machine gun modernization

Multi-Role Anti-Armor Anti-Personnel Weapon System

PROCUREMENT OF AMMUNITION, ARMY

Items of Special Interest

Small guided munitions acquisition strategy

OTHER PROCUREMENT, ARMY

Items of Special Interest

Army tactical communications waveforms

High Mobility Multipurpose Wheeled Vehicle ambulance recapitalization

AIRCRAFT PROCUREMENT, NAVY

Items of Special Interest

V-22 Osprey

PROCUREMENT, MARINE CORPS

Items of Special Interest

Mobile User Objective System capability

AIRCRAFT PROCUREMENT, AIR FORCE

Items of Special Interest

F-22 production restart assessment

U.S. Air Force combat search and rescue

PROCUREMENT OF AMMUNITION, AIR FORCE

Items of Special Interest

25 millimeter ammunition for the F-35 program

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

Items of Special Interest

Armored vehicle fuel tank and bladder safety

Army advanced body armor research and development

Army network integration evaluations and army warfighting assessments

Helicopter seating systems

Improved Turbine Engine Program

Land-Based Anti-Ship Missile program

Long-range Army surface-to-air missile capability

Modular Handgun System

Personal protective equipment development for female soldiers
Small Unit Support Vehicle
Vehicle active protection systems
Weight reduction for personal protective equipment

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, NAVY

Items of Special Interest

F/A-18 fleet physiological event rate
Joint metallurgical technology for combat and tactical vehicle hulls

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, AIR FORCE

Items of Special Interest

Joint Surveillance Target Attack Radar System recapitalization
T-X program

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, DEFENSE-WIDE

Items of Special Interest

Future Vertical Lift
Rotorcraft degraded visual environment
V-22 defensive weapons integration analysis

TITLE X—GENERAL PROVISIONS

ITEMS OF SPECIAL INTEREST

OTHER MATTERS

Air Force Combat Search and Rescue Associate Units
Army and Joint Force Integration of Former Unmanned Aircraft System
Center of Excellence Responsibilities
Repeal of Report on Unmanned Aircraft Systems

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

MISSILE PROCUREMENT, ARMY

Items of Special Interest

Joint air-to-ground missile increment 2 acquisition strategy

The committee understands the joint air-to-ground missile (JAGM) program is a new generation of air-launched, ground-attack tactical missiles that will complement and replace the Army's legacy inventory of Hellfire missiles.

The committee is aware the Army is pursuing an incremental approach to JAGM acquisition. The committee understands the program consists of two increments, with Increment I beginning low-rate production in fiscal year 2017 and consisting of a dual-mode seeker tactical missile capable of attacking stationary and moving targets. The committee is concerned over the lack of clarity and funding in the Army's budget request for the JAGM Increment II program.

The committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives by February 1, 2017, on the status of the JAGM Increment II program that shall include the program's requirements, acquisition strategy, and funding profile.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

Items of Special Interest

M240 medium machine gun modernization

In the committee report (H. Rept. 114-102) accompanying the National Defense Authorization Act for Fiscal Year 2016, the committee directed the Secretary of the Army to brief the House Committee on Armed Services on the Army's long-term sustainment strategy and life-cycle sustainment plans for the M240 medium machine gun. The committee appreciates the briefing provided by the Army regarding the sustainment of the industrial base for the M240 medium machine gun, but has concerns that industry was not consulted in the preparation of the sustainment plan. Therefore, the committee directs the Assistant Secretary of the Army for Acquisition, Logistics, and Technology to develop a plan, with input from the M240 original equipment manufacturer, that would consider the advisability and feasibility of establishing an M240 recapitalization program, and provide the House Committee on Armed Services with a briefing on this plan,

including its associated costs and timelines, not later than September 30, 2016. The committee expects this briefing to also detail the plans to ensure the sustainment of the domestic small arms industrial base, including both original equipment and spare parts manufacturers.

Multi-Role Anti-Armor Anti-Personnel Weapon System

The committee understands the M3 Carl Gustaf Multi-Role Anti-Armor Anti-Personnel Weapon System (MAAWS) 84mm recoilless rifle is a multipurpose, medium-range weapon system designed specifically to engage structural targets at ranges up to 500 meters, lightly armored targets at ranges up to 700 meters, and soft targets at ranges up to 1,000 meters. The committee is also aware that the Army has finalized a program of record for M3 MAAWS and is synchronizing program activities for Type Classification of combat and training ammunition, the M3 and lightweight M3A1 gun variants, as well as leveraging acquisition and logistics functions with U.S. Special Operations Command. The committee also notes the Marine Corps is procuring a similar system, which is the follow-on to the Shoulder Launched Multipurpose Assault Weapon (SMAW).

The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by March 1, 2017, on the MAAWS capabilities, including: whether size and weight issues continue to be a factor in combat effectiveness; capability to safely fire from enclosures; and the Army's assessment of current Marine Corps SMAW programs, and whether these systems could potentially meet Army operational performance requirements.

PROCUREMENT OF AMMUNITION, ARMY

Items of Special Interest

Small guided munitions acquisition strategy

The committee commends the Army for rapidly fielding small guided rockets for the AH-64D Apache Attack Helicopter in 2015. Furthermore, the committee understands the Marine Corps continues to qualify guided rockets on the AV-B Harrier, AH-1 Cobra attack helicopter, and UH-1 utility helicopter, while the Air Force is rapidly moving forward to qualify small guided rockets on the F-16 and A-10 platforms.

The committee notes that while not a replacement for heavier guided missile munitions, small guided rockets could provide an affordable precision guided weapon capability to prosecute targets that have been routinely engaged in recent years by heavier and more expensive guided munitions. The committee also recognizes that precision delivery of the munition does not always equate to lethality at the target, and encourages the Department of Defense to consider fielding the most capable and lethal warhead technology available to maximize capability on small guided rockets.

The committee directs the Secretary of Defense, in consultation with the Chairman of the Joint Chiefs of Staff, to provide a briefing to the Committee on Armed Services of the House of Representatives by August 31, 2016, on the joint requirements for small guided rocket munitions, the long term acquisition strategy for small guided rocket systems, the plans for maximizing lethality of these systems, the potential for integrating these systems on unmanned aerial systems, and to provide options to streamline the procurement and fielding of these critically needed systems across the military services.

OTHER PROCUREMENT, ARMY

Items of Special Interest

Army tactical communications waveforms

The committee supports the Army's Non-Developmental Item (NDI) procurement strategy for software defined radios. Furthermore, the committee recognizes the critical role radio waveforms play in battlefield communications and network capability, and how an NDI procurement approach can save money and deliver communications technology rapidly to the warfighter. The committee encourages the Army to expand its NDI procurement policy to include new software technology for innovative commercial waveforms. The committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives not later than September 30, 2016, on the potential use of new radio waveforms for tactical communications that may be available via an NDI acquisition approach.

High Mobility Multipurpose Wheeled Vehicle ambulance recapitalization

The committee recognizes the tactical importance of the High Mobility Multipurpose Wheeled Vehicle (HMMWV) fleet and the enduring requirement to maintain a capable HMMWV fleet supporting multiple relevant mission roles for Active and Reserve Component units. The committee notes that Congress has provided an additional \$520.0 million over the past 3 years to address unfunded modernization requirements for the Army Reserve (USAR) and Army National Guard (ARNG) HMMWV fleets.

The committee also recognizes the critical medical ground evacuation mission role provided by the HMMWV ambulance variant. The committee is concerned that the Army's current fleet of Active Component HMMWV ambulances are now on average 27 years old, exceeding the expected useful life of the vehicle by 12 years. The committee also understands the Army does not have a fully funded reset, recapitalization, or replacement plan in place for the entire HMMWV ambulance fleet. The committee is aware of the successful effort already underway to modernize the HMMWV ambulance fleet for the ARNG and USAR through new production vehicles, the M997A3 variant. The committee believes the Army should

consider a similar effort for the Active Component. The committee directs the Secretary of the Army to develop an acquisition strategy to modernize the current fleet of HMMWV ambulances for the Active Component and to provide a briefing to the Committee on Armed Services of the House of Representatives by March 1, 2017, on the details of this acquisition strategy.

AIRCRAFT PROCUREMENT, NAVY

Items of Special Interest

V-22 Osprey

The committee notes that in the 9 years since the establishment of an initial operational capability, the V-22 Osprey has provided the U.S. Marine Corps and the U.S. Air Force Special Operations Command (AFSOC) with a unique and revolutionary vertical lift capability due to its superior airspeed, range, and survivability. The operational tempo for both Marine and Air Force Ospreys has grown over the years and is expected to continue to increase as combatant commanders more fully exploit the attributes of the tilt-rotor platform in helping to meet national security challenges posed by traditional nation-states and terrorist organizations. Recently, the U.S. Navy selected the Osprey to perform the carrier on-board delivery mission that will transform the concept of logistic support at sea. The committee understands that the Navy plans to begin their purchase of 44 aircraft beginning in fiscal year 2018. The committee also understands that U.S. Special Operations Command may have unmet requirements for additional attrition reserve CV-22 platforms that are not accounted for within current Department of the Air Force multiyear procurements (MYPs).

The committee notes that the first and second V-22 MYPs have generated approximately \$1.25 billion in savings over year-to-year procurements, and that a third, and last, MYP is under consideration for fiscal year 2018. As this new procurement window opens in 2018, the committee encourages the Department of Defense, particularly the Department of the Air Force, to take advantage of this opportunity to generate further savings over year-to-year procurements. Should there be a plan for additional Ospreys to meet the increased demand, the committee encourages participation in the third MYP. The committee believes that the third MYP CV-22 unit pricing will be lower than independent year-to-year procurements in the future. Air Force participation would also help drive down unit pricing for the Department of Defense and partner nation aircraft.

Therefore, the committee directs the Secretary of Defense to brief the House Committee on Armed Services by November 1, 2016, on the current operational tempo for V-22 aircraft, forecasted demand for the aircraft in the future, and any V-22 procurement strategies under consideration.

PROCUREMENT, MARINE CORPS

Items of Special Interest

Mobile User Objective System capability

The committee notes that the Mobile User Objective System (MUOS) program has established a satellite constellation on orbit, but that only a limited number of communications terminals or radios carry MUOS waveform software. The committee is concerned about the delays in incorporating the MUOS waveform into Marine Corps and Air Force communications terminals. The committee directs the Secretary of the Navy and the Secretary of the Air Force to provide briefings to the Committee on Armed Services of the House of Representatives by September 1, 2016, on their current plans for integrating the MUOS waveform upgrades and associated equipment for current radios. To the maximum extent possible, these briefings should include detailed projections for delivery schedules, and fielding schedules for such equipment.

AIRCRAFT PROCUREMENT, AIR FORCE

Items of Special Interest

F-22 production restart assessment

The committee notes that production of the F-22 fifth-generation tactical aircraft concluded in 2009, and notes 187 aircraft were produced, far short of the initial program objective of 749 aircraft, as well as the Air Combat Command's stated requirement of 381 aircraft. The committee also understands there has been interest within the Department of the Air Force, Department of Defense, and Congress in potentially restarting production of the F-22 aircraft. In light of growing threats to U.S. air superiority as a result of adversaries closing the technology gap and increasing demand from allies and partners for high-performance, multi-role aircraft to meet evolving and worsening global security threats, the committee believes that such proposals are worthy of further exploration.

Therefore, the committee directs the Secretary of the Air Force to conduct a comprehensive assessment and study of the costs associated with resuming production of F-22 aircraft and provide a report to the congressional defense committees, not later than January 1, 2017, on the findings of this assessment. The committee expects the report to be unclassified, but may contain a classified annex. Further, the committee directs that the assessment and report consider and address the following:

- (1) Anticipated future air superiority capacity and capability requirements, based on anticipated near-term and mid-term threat projections, both air and ground; evolving F-22 missions and roles in anti-access/area-denial environments;

F-15C retirement plans and service-life extension programs; estimated next-generation aircraft initial operating capability dates; and estimated end-of-service timelines for existing F-22As;

(2) Estimated costs to restart F-22 production, including the estimated cost of reconstituting the F-22 production line, and the time required to achieve low-rate production; the estimated cost of procuring another 194 F-22 aircraft to meet the requirement for 381 aircraft; and the estimated cost of procuring sufficient F-22 aircraft to meet other requirements or inventory levels that the Secretary may deem necessary to support the National Security Strategy and address emerging threats;

(3) Factors impacting F-22 restart costs, including the availability and suitability of existing F-22A production tooling; the estimated impact on unit and total costs of altering the total buy size and procuring larger and smaller quantities of aircraft; and opportunities for foreign export and partner nation involvement if section 8118 of the Defense Appropriations Act, 1998 (Public Law 105-56) prohibiting export of the F-22 were repealed;

(4) Historical lessons from past aircraft production restarts; and

(5) Any other matters that the Secretary deems relevant.

U.S. Air Force combat search and rescue

In the committee report (H. Rept. 113-102) accompanying the National Defense Authorization Act for Fiscal Year 2014, the committee encouraged the Department of Defense to adopt concurrent and balanced fielding of new equipment between the Active Component (AC) and Reserve Component (RC). The committee believes that in many cases, concurrent and balanced fielding can better integrate AC and RC units and help ensure the RC remains an operational reserve. Furthermore, the committee notes that many major defense acquisition programs have followed concurrent and balanced fielding, including the F-35 Joint Strike Fighter.

The committee understands that the Air Force intends to field refurbished and upgraded HH-60G operational loss replacement (OLR) aircraft to RC combat search and rescue units in fiscal year 2018, and that these same units will receive new HH-60W combat rescue helicopter aircraft in the fiscal year 2027 to 2029 timeframe. The committee supports the plan to provide these OLR aircraft to RC units as soon as possible. However, the committee is concerned that there does not appear to be a plan to concurrently field the HH-60W to both AC and RC units, and that there is a potential 10-year gap between RC units receiving HH-60G OLR aircraft and the new HH-60W aircraft.

Additionally, the committee understands that the Department of the Air Force is undertaking an ongoing review to determine whether primary responsibility for combat search and rescue (CSAR) will remain with Air Combat Command or be moved to Air Force Special Operations Command. The committee notes the importance of the CSAR mission as the primary personnel recovery

method for service men and women in extremis, as well as the complex nature of these operations that often require multi-service, dedicated, and fully trained forces. As the Air Force reviews this mission, the committee encourages an analysis of current and anticipated geographic combatant commander requirements and whether current force structure is capable of meeting those requirements with existing HH-60 and V-22 platforms.

To address committee concerns, the committee directs the Secretary of the Air Force and relevant subordinate commands to brief the Committee on Armed Services of the House of Representatives not later than September 1, 2016, on Department of the Air Force plans for fielding the HH-60W to the AC and RC, and the status of the ongoing review for responsibility for the CSAR mission.

PROCUREMENT OF AMMUNITION, AIR FORCE

Items of Special Interest

25 millimeter ammunition for the F-35 program

The committee recognizes the critical role that the F-35 will play in both air-to-air and air-to-ground combat capability, and believes that the 25 millimeter gun will be a critical part of the F-35's overall weapons lethality. Consequently, the committee encourages the Department of Defense to consider all ammunition solutions to meet the lethality requirement for the F-35's 25 millimeter gun.

To further the committee's understanding of the Department's F-35 25 millimeter ammunition plans, the committee directs the Secretary of Defense to provide a briefing to the Committee on Armed Services of the U.S. House of Representatives by August 1, 2016, on the requirements and acquisition strategy for 25 millimeter ammunition.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

Items of Special Interest

Armored vehicle fuel tank and bladder safety

The committee notes that armored vehicles carry a significant amount of fuel, which can become a hazard to the crew in combat. The committee commends the work that the Army has done to improve crew safety, including the development of technologies that reduce risk of fuel spills when a fuel tank is punctured or ruptured, and efforts to render fuel inert where possible. Such efforts may reduce catastrophic injuries to soldiers.

However, the committee is aware of self-sealing polymers and other materials with self-healing capabilities that, combined with passive fire suppression blankets, may provide additional safety to crews within armored vehicles. Therefore, the committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives by March 1, 2017, on candidate technologies that could be used to improve the fuel containment and safety capability of legacy armored vehicle platforms and armored vehicle platforms currently in development.

Army advanced body armor research and development

The committee has consistently supported the need to provide soldiers with the most advanced body armor. The committee believes that body armor, which provides desired protection levels at the lightest possible weight, ensures greater soldier survivability and reduces injuries, while improving mission performance and effectiveness. The committee is aware that the Army's Soldier Protection System (SPS) program is seeking to reduce the weight of body armor by 10 percent, while maintaining or improving current ballistic capabilities, and would use a more holistic and systems-based approach to developing an integrated personal protective equipment kit for soldiers. The committee supports the Army's SPS effort. However, the committee believes that even as manufacturers are developing hard body armor components that achieve SPS requirements, it is also important that research and development continue on hard body armor components with even greater capabilities. The committee also believes this effort should be resourced and programmed in order to ensure that more dramatic improvements are readily available for soldiers in the near future, given the emerging threats in the global environment.

Specifically, the committee believes that a goal of doubling the current SPS requirement (a 20 percent reduction in weight while maintaining or improving current ballistic capabilities) would ensure that soldiers have the most advanced hard armor possible to better address emerging and future threats. Such an improvement will require a holistic approach to improving body armor; therefore, the committee believes that a new research and development project should be established by the Army that allows qualified manufacturers to compete to study new materials, manufacturing technologies, assembly processes, ballistic impacts, predictive modeling, and crack sensor technologies. In addition, the committee believes that such a program will also encourage body armor manufacturers to investigate high-risk technologies and processes, which are likely essential for ensuring that such a change in capability is possible.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives not later than September 30, 2016, on the advisability and feasibility to the Army of establishing such a research and development project. The briefing should also

include an estimate for any additional funding needed in fiscal year 2017 to establish such a research effort.

Army network integration evaluations and army warfighting assessments

The committee acknowledges the importance of the Department of the Army's Network Integration Evaluation (NIE) exercises conducted at Fort Bliss, Texas, and White Sands Missile Range, New Mexico. The committee notes that, through this program, the Army has been able to test equipment in a realistic battlefield environment in the hands of soldiers, and the Army has been able to save billions of taxpayer dollars after the NIE proved that several programs were not operationally effective. The committee also acknowledges the importance of the new Army Warfighting Assessments (AWA), also currently planned to occur at Fort Bliss and White Sands Missile Range. The committee believes that these exercises help the Army to shape requirements for Army acquisitions, create new capabilities from existing technology, and promote interoperability between service branches and U.S. allies.

The committee acknowledges the investments already made in the Brigade Modernization Command and Fort Bliss, Texas, for the NIE and AWA missions. The committee also acknowledges that both the NIE and AWA should be, if possible, brigade-level exercises to ensure mission command requirements are met, and that any systems tested will be fully capable of deployment at the brigade level. The committee believes that the most efficient method for conducting the NIE's and AWA's is to assign a dedicated brigade to the NIE and AWA missions. However, the committee understands that the Army must use all available force structure to meet current demands for forces to support combatant commanders. The committee encourages the Army to continue to pursue both the NIE and the AWA, so that the Army can continue to save money, fully utilize its previous investments, adequately test and shape its acquisition programs, and maintain technological superiority.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services, not later than September 1, 2016, on the Army's long-term plans and budget figures for conducting NIE and AWA events. This briefing should also include any data available on cost savings the Army has accrued due to past NIE and AWA events. In addition, the committee directs the Secretary of the Army to determine the most cost effective means to execute the NIE and AWA missions, and to provide this information as part of the long-term plans in the aforementioned briefing.

Helicopter seating systems

In the committee report (H. Rept. 114-102) accompanying the National Defense Authorization Act for Fiscal Year 2016, the committee expressed concern over outdated requirements and standards for helicopter seating systems (HSS). Specifically, the committee noted that there appeared to be a lack of ergonomic design considerations, a detailed understanding of long-duration seat vibration on

the body, and a lack of appropriate anthropomorphic data incorporated into helicopter seating system requirements. In response, the Director, Operational Test and Evaluation, provided a report to the committee on February 10, 2016, addressing these issues. The report confirmed many of the concerns expressed by the committee.

The committee understands that the Department of Defense and the Army are studying current HSS designs and have identified a need to improve current systems. The committee is aware that the Joint Aircraft Survivability Program Office and the Army are now identifying and developing new technologies in order to mitigate or eliminate deficiencies in current HSS performance. The committee believes the Department should accelerate development of new technologies that could provide increases in force protection and survivability, as well as reduce potential long-term disability issues for aviators. The committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives by January 15, 2017, on current HSS research and development programs.

Improved Turbine Engine Program

The budget request contained \$126.1 million in PE 67139A for the Improved Turbine Engine Program (ITEP).

The committee continues to support the Army research and development budget request for ITEP, as well as the acquisition strategy included in the request. ITEP is a competitive acquisition program that is designed to develop a more fuel efficient and powerful engine for the current Black Hawk and Apache helicopter fleets. This new engine will increase operational capabilities in high/hot environments, while reducing operating and support costs. The committee acknowledges the benefits of improved fuel efficiencies through lower specific fuel consumption that ITEP will bring to the battlefield. In addition, the committee encourages the Army to prioritize maintenance and sustainment cost savings for ITEP to ensure the continued affordability of the program.

The committee notes that the fiscal year 2017 budget request reflects an increase over last year's projection, which is an indication of the Army's support for this capability. Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by February 15, 2017, on potential options to accelerate the development and fielding of the engine so that the benefits can be realized sooner than currently planned.

The committee recommends \$126.1 million, the full amount requested, in PE 67139A for the ITEP program.

Land-Based Anti-Ship Missile program

The committee understands the U.S. Army Aviation and Missile Research, Development, and Engineering Center is developing concepts and technologies to enable the U.S. Army to conduct land-based offensive surface warfare. This includes

adapting existing Army and Marine Corps High Mobility Artillery Rocket Systems and Multiple Launch Rocket System missile systems for this land-based offensive surface warfare capability. The committee supports the Army's Land-Based Anti-Ship Missile (LBASM) effort and understands the Army has programmed funding across the Future Years Defense Program in order to continue to integrate and demonstrate this capability through live-fire testing.

The committee directs the Secretary of the Army, or the appropriate designee, to provide a briefing to the House Committee on Armed Services by February 1, 2017, on the LBASM concept development effort, to include schedule and funding requirements.

Long-range Army surface-to-air missile capability

The committee notes that the Army's current surface-to-air missile (SAM) systems have significantly less range against aircraft targets than many foreign threat systems, including the SA-20 Gargoyle, SA-21 Growler, and HQ-9. The committee also notes that over time, these weapon systems may proliferate around the world. The committee is concerned that this over-match by potential adversaries may place U.S. forces at significant risk in combat scenarios against near-peer military forces equipped with advanced fifth generation aircraft armed with precision-guided standoff weapons. The committee is also concerned that this over-match may place an excessive burden on U.S. tactical fighter aircraft operating in a defensive counter-air role. The committee believes that longer-range U.S. Army SAM capability may provide a significant upgrade to the overall U.S. military's ability to defend friendly airspace against advanced aircraft threats and deter potential adversaries. Therefore, the committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the U.S. House of Representatives not later than September 1, 2016, on the potential requirement for longer-range Army SAM systems in the future, including the potential upgrade of current systems or an entirely new system.

Modular Handgun System

The committee understands the Modular Handgun System (MHS) is projected to be a non-developmental item, commercial-off-the-shelf replacement handgun for the current M9 pistol. In the committee report (H. Rept. 114-102) accompanying the National Defense Authorization Act for Fiscal Year 2016, the committee noted its continued support for the MHS program, as well as the need to modernize small arms through new procurements and incremental product improvement programs. The committee continues to support the MHS program and understands the program remains on cost, on schedule, and is under source selection. The committee understands the Chief of Staff of the Army is conducting a review of the program, consistent with new authorities provided in section 802 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92).

The committee is aware of the Chief of Staff of the Army's concerns regarding the extended length and cost of the required test and evaluation program, and also the overly complex performance requirements. For example, the committee understands that the final request for proposals was an extensive document, reaching 351 pages, but the technical specifications required for the handgun system were only 39 pages. The committee encourages the Army to continue to work to develop ways to streamline the existing test program in order to accelerate fielding of this capability to the warfighter.

The committee is also aware that the Army has not officially updated the small arms capability based assessment (CBA) used since 2008 to identify requirements and capability gaps for small arms. Therefore, the committee directs the Secretary of the Army, in coordination with the Chief of Staff of the Army, to update the small arms CBA from 2008, and to provide a briefing to the House Committee on Armed Services by February 1, 2017, on the results of the update. The committee does not believe this update would have any programmatic or schedule impacts to the MHS program, and expects that if impacts to the MHS program should occur, these would be a product of any potential outcomes resulting from the Chief of Staff of the Army's ongoing review of the program.

Personal protective equipment development for female soldiers

The committee is aware that recent determinations by the Secretary of Defense have opened all combat positions to female warfighters. The committee is concerned that currently available items of personal protective equipment (PPE) and organizational clothing and individual equipment (OCIE) do not meet the specific and unique requirements for female combat troops. These items of equipment continue to overly burden all combat troops with excessive weight.

The committee believes that the new Department of Defense policy presents an opportunity for the military services to focus on the “warfighter as a system” and properly address the unique needs of female service members through a holistic acquisition strategy. The committee notes that the Army is currently developing a complete Soldier Protection System (SPS) to provide soldiers with modular, scalable, and mission tailorable protection to reduce weight and increase mobility, while optimizing protection. The Army has set an overall weight reduction goal of 10 percent for SPS. The committee supports the SPS effort and expects the program to consider the unique physical requirements of female service members.

The committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services by March 1, 2017, that outlines the plans to provide PPE and OCIE developed specifically for female service members. The briefing should include, but not be limited to: (1) plans for programming, budgeting, requirements, and procurement of female specific equipment including helmets, combat clothing, body armor, footwear, and other critical safety item equipment categories, and (2) detailed plans on integrating commercially available materials and advanced product design to reduce the load for all service members.

Small Unit Support Vehicle

The committee notes that the Army family of Small Unit Support Vehicle (SUSV) fleet is used by Army units that train and operate in extreme cold weather conditions, and that it provides those units with unique capabilities not found elsewhere in the Army. In addition, while the committee is aware of the Army's effort to refurbish some of the fleet, the committee notes that legacy SUSVs are beyond their economic useful life, and have become increasingly difficult to maintain. Therefore, the committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the U.S. House of Representatives not later than September 1, 2016, on the potential requirement for a replacement to the SUSV fleet. The briefing should include potential options for increasing the capability beyond the current vehicles, such as additional carrying capacity, armament, and survivability.

Vehicle active protection systems

The committee is encouraged by the Army's current strategy for vehicle active protection system (APS) tests and integration. The committee believes this strategy will allow the Army to better address the threats posed by the growing proliferation of anti-tank guided missiles and rocket-propelled grenades. The committee is aware of the importance of vehicle APS capabilities for forward-deployed units, specifically those units in the U.S. European Command area of operations. The committee supports this effort and encourages the Army to expedite deployment and fielding of vehicle APS technology on ground combat vehicles that will form an essential element of the European Reassurance Initiative.

The committee notes that the Army plans to conduct demonstration testing of mature vehicle APS capabilities on the Abrams main battle tank, the Bradley fighting vehicle, and Stryker combat vehicle. The committee encourages the Army to analyze options for incorporating vehicle APS solutions on additional vehicles, including the Joint Light Tactical Vehicle, and to identify the APS solutions that are best suited for deployment on lighter-weight combat and tactical vehicles.

The committee directs the Secretary of the Army to provide a briefing to the Committee on Armed Services of the House of Representatives by March 1, 2017, on the status of plans to deploy and integrate mature vehicle APS technology on deployed ground combat vehicles.

Weight reduction for personal protective equipment

The committee supports the efforts of the Army and the Marine Corps to reduce the weight of personal protective equipment (PPE) and organizational clothing and individual equipment (OCIE). However, the committee remains concerned that the military services are not capitalizing on the commercial industry's investments in textile materials to reduce the load carriage systems for ground combat forces.

The committee directs the Secretary of the Army, in coordination with the Secretary of the Navy, to conduct a market survey and analysis of the commercial sectors' technology and products that could be applied to current weight reduction initiatives for PPE and OCIE. The committee further directs the Secretary of the Army, in coordination with the Secretary of the Navy, to provide a briefing to the House Committee on Armed Services by March 1, 2017, which summarizes the findings of the market survey.

Additionally, the committee directs the Comptroller General of the United States to submit a report to the congressional defense committees by April 1, 2017, that reviews the efforts of the Army and the Marine Corps to reduce weight for PPE and OCIE. The report should identify the services' current weight reduction initiatives, establish a baseline for future evaluations, and assess the effectiveness of current efforts. The committee further directs the Comptroller General to provide a briefing to the House Committee on Armed Services by December 1, 2016, on the Comptroller General's preliminary findings.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, NAVY

Items of Special Interest

F/A-18 fleet physiological event rate

The committee notes with concern the increasing rates of physiological events (PE) experienced by F/A-18 pilots over the past 5 years. In fiscal year 2015, PE events experienced by F/A-18 pilots averaged no less than 28 incidents per 100,000 flight hours across 3 F/A-18 platforms. Of concern to the committee is whether this rate is an indicator that the Navy's efforts to address the problem are ineffective, or reflects an increase in reporting by aircrew. While these PE events cover a wide range of potential causal factors, the committee notes that the potential for aircraft mishap caused by a lack of oxygen or contamination of the on-board oxygen generation system (OBOGs) is real and should be addressed. The committee acknowledges and supports the Department of the Navy's establishment of PE teams to work with industry partners to collect, examine, and test potential solutions.

While the committee recognizes that there has not yet been a confirmed loss of an aircraft or pilot due to these events, and that physiological events experienced by F/A-18 pilots appear to be occurring at a rate lower than those experienced by the F-22 fleet from fiscal years 2010-14, the committee remains concerned about the apparent increasing F/A-18 physiological event rate, which poses risk to pilots and fleet operations. As a result, elsewhere in this Act, the committee includes a provision that would establish an independent review of the Navy's efforts to date to address this issue, with a report date of December 1, 2017.

In addition, the committee notes that two critical elements of the Air Force's effort to reduce the rate of similar events in the F-22 fleet included changes to pilot flight equipment and the installation of an automatic backup oxygen system

(ABOS). The ABOS could provide an increase in backup oxygen supply as compared to the installed manual backup oxygen carried in F/A-18 aircraft. The committee acknowledges that the F-22 system was already an existing design, and that in contrast the Navy would have to study and design an automatic system, working with the F/A-18 contractor. The committee believes that no one fix is likely to address all the issues causing physiological events. Given the in-depth research and mitigation efforts that the Navy is conducting, the committee believes that examination of the feasibility of design and installation of an ABOS of some kind in F/A-18 aircraft may be an important element to reduce the rate of incidents and preserve pilot confidence in the aircraft's overall life support system. Therefore, the committee directs the Secretary of the Navy to conduct a detailed engineering and cost analysis on the potential installation of an automatic backup oxygen system in the F/A-18 fleet, and to provide a report, not later than March 15, 2017, to the congressional defense committees on the findings and conclusions of this analysis.

Joint metallurgical technology for combat and tactical vehicle hulls

The committee notes that in-service cracks are developing in the armor hull structures of Marine Corps and Army heavy tactical vehicles, to include mine resistant ambush protected vehicles (MRAPs) that were constructed from MIL-A-46100 High Hard Armor Steel. The committee believes the military services should consider resourcing a joint metallurgical technology program to develop solutions which provide reasonable, cost effective solutions to help repair and mitigate these types of cracks. The committee anticipates that this program would help to identify, develop, and evaluate potential alternatives, models, processes, and procedures to eliminate the cracking issue in the current fleet of MRAPs and newly acquired tactical vehicles, as well as to help to reclaim lost legacy vehicle assets as a result of severe cracking in vehicle hulls.

The committee directs the Secretary of the Navy, in coordination with the Secretary of the Army, or their appropriate designees, to provide a briefing to the House Committee on Armed Services by February 1, 2017, on the advisability and feasibility of pursuing metallurgical technology to address vehicle hull cracks and repair for combat and tactical vehicles.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, AIR FORCE

Items of Special Interest

Joint Surveillance Target Attack Radar System recapitalization

The budget request contained \$128.1 million for the Joint Surveillance Target Attack Radar System (JSTARS) recapitalization program.

The committee notes that the fiscal year 2017 budget request projects a delay of at least 1 month in the engineering and manufacturing development (EMD) contract award, from the fourth quarter of fiscal year 2017 to the first quarter of

fiscal year 2018, and a 1-year delay in Initial Operational Capability (IOC) from fiscal year 2023 to 2024 in the recapitalization of the JSTARS fleet. The committee believes JSTARS recapitalization offers significant advantages: it will decrease the logistics footprint, reduce sustainment costs, increase operational flexibility, and extend operations into anti-access/area denial environments. The committee recognizes that the overall delay is a consequence of: (1) a delay in the milestone A decision; and (2) analysis conducted by both the Department of the Air Force and the Office of the Secretary of Defense that indicates the EMD schedule will require 4 to 5.5 years.

The committee supports and understands the need for a technology maturation and risk reduction (TMRR) phase as part of the JSTARS recapitalization program, as a means to decrease cost, schedule, and performance risk prior to entering the EMD phase. The committee understands that the Air Force's acquisition strategy includes considering two radar alternatives as part of the TMRR phase. The committee believes that the TMRR phase is the appropriate place to pursue such a strategy. However, the committee also believes that pursuing multiple radar technologies concurrently within the program of record into the follow-on development phase would be inconsistent with the committee's acquisition reform initiatives. The committee expects the Air Force to down select to one radar solution as part of the EMD phase in order to ensure the program does not continue to be delayed. If the Air Force believes that alternative radar capabilities should be pursued for risk mitigation or capability enhancements in the future, the Air Force should pursue such an approach outside of the program of record with the ability to incrementally integrate in the future if necessary.

The committee has continually expressed concern that a protracted acquisition program will result in a multiyear capabilities gap, which will leave combatant commanders without an acceptable level of ground moving target indicators and battle management command and control capability. The committee also believes that the use of existing technology combined with a commercially available jet aircraft can result in a significantly faster acquisition program. The committee notes this approach would be consistent with current acquisition reform policies that direct a more streamlined and incremental approach for major defense acquisition programs. While the committee understands that the Department of the Air Force is conducting a study to determine the E-8's widespread airframe fatigue risk, which will be complete in March 2017, the committee notes that under the most optimistic scenarios, the Department can expect a shortfall of 10 JSTARS aircraft in its fleet of 16 operational aircraft by late fiscal year 2025.

Accordingly, the committee encourages the Secretary of the Air Force to develop a plan, including incentives in the JSTARS recapitalization EMD and procurement contracts, to accelerate the development, procurement, and fielding of JSTARS recapitalization program. In addition, the committee believes the Air Force should program necessary funds in its future budget requests to accelerate the JSTARS recapitalization program in the Future Years Defense Program, and to eliminate the delay in delivering initial operational capability. The committee

directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services, not later than December 1, 2016. The briefing should include one option that would accelerate the IOC to fiscal year 2022, and a second option that would accelerate the IOC to fiscal year 2023.

The committee recommends \$128.1 million, the full amount requested, for the JSTARS recapitalization program.

T-X program

The budget request contained \$12.4 million in PE 65223F for advanced pilot training, also known as the T-X program.

The Department of the Air Force's current advanced jet trainer aircraft, the T-38C, initially entered the Air Force inventory in 1961. The average age of the fleet is 50 years old, with an average of over 16,000 flight hours on each aircraft. Although the T-38C fleet has undergone costly structural life extensions and avionics upgrades, the committee believes that the aircraft is unable to address the training gaps that have grown with the introduction of fourth and fifth generation fighter aircraft. The committee also believes that the T-X aircraft and its associated ground-based training system, collectively known as the advanced pilot training family of systems (APT FoS), will affordably address training gaps that have been identified by the Air Education and Training Command, ensuring that student pilots have the necessary skills to fly and employ current and future advanced combat aircraft. The committee notes that initial operating capability for the APT FoS is planned for 2024, and understands that full operational capability is scheduled for 2029.

The committee also understands that the costs of sustaining the T-38C fleet are growing even as aircraft availability is decreasing, and that the T-38 was originally intended to undergo replacement in the mid-1990s. Therefore, the committee believes that any delay to the APT FoS program will place the Department of the Air Force combat readiness at risk, and that maintaining or accelerating the current APT FoS program schedule is required to ensure safe and effective training of Department of the Air Force combat pilots.

Accordingly, the committee recommends \$12.4 million, the full amount requested, in PE 64233F to continue the T-X program. The committee also directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than November 1, 2016, on potential options to accelerate the T-X program.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, DEFENSE-WIDE

Items of Special Interest

Future Vertical Lift

The committee recognizes that incremental improvements or upgrades to current Department of Defense rotorcraft will not fully meet future joint service operational requirements. With the exception of the V-22 Osprey, all U.S. rotorcraft deployed in the Republic of Iraq and the Islamic Republic of Afghanistan were designed during or before the Vietnam War. The committee continues to support the development of future vertical lift aircraft and encourages the Department to expand the prototyping program. Future Vertical Lift (FVL) is a joint program, with support from the Army, Navy, Air Force, Marine Corps, Special Operations Command, and Coast Guard.

The committee understands that a key aspect of the FVL program is the Army's Joint Multi-Role (JMR) Technology Demonstrator. The JMR program includes related research on next-generation rotors, drivetrains, engines, sensors, and survivability that all feed into the FVL program. The committee notes that fiscal year 2017 is a critical year for technology development, with first flights of two demonstrator aircraft. Furthermore, wind-tunnel testing and other key milestones will reduce risk for the program of record and inform the FVL analysis of alternatives, which is expected to occur in the second half of 2017. However, the committee is concerned, due to the current resource constrained environment, that current funding levels are inadequate.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by January 31, 2017, on the status of both the prototype air vehicle demonstrations and supporting initiatives. The briefing should include potential options and required resources for accelerating the FVL program.

Rotorcraft degraded visual environment

The committee notes that the Department of Defense Appropriations Act, 2015 (division C of Public Law 113-235) appropriated an increase of \$20.0 million above the budget request for the development or procurement of a degraded visual environment (DVE) system for rotorcraft programs. The committee is aware of the challenges that the military services face in regards to operating rotary winged aircraft in austere environmental conditions, including brown-out landings and marginal weather, while operating in difficult terrain. According to the Army, degraded visual environment conditions contribute to approximately 25 percent of its rotary wing mishaps. The committee notes that the Army's Special Operations Command (SOCOM) has made DVE a top priority, and that the Army is looking at leveraging the work that SOCOM has already performed in order to accelerate this capability across Army rotorcraft programs.

Therefore, the committee directs the Secretary of the Defense to provide a briefing to the House Committee on Armed Services by December 1, 2016, that includes an update on Army, Navy, Marine Corps, and Air Force plans to integrate DVE capabilities into their respective rotorcraft and tilt-rotorcraft programs.

V-22 defensive weapons integration analysis

The budget request contained \$174.4 million in PE 64262N for V-22 research and development, but contained no funds for development and integration of defensive weapon systems.

The committee notes that various models of the V-22 support tactical airlift requirements for special operations and general purpose forces of the Department of Defense. However, the committee is concerned that given the emerging flexibility the V-22 has exhibited in multiple contingency and training operations, the aircraft may be unintentionally limited by its lack of defensive weapons and having to rely upon other airborne armed assets to provide escort during tactical airlift infiltration and exfiltration operations. The committee understands that options may exist to develop and integrate defensive weapons capability onto V-22 platforms, but the Department has not coalesced in deriving mutual requirements that could satisfy each of the services within the Department that utilize the capabilities of the V-22.

Therefore, the committee directs the Secretary of the Air Force, in coordination with the Secretary of the Navy and the Commander of U.S. Special Operations Command, to provide a briefing to the House Committee on Armed Services by December 1, 2016, that specifies all requirements for V-22 defensive weapon capabilities within the Department of Defense, and provides an analysis of viable alternatives that could be implemented to fulfill those requirements. The analysis should examine alternatives that could ensure a full, fair, and open competition among qualified vendors that utilizes an expedited timeline, encouraging innovation, affordability, and enhancing the versatility of the V-22.

TITLE X—GENERAL PROVISIONS

ITEMS OF SPECIAL INTEREST

OTHER MATTERS

Air Force Combat Search and Rescue Associate Units

The committee supports the National Commission on the Structure of the Air Force recommendation to expand the use of associate units, where appropriate. The committee notes, however, that none of the three Air National Guard combat search and rescue units in Alaska, California, and New York are associate units. Therefore, the committee encourages the Air Force to consider options for making these units active associate units under an appropriate organizational structure based on their local mission and operational demands. In addition, the committee directs the Secretary of the Air Force to provide a briefing to the Committee on Armed Services of the House of Representatives not later than March 1, 2017, on the potential options for transforming these units into associate units, including the potential cost, benefits, and challenges involved in each case.

Army and Joint Force Integration of Former Unmanned Aircraft System Center of Excellence Responsibilities

The committee notes that under the former Joint Forces Combatant Command (JFCOM), a Joint Center of Excellence for Unmanned Aircraft Systems (UAS) was established in 2005 by the Department of Defense at Creech Air Force Base, Nevada. A separate Unmanned Aircraft Systems Center of Excellence (COE) was established in 2008 by the Army at Fort Rucker, Alabama. The purpose of the UAS COEs was to establish organizations that could collaborate and create an environment among the military services that would foster unity of effort focused on all aspects of UAS requirements, system development, acquisition, testing, fielding, training, airspace integration, employment concepts, sustainment, interoperability, data dissemination, capability gaps, and shortfalls. Consequently, in 2010 when JFCOM was disestablished by the Secretary of Defense, both the Joint COE and the Army COE were subsequently disestablished.

The committee understood at the time that all the responsibilities of the Joint COE would be divided between the Joint Staff J-8 Directorate for Force Structure, Resources, and Assessment, and the Department of Defense UAS Task Force. The committee further understood that all the responsibilities of the Army COE would be absorbed within the Capabilities Development and Integration Directorate of the Army's Aviation COE at the Army's Training and Doctrine Command.

Although the committee has been assured by the Department that all aspects of the UAS COEs that were disestablished were reabsorbed into the aforementioned organizations, the committee seeks to gain a further understanding regarding particular aspects of UAS issues.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services, not later than October 1, 2016, that explains:

- (1) How the Army plans to grow resources and facilities to support the expansion of UAS orbits through 2030;
- (2) How increased Army UAS operations will fit into joint and executive branch interagency operations; and,
- (3) How the Army plans to mitigate frequency encroachment on test and training ranges.

The committee also directs the Chairman of the Joint Chiefs of Staff to provide a briefing to the House Committee on Armed Services, not later than October 1, 2016, that explains how the role, mission, and responsibilities of the former Joint UAS COE were absorbed into the governance architecture of the J-8 Directorate of the Joint Staff, and provide an assessment to the committee regarding the benefits and challenges of those responsibilities being executed within the J-8 Directorate.

Repeal of Report on Unmanned Aircraft Systems

In the committee report (H. Rept. 106-652) accompanying the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009, the committee directed the Secretary of Defense to submit an annual report on the Department's progress in addressing the challenges facing unmanned aircraft systems. The Department has provided the requested report for 7 years, including the most recent report on March 23, 2016. Based on the committee's ability to obtain the information in these reports through other means, the committee directs the Secretary of Defense to no longer provide this report to the congressional defense committees, the Senate Select Committee on Intelligence, and House Permanent Select Committee on Intelligence.