

En Bloc Amendments to H.R. 2810		
Subcommittee on Tactical Air and Land Forces		
En Bloc # 2		
Log #	Sponsor	Description
009	Scott	M4 Free Floating Rail
034	Cook	Directs the Department of the Army to provide a briefing on its acquisition strategy for Remote Weapons Stations on the Joint Light Tactical Vehicle.
049	Tsongas	This amendment requires a briefing by the Secretary of the Army on status of the Integrated Air and Missile Defense (IAMD) Battle Command System (IBCS) program including information on programmatic risks, total estimated costs and a new testing and fielding.
056	Shea-Porter	Directs the Commanding General of the U.S. Army Materiel Command to brief congressional defense committees with detailed assessment of the Army's ongoing efforts to improve capabilities to counter IEDs.
174r1	Abraham	Requires the Army to provide a briefing on cost competitive technologies that minimize waste generation and air emissions to dispose of stockpiles of conventional munitions.
205r1	Tsongas	Requires the Secretary of the Navy to include responses to findings and recommendations of the Navy's June 2017 Comprehensive Review on physiological episodes involving F-18s and T-45s in an Independent Review required by House Report 114-537.
240	Turner	Directs the Department of the Army, in coordination with Special Operations Command, to provide a briefing on its plan for addressing capability gaps in its tactical communications requirements.
256	Cheney	DRL requiring a briefing to HASC by October 6, 2017 that addresses the advisability and feasibility of establishing a test and evaluation program that could provide for a full capabilities assessment for super cavitating ammunition.
265r1	Brooks	Encouraging OSD to modernize UH-60A/L for Afghanistan Aviation Forces
266r2	Brooks	Directs USD(AT&L) to provide a briefing to the defense committees on current research and development efforts supporting the small turbine engine industrial base.
292	Brown	Directs the Secretary of the Army to provide a briefing on new, tethered based multi-rotor platforms for communications, cyber, and intelligence operations.

Log 009

Amendment to H.R. 2810 National Defense Authorization Act for Fiscal Year 2018

Offered by: Rep. Austin Scott (GA-08)

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

M4 Carbine Free Floating Rail Technology

The committee has long supported small arms modernization and continues to encourage increased investment to improve small arms capability. The committee notes that the Army continues to use and field legacy rail systems for use on M4 carbines. However, the committee understands that the U.S. Special Operations Command (SOCOM) and the Army Marksmanship Unit has begun to field free-float rail systems instead of using current legacy systems. The committee is also aware that free-float rail systems are considered to be the commercial industry standard and are readily available. The committee understands that the Program Executive Office-Soldier (PEO-Soldier) through the Soldier Enhancement Program (SEP) is currently evaluating the SOCOM free-float rail system. The committee encourages the Army, subject to a favorable SEP evaluation, to consider the advisability and feasibility of developing an accelerated acquisition strategy for free-float rail systems.

The committee directs the Secretary of the Army, in coordination with PEO Soldier, to provide a briefing to the House Committee on Armed Services by December 1, 2017 on the results of the current SEP evaluation and the Army's plans for upgrading legacy rail systems.

Log 034

Amendment to H.R. 2810 National Defense Authorization Act for Fiscal Year 2018

Offered by: Mr. Cook of California

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Remote Weapon System Development and Integration for Tactical and Ground Combat Vehicles

The budget request included \$87.6 million in PE 64601A for infantry support weapons. Of this amount, \$22.5 million is for the purchase of prototypes, design improvements, and test and evaluation for a remote weapon station that integrates a medium-caliber weapon system with a 30mm auto-cannon and a Stinger surface-to-air missile. This effort will support upgraded lethality capabilities for Army and Marine Corps tactical vehicles, including the Joint Light Tactical Vehicle (JLTV).

The committee understands these upgrades are necessary to fill emerging capability gaps identified by the Maneuver Support Center of Excellence (MSCoE) and identified in the Common Remotely Operated Weapon Stations (CROWS) Increment II Capability Development Document (CDD). The committee is aware the Army is considering upgrades to legacy remote weapon systems in order to accelerate fielding of this capability. The committee believes other alternative RWS platforms may be available that could address these capability gaps. The committee encourages the Army to consider a competitive acquisition strategy that would leverage advances made in this area by the industrial base that potentially generates better value for the warfighter, and address the capability gap without delaying fielding of this capability. However, the committee also recognizes that the Secretary of the Army can still exercise discretion in developing the appropriate acquisition strategy to meet urgent operational needs.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by August 31, 2017 that reviews the Army's current plan for acquisition and fielding of remote weapon stations for tactical and ground combat vehicles.

Log 049

Amendment to H.R. 2810

National Defense Authorization Act for Fiscal Year 2018

Offered by: Representative Niki Tsongas

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Integrated Air and Missile Defense Command and Control Capabilities

The committee acknowledges that fielding of an Integrated Air and Missile Defense command and control set of capabilities remains the U.S. Army's Air Defense Artillery community's number one priority and believes that such capabilities are urgently required to meet warfighter needs.

However, the committee is concerned about continued programmatic challenges that have delayed even incremental capability delivery. The committee notes the President's budget request for Fiscal Year 2018 formalizes a shift of initial operational capability for the Integrated Air and Missile Defense (IAMD) Battle Command System (IBCS) from September 2016 to April of 2022 and that total program costs have grown from \$1.73 billion to \$2.68 billion as of the end of 2016.

The committee is further concerned about recent IBCS performance observations by the Department of Defense's Office of Operational Test and Evaluation which, in its February 2017 report, called the system's software "neither mature nor stable..." and by the Army Test and Evaluation Command which noted in report detailing a June 2016 limited user test that the system is "Not suitable, Not survivable, Not reliable."

The committee recognizes that the Army IAMD architecture has changed significantly since IBCS requirements were validated in 2009 with the cancellation of the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS), the Medium Extended Air Defense System (MEADS), and the Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM), and that emphasis has now shifted to integration of other Army systems.

Therefore the committee directs the Secretary of Army, not later than September 30th, 2017, to provide a briefing to the congressional defense committees on the status of the IBCS program. At a minimum, this briefing shall include:

- (1) Updated information on programmatic risks, total estimated costs, and a new testing and fielding schedule;
- (2) The program's plan to address emerging threats such as cyber and electronic attack; and
- (3) A plan for potential IBCS capability delivery acceleration, including options for how the Army could use Fiscal Year 2018 funding, prior year funding, or otherwise leverage other programs' investments to contribute or be incorporated into IBCS prior to the completion of fielding or investments that could alternatively meet program requirements.

Amendment to H.R. 2810 National Defense Authorization Act for Fiscal Year 2018

Offered by: Carol Shea-Porter

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Army counter-improvised explosive device technology

The committee recognizes that over the last decade, the military services have succeeded in developing, fielding, and deploying highly capable systems to address the threats from improvised explosive devices (IEDs), and that the Department of Defense is currently supportive of additional ongoing development efforts, including, but not limited to, the Army's Research, Development, and Engineering Command's activities in this area.

However, the committee is concerned that despite progress, research, and development, shortcomings may still exist in areas such as real-time and easily interpreted imaging, non-metallic detection, false alert rates, and non-invasive sensor technologies. The committee is aware of currently available technologies, tested and endorsed by close allies and partners, such as the United Kingdom, capable of providing additional protection from these IEDs.

Therefore, the committee directs the Commanding General of the U.S. Army Materiel Command to provide a briefing to the House Committee on Armed Services by September 1, 2017, on such technologies. This briefing shall include a detailed assessment of the Army's ongoing efforts to improve capabilities to counter IEDs, the extent to which existing and innovative sensor technologies are and will be incorporated into relevant development efforts, and the applicability of those technologies by allies and partner nations, such as the United Kingdom, to Army development efforts.

Log 174 revised
174r1

Amendment to H.R. 2810
National Defense Authorization Act for Fiscal Year 2018

Offered by: Mr. Abraham of Louisiana

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Clean Disposal of Conventional Munitions

The committee continues to support the use of technologies like those deployed at Camp Minden as a cleaner and safer alternative to the open burning of munitions. The committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by January 31, 2018 on the use of cost-competitive technologies that minimize waste generation and air emissions to dispose of stockpiles of conventional munitions awaiting demilitarization, as directed by section 314 of the Fiscal Year 2017 National Defense Authorization.

Amendment to H.R. 2810**National Defense Authorization Act for Fiscal Year 2018****Offered by: Representative Niki Tsongas**

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Modification to Independent Review of F/A-18 Psychological Episodes and Corrective Actions as Required by Section 237 of the National Defense Authorization Act for Fiscal Year 2017

Section 237 of the National Defense Authorization Act for Fiscal Year 2017 (PL 114-328) required an independent review of F/A-18 Physiological Episodes (PEs) and corrective actions. The findings of the Independent Review are to be sent to the congressional defense committees by December 1, 2017.

The committee notes that in June 2017 the Navy issued a Comprehensive Review (CR) examining the facts, circumstances and processes surrounding the recent PEs involving T-45 and FA-18 aircrew, including recommendations for how best to address this ongoing problem. The Committee notes with concern the CR's finding that at least four deaths have been related to incidents involving mishaps involving PEs over the past several years.

Therefore, as part of the Independent Review required by Section 237 of PL 114-328, the committee directs the Secretary of the Navy to provide further information on the service's effort to address this problem in the immediate and long term. This information should include, but not be limited to, addressing the findings and recommendations provided in the June 2017 CR including the Navy's plans (including aircraft design changes) to address the following:

- execution of a depot-level deep dive inspection of the entire FA-18 environmental control system and onboard oxygen generation system, to include associated sub-components and piping;
- replacement of the F-18 cockpit altimeter;
- redesign of FA-18 aircraft life support systems as required to meet onboard oxygen generation system input specifications;

- development of comprehensive F-18 physiological event resolution instrumented data plans including multi-media in-flight audio/video recording;
- design of an FA-18 automatic or semi-automatic initiation of emergency oxygen;
- design of an FA-18 automatic ground collision avoidance system;
- designs for improved FA-18 physiological monitoring and alerting systems;
- how all improvements to the FA-18 aircraft will be included in future FA-18 production.

The information provided by the Secretary of the Navy should also include an assessment of whether the Navy and the Independent Review Team have the resources necessary to carry out its mission. Should resources be found to be insufficient, the Secretary of the Navy shall include an estimate of what resources are necessary.

Log 240

**Amendment to H.R. 281
National Defense Authorization Act for**

Year 2018

Offered by: Mr. Turner of Ohio

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Software Based Mesh Network for Tactical Communications

The Committee recognizes small dismounted teams require nodes of tactical communication that are operationally flexible, secure, reliable in austere and contested environments, and emit minimal electronic signature. Furthermore, the Committee notes that satisfying these unique communications requirements often entails introduction of hardware infrastructure that degrades unit mobility, operational agility and stealth. The Committee is aware of and encouraged by software-based alternatives that create secure mesh communications networks, are highly mission adaptable, hardware agnostic and scalable to larger maneuver units. As such, the Committee directs the Department of the Army, in coordination with the Special Operations Command, to provide the House and Senate Armed Services Committees a briefing, not later than 90 days after enactment of this act, to include results of a market survey of existing software mesh capabilities, on its plan for addressing capability gaps in its tactical communications requirements.

Log 256

Amendment to H.R. 2810 National Defense Authorization Act for Fiscal Year 2018

Offered by: Liz Cheney

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Testing and Evaluation of Supercavitating Ammunition

The committee understands the defense industry has been investing in research and development of full caliber supercavitating ammunition for use in small arms. The committee notes 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 is aware that the Government of Norway's Norwegian Defense Research Establishment has performed tests and evaluation of supercavitating ammunition and that initial assessments regarding these tests have demonstrated positive results. Given these positive results of the Norwegian government's assessments, the committee encourages the Secretary of the Army and the Secretary of the Navy to consider conducting similar tests and evaluations of this technology.

Therefore, the committee directs the U.S. Army Program Executive Officer (PEO) for Ammunition, in coordination with the Navy Surface Warfare Center-Crane, and any other relevant U.S. defense officials to provide a briefing to the House Committee on Armed Services by October 6, 2017 that addresses the advisability and feasibility of establishing a test and evaluation program that could provide for a full capabilities assessment.

Log 265 REvised
265r1

Amendment to H.R. 2810
National Defense Authorization Act for Fiscal Year 2018

Offered by: Mr. Brooks of Alabama

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Modernization of UH-60A/L aircraft bound for Afghanistan Aviation Forces

The committee encourages the Office of the Secretary of Defense (OSD) to develop strategies to modernize analog flight and crew advisory instruments in the UH-60A/L aircraft bound for Afghanistan Aviation Forces. The committee understands the aging analog systems in the UH-60A/L are being phased out in favor of digital glass flight displays that provide increased situational awareness and avoid growing obsolescence and reduced readiness. The committee notes that the digital glass flight displays have the added benefit of more efficient delivery of information to the pilot and copilot, easier scan of flight parameters, and more intuitive use of this information in the control of safe flight operations.

The committee directs the Secretary of the Defense to provide a briefing to the House Committee on Armed Services by December 1, 2017, on OSD's strategy to transition UH-60A/L aircraft bound for Afghanistan Aviation Forces.

Log 266r2

**Amendment to H.R. 2810
National Defense Authorization Act for Fiscal Year 2018**

Offered by: Mr. Brooks of Alabama

In the appropriate place in the report to accompany H.R. 2810, insert the following new Directive Report Language:

Small Turbine Engines

The committee recognizes the importance of low cost turbine engines in powering munitions and unmanned aerial vehicles that support operations in the various combatant command areas of responsibility, and is aware that technology for high-efficiency, low cost systems may be available. Low cost is driven by competition, as well as small business participation. Therefore, the committee encourages the Department of Defense to adequately resource efforts to identify low cost, small engine technologies capable of powering missiles and unmanned aerial vehicles, and directs the Under Secretary of Defense for Acquisition, Technology, and Logistics to provide a briefing to the Senate Armed Services Committee and House Armed Services Committee by September 1, 2018 on current research and development efforts and the industrial base which supports this area.

Log 292

Amendment to H.R. 2810 National Defense Authorization Act for Fiscal Year 2018

Offered by: Mr. Anthony Brown of Maryland

High Bandwidth Tethered Unmanned Air Systems Technology

In the portion of the report to accompany H.R. 2810 related to Research Development, Test, and Evaluation, Army, the following new text as a next item of special interest:

The Committee understands that there are new, commercial tethered unmanned air system solutions that could provide significant improvements in the following capability sets: communications, persistent surveillance, force protection, and counter-UAS. The committee believes these improved capabilities could benefit the forward deployed warfighter. As such, the Committee directs the Secretary of the Army to provide a briefing to the Committees on Armed Services of the Senate and House of Representatives by September 30, 2017 on the advisability and feasibility of procuring new, tethered-based multi-rotor platforms as a potential solution to address critical operational capability gaps in communication, expeditionary cyber operations, and intelligence collection requirements as well as counter-unmanned aircraft systems applications.”