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BEFORE THE

SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

AND

AIR AND LAND FORCES SUBCOMMITTEE

HOUSE ARMED SERVICES COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

ON FORCE PROTECTION PROGRAMS

SECOND SESSION, 111TH CONGRESS

March 17th, 2010

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
COMMITTEE ON ARMED SERVICES

Chairman Taylor, Chairman Smith, Ranking Member Akin, Ranking Member Bartlett, and distinguished members of the committees: Thank you for the opportunity to testify at this important hearing and discuss updates in Army Force Protection. Your support and the support of the American people continue to make a profound difference in the ability of the Army to fight the wars in Iraq and Afghanistan, assist our friends and allies, support civil authorities in the homeland, and deter or defeat emerging threats to our national security. With your support, the American Soldier is better equipped and better protected than at any time today in our nation's history.

The brave men and women serving today represent the best of our society, and they continue to perform magnificently against a determined enemy in a complex and dangerous operational environment. After more than eight years of continuous combat, we recognize the importance of keeping our deployed forces at the highest possible level of readiness and providing them the best capabilities available. Protection of our Soldiers and critical warfighting assets remains the Army's highest priority.

The persistent conflicts in Iraq and Afghanistan demonstrate the ability of terrorists, insurgents, and other armed factions to use unconventional strategies to inflict casualties and undermine the security of developing nations. The weapons, tactics, and motivation of today's adversaries vary widely. Therefore, the threats to the deployed force are constantly changing in scope, character, and intensity. Irregular warfare is not only complex and unpredictable; it presents dangers and asymmetric challenges that call for timely and innovative force protection measures. In response to the continued threat of improvised explosive devices (IEDs), suicide bombers, and other non-traditional threats, the Army has pursued numerous ground-breaking initiatives to enhance the mobility, lethality, and survivability of Soldiers and the formations in which they serve. These initiatives are contained in complementary and overlapping layers of protection, which include: continuous improvements in individual Soldier protection; new and enhanced armored wheel and tracked vehicles, active and passive base defense capabilities; improved battlefield situational awareness with better intelligence, surveillance, and reconnaissance systems; as well as advances in biometrics and robotics capabilities.

Just as Soldiers are the centerpiece of our formations, interceptor body armor is the centerpiece of individual Soldier protection. Army body armor is the best in the

world. Several items of individual protective gear are built around and integrated with this critical piece of equipment. The Improved Outer Tactical Vest (IOTV) is compatible with modular lightweight load-carrying equipment and represents a marked improvement over the body armor worn by earlier generations. This vest is three pounds lighter than its predecessor, provides better protection, and features Enhanced Small Arms Protective Inserts (ESAPI), Enhanced Side Ballistic Inserts (ESBI), and deltoid protectors. The IOTV's ballistic inserts provide protection against rifle-caliber rounds and fragmentation, and the vest itself, without inserts, will provide protection against some small caliber rounds and blast fragmentation.

To improve safety and Soldier confidence in the reliability of the ESAPI and ESBI plates, the Army has fielded Non-Destructive Test Equipment (NDTE) and implemented periodic testing of protective inserts. The NDTE program provides a scientific inspection process to identify deficiencies not detected by human inspection and will assist equipment developers in determining life expectancy of plates. A Soldier's protective and ballistic plates are scanned at the midpoint of their combat tour with the NDTE system and by the Soldier as part of their pre- and post-combat equipment checks.

In an effort to lighten the load of Soldiers operating in the mountainous terrain of Afghanistan, the Army began the procurement in October 2009 of 57,000 plate carriers. A medium-size plate carrier is more than five pounds lighter than a medium IOTV. The body armor plate carrier is not a replacement for the IOTV, but a lightweight alternative for commanders to consider when planning their missions. In February 2010 the Army began fielding plate carriers to units in Afghanistan and thus far has delivered almost 14,000 sets to Soldiers in the field.

In addition to the IOTV and armor plate carrier, today's Soldiers are equipped with the advanced combat helmet (ACH). The ACH is lighter, provides better protection, and offers a wider field of vision and hearing over the older Personnel Armor System Ground Troops (PASGT) helmet. In 2007 the Army launched two additional helmet-related initiatives. The first initiative was the development and fielding of an accessory Neck Armor Protective Enhancement (NAPE) pad that protects the neck from ballistic fragmentation, while at the same time increasing helmet stability. The second initiative featured the fielding of first generation helmet sensors in March 2008 to two

brigade combat teams (BCT). These helmet sensors recorded blast and impact data, and this information is being used to learn more about blast events that may cause Mild Traumatic Brain Injuries (mTBI). Later this year, the Army plans to field 30,000 Generation II helmet sensors. Generation II sensors are smaller, lighter, and have a longer battery life (one year versus six months in first generation sensors). The sensors will give equipment developers insight into the design of the next generation helmet and possibly aid the medical community in preventing, treating, and mitigating the effects of mTBI. We are actively participating with the Marines in the development of the Enhanced Combat Helmet to provide even further ballistic protection to the head.

Army efforts in individual protection also include enhancing the Soldier's ability to remain concealed. In February 2010, based on input from Soldiers in Theater, the Army made a decision to produce and field uniforms and associated Organizational Clothing and Individual Equipment (OCIE) with a new camouflage pattern to our Soldiers in Afghanistan. We determined that this pattern, called MultiCam, will provide a greater level of concealment than the current Universal Camouflage Pattern, or UCP, in Afghanistan's varied terrain and multiple regions. The Army plans to field combat uniforms and associated gear in the MultiCam pattern to units deploying in support of OEF in July of this year. In first quarter, FY11, we will develop a performance-based requirement for a future camouflage pattern. This requirement could result in either multiple camouflage patterns or a universal pattern for the Army Combat Uniform (ACU). The Army has made more than 26 improvements to the ACU since it was first fielded in June 2004. One of the most important changes was the development of a flame resistant fabric to help prevent or reduce burn injuries. Today, all deploying Soldiers are provided flame resistant uniforms.

Beyond the IOTV, advanced combat helmet, and associated accessories, the Army's Rapid Fielding Initiative (RFI) continues to build on lessons learned, explores promising technologies, and accelerates the delivery of new capabilities to the field. Program Executive Office (PEO) Soldier launched RFI in 2002 to streamline the process of distributing equipment to deploying units and to ensure all Soldiers are equipped with the most advanced individual and unit equipment available. To date, RFI has equipped nearly 1.5 million deploying Soldiers. Knee and elbow pads, an improved first aid kit, and advanced combat optics are just a few of the 73 RFI items that are

enhancing the capability, personal protection, and survivability of our Soldiers. Over the last year, we also made and fielded improvements to the mountaineering boot, Generation III Extended Cold Weather Clothing System, ballistic eye protection, and Fire Resistant Environmental Ensembles.

The Rapid Equipping Force (REF) complements the Army's RFI by equipping deployed and pre-deploying forces with primarily commercial and government off-the-shelf capabilities that reduce risk and increase combat effectiveness. The REF delivers state-of-the-art equipment by canvassing the military, industry, academia, and science communities for existing and emerging technologies. In Fiscal Year 2009 (FY09), the REF supported units in OEF and OIF with 168 projects, consisting of over 5,800 items. Of the 168 projects, 62 percent (104) were completed within six months of receiving the requirement. The REF transitioned 19 of the completed projects to the Office of the Assistant Secretary of the Army (Acquisition, Logistics and Technology) for consideration as programs of record, including a tamper-resistant culvert-denial device that helps prevent the enemy from hiding IEDs, a lightweight machine gun that retains the functionality of our heavier models, and a remotely operated camera mounted on route clearance vehicles that allows enhanced visual detection of threats from inside the vehicle. The REF and PEO Soldier led the Army's efforts to lighten the Soldier's load by introducing lightweight machine guns and plate carriers. These initiatives alone decreased the Soldier's fighting load by an average of 9.5 pounds. Other projects include the improved Unmanned Aircraft System (UAS), which fills the capability gap between existing or planned UAS platforms; Street View Immersive Mapping Programs, which provide units an enhanced view of the battlefield and better situational awareness; and the Tactical Wireless Audio Visual Emergency Public Address System, which is used at combat outposts (COP) and forward operating bases (FOBs).

In October 2008, the REF, in concert with PEO Soldier, fielded approximately 1,100 Individual Gunshot Detection (IGD) systems [also known as Soldier Wearable Acoustic Targeting System (SWATS)] for operational evaluation. The IGD provides forces in Afghanistan a portable, flexible, and accurate means of detecting the direction and distance of hostile fire. This capability enables Soldiers to return fire or execute appropriate maneuver actions. IGD technology was evaluated in 2009 for Army-wide application as a program of record. Though it was not deemed ready to transition to a

formal acquisition program at that time, the IGD requirement is scheduled for another review in the third quarter of FY10. Of the \$50 million in Overseas Contingency Operations (OCO) funds allotted for IGD, the REF will spend up to \$15 million to fill immediate needs, and the Army will use the rest in a full and open competition for one production contract. Thereafter, the Army will be in a better position to determine the future of this capability.

The Army has procured 4,623 vehicle-mounted Gunshot Detection (GSD) systems to meet immediate warfighter needs. We are reviewing and validating additional requirements for GSD to support the increase in units deploying to OEF. The basis of issue (BOI) for GSD in deployed units varies based upon the vehicle type and mission. The total procurement objective for GSD is 13,658 systems. The ratio for most vehicles in a Heavy/Stryker/Infantry BCT is one GSD for every vehicle. A small percentage of vehicles in these units have a ratio of one GSD for every two vehicles. As the Army finalizes its wheeled vehicle strategy these ratios may change.

The IED remains our adversary's weapon of choice and the most dangerous threat to our deployed Soldiers. With the extraordinary support of the Joint Improvised Explosive Device Defeat Organization (JIEDDO), the Army has fielded a wide range of technologies to improve vehicle protection and countermeasures against current and emerging IED threats. The enemy's pervasive use of roadside bombs prompted an intense counter-IED effort and propelled the development and growth of Counter Radio Controlled Electronic Warfare (CREW) jammers. These electronic jammers are government furnished equipment (GFE) on nearly every tactical vehicle operating outside the FOB in Iraq and Afghanistan. CREW systems prevent detonation of radio-controlled IEDs by disrupting radio signals from cellular phones, garage door openers, car alarms, and other wireless devices used to trigger IEDs.

A natural extension of our counter-IED strategy was to accelerate our efforts to up-armor vehicles in the field. Much of our progress in this area can be quantified by the sheer number of armored kits that have been applied to tactical vehicles since 2003. During the early years of the war, the Army's initial focus was on the development and production of add-on armor kits. To date, over 17,000 Up-Armored High Mobility Multipurpose Wheeled Vehicles (HMMWVs), 1,200 Armored Security Vehicles, and 29,000 medium and heavy tactical wheeled vehicles have been equipped with add-on

armor. Scalable armored platforms are now part of the normal production process for most tactical vehicles.

The Army recently made a decision to exercise an option with AM General to procure 2,620 HMMWVs by April 2010. This is anticipated to be the final buy for “Army only” needs. The decision to accelerate plans to stop procuring HMMWVs for “Army only” needs was not made lightly, and was based on two main factors, (1) the Army has met its acquisition objective for HMMWVs, and (2) current feedback from commanders in Theater suggests that HMMWVs are not the vehicle of choice when operating outside the FOB. For example, commanders in Afghanistan are relying more heavily on their fleets of Mine Resistant Ambush Protected (MRAP) vehicles and MRAP All Terrain Vehicles (M-ATVs) when operating outside their bases.

Since October 2007, the Army has delivered over 12,000 MRAPs to Iraq and Afghanistan. Commanders consistently report that MRAPs, with their V-shaped hulls and added armor protection, are saving lives and reducing casualties. While early generation MRAPs provided a much improved level of protection against IEDs, some of the variants were simply too large and heavy to operate in restricted terrain. Commanders in OEF requested a more mobile platform due to the poor infrastructure and rugged, mountainous terrain in Afghanistan. The Department of Defense (DoD) and the Army have responded to their needs by delivering over 700 Army M-ATVs, and we plan to deliver nearly 300 more by the end of March. The current Army total requirement for M-ATVs in Afghanistan and theater reserve is 5,250, and we anticipate this objective will be met by the end of September 2010.

We are also executing a training strategy that prepares Soldiers and units to effectively and safely use MRAP vehicles in a combat environment. Our strategy combines new equipment training in MRAPs and M-ATVs, driver training in simulators, rollover training in an egress trainer, and maintenance training for our logisticians. Soldiers continue to train on MRAPs and M-ATVs in Theater, but we are also shifting more assets to support pre-deployment training. To date, 477 MRAPs and 85 M-ATVs are being used at 23 locations to support pre-deployment training at home station, Mobilization Centers, and Combat Training Centers. We also have 20 driver simulators and 63 MRAP surrogate vehicles to train Soldiers.

The Army's long-term strategy places over 15,000 MRAPs and M-ATVs in its force structure. The current plan calls for 9,284 MRAPs in Task Organized Sets [11 Infantry BCTS, six Heavy BCTs, three Stryker BCTs (SBCTs), and several Multifunctional Support Brigade Sets]; 3,631 in Transportation, Explosive Ordnance Disposal, and echelons above brigade Medical units; 1,755 in training sets around the world; and 495 in Sustainment Stocks and War Reserve.

As of February 2010, the Army had produced over 1,500 Route Clearance Vehicles (Buffalo, Husky, Cougar, Joint Explosive Ordnance Disposal Rapid Response Vehicle, and RG-31). These vehicles were designed specifically for ground reconnaissance and urban operations and to protect Soldiers from hostile fire, mines, and IEDs. After meeting Theater requirements, we will send new production vehicles to Engineer and Explosive Ordnance Disposal units throughout the Army. Moreover, we will meet our acquisition objective by FY14 with new procurement and recapitalization of vehicles returning from Theater.

In addition to MRAPs and Route Clearance Equipment, the Stryker is providing battle proven capabilities to our forces in Afghanistan. The Stryker features organic combined arms lethality, tactical and operational mobility, and interoperability with other battlefield systems. The Army has seven SBCTs [six Active Component units and one Army National Guard unit]. These formations have already deployed a combined twelve times to OIF/OEF. An eighth SBCT is being formed and its vehicles are currently in production. Fielding to the new SBCT will begin later this year.

The Army has continually improved the survivability of the Stryker vehicle to meet evolving threats. Additional improvements include: the Drivers Enhancement Kit (DEK), Tire Fire Suppression Kit (TFSK), Hull Protection Kit (HPK), Mine Roller Adapter Kit (MRAK), a Blast Mitigation Kit (BMK), slat armor, Stryker Reactive Armor Tiles (SRAT), a Common Ballistic Shield (CBS), as well as small arms protection for gunners in the exposed "air guard" position. The Army continues to invest in research to improve the blast mitigation and fire suppression capabilities of the Stryker, while continuing to improve the vehicle's operational readiness and performance. We are exploring the accelerated development of a Stryker vehicle with a "V" shaped hull in coordination with industry to increase the IED protection provided by Stryker vehicles. This work is being

closely coordinated with the Office of the Secretary of Defense and our plan is to rapidly obtain vehicle prototypes and test them to assess their performance.

Recent advances in detection, surveillance, and target acquisition capabilities give commanders unprecedented situational awareness. This has contributed to the development of active and passive countermeasures that can detect or defeat threats with far more speed and far less risk to the force. To enhance security in and around FOBs, Joint Security Stations (JSS), and Combat Outposts (COPs), the Army is investing heavily in capabilities that provide early warning and detection of threats against our Soldiers and facilities. One of the newer capabilities, the Base Expeditionary Targeting and Surveillance System-Combined (BETSS-C) is a ground-based system that leverages the technology of multiple components and surveillance systems including towers, video cameras, aerostats, electro-optical and infrared sensors, radars, detection and assessment systems, monitors, and electronic security systems. These integrated systems enable our forces to maintain surveillance across the FOB and surrounding battle space. The various sensor systems gather video, images, and other information for display on Standard Ground Station (SGS) digital maps and dissemination through Distributed Common Ground Stations (DCGS). We have delivered BETSS-C capability to 81 locations in Iraq and 157 bases in Afghanistan. Currently, BETSS-C capability is planned for an additional 72 sites in Afghanistan. In a similar way, the Counter Rocket, Artillery, and Mortar (C-RAM) uses a system of systems approach (towers, radars, sensors, and other active/passive measures) to provide early warning and defense capabilities against indirect threats (e.g., incoming rocket, artillery, and mortar rounds). There are 15 C-RAM systems in Iraq and we plan to install 22 C-RAM systems in Afghanistan.

Since September 11, 2001, the Army's Intelligence, Surveillance, and Reconnaissance (ISR) assets have transformed from legacy capabilities to modern, modular applications. Leveraging OCO funding provided to the Army, support from the JIEDDO, and the Office of the Secretary of Defense (OSD) ISR Task Force, the Army continues to improve existing programs while developing quick reaction capabilities (QRC) to fill ISR requirements identified by forward deployed commanders. Over 68 distinct ISR QRC systems have been developed to support lethal and nonlethal operations. In addition to QRC systems, Task Force (TF) Observe, Detect, Identify, and

Neutralize (ODIN) employs manned and unmanned aircraft to help defeat IEDs, increase the survivability of units engaged in route clearance missions, and provide access to ISR assets to lower echelon commanders. Other ISR investments include Signals Intelligence, Geospatial Intelligence, Human Intelligence, document exploitation, and biometrics.

Our UASs such as Raven, Shadow, and the Sky Warrior Class UAS provide a substantial force protection edge by supporting intelligence, reconnaissance, and targeting missions; tracking convoy movements; and detecting IEDs. These systems have proven their value as a force multiplier in BCT and smaller formations. In 2003 the Army entered combat operations in Iraq with only one Hunter UAS consisting of eight aircraft. Since then, the Army has significantly increased the numbers and types of UASs deployed in the Central Command area of operations. Today every BCT in OIF and OEF has an organic Shadow Tactical UAS and 15 Raven UASs in addition to the Hunter and Warrior Alpha UAS located at Division and Corps level. We currently have 336 UAS systems deployed to the Theater with a total of 1,009 air vehicles.

The Army will continue to modernize the Shadow and provide this capability to all BCTs in the Active Army Component, the Army National Guard, and Army Special Operations Forces. We are upgrading the Shadow system with a Tactical Common Data Link, a Day/Night/Laser Designator payload, Universal Ground Control Stations, and an upgraded fuel system for improved endurance and reliability. To date, we have fielded 75 of 102 Shadow UASs. This capability provides BCT commanders an organic UAS with the ability to conduct tactical level reconnaissance, surveillance, target acquisition and battle damage assessment.

The Extended Range/Multi-Purpose (ER/MP) UAS provides greater situational awareness for tactical commanders, enhancing their ability to rapidly assess and respond to evolving threats. Commanders at the Division level will have an organic UAS with the ability to conduct reconnaissance, surveillance, target acquisition, communications relay, and attack missions. Current plans call for the integration of the Warfighter Information Network-Tactical (WIN-T) Communications Payload (WCP) into the ER/MP UAS when available. The WCP supports the WIN-T architecture by providing a dedicated, wide-band airborne communications relay. This payload will provide beyond line-of sight relay for battlefield communications, to include current

Army Common User Systems and Tactical Internet Systems. This payload will enable the WIN-T network to support current and future forces with extended battle space command and control and enable on-the-move capabilities.

Based on lessons learned after eight years of war, the Army has invested heavily in aircraft survivability equipment (ASE) to protect aircrews from man-portable missiles. With the exception of the OH58D reconnaissance helicopter, all deployed rotary wing and fixed wing aircraft (totaling over 600 aircraft) are now fully equipped with the Common Missile Warning System (CMWS). Since 2003, the Army has fielded nearly 1000 CMWS to the force, resulting in a sharp decline in the number of aircraft shot down with infrared missiles. The Advanced Threat Infrared Countermeasures (ATIRCM) Quick Reaction Capability (QRC) is the Army's latest ASE initiative to protect crews and aircraft from advanced Man Portable Air Defense System (MANPADS) threats. This system is being fielded on our deployed CH-47 fleet to provide the best protection available to our aircrews and Soldiers. The Common Infrared Countermeasure (CIRCM) is planned to replace ATIRCM with a proposed First Unit Equipped (FUE) in FY17. CIRCM will provide an improved capability with reduced weight and sustainment costs will facilitate fleet-wide integration at a considerably lower cost. Ballistic protection, armored crew seats, laser detection sets, and survival gear are just a few of the many components that are common on most aviation platforms.

Biometrics is another critical aspect of our intelligence and security efforts in the fight against terrorism. The ability to establish an individual's identity with confidence and link the individual to past aliases or activities gives us a decisive edge and aids other government organizations. In addition, biometrics adds a layer of security and a method of identity verification by automating the identification process. Since July 2000, the Secretary of the Army has served as the executive agent for DoD Biometrics. In late 2006, the Secretary established the Biometrics Task Force (BTF) to program, integrate, and synchronize biometric technologies and capabilities. The BTF will coordinate biometric science and technology and identity management initiatives across DoD while facilitating the sharing of information with other U.S. government departments and agencies. Over 2300 biometric systems are used today in Iraq and over 4500 systems were fielded to Afghanistan. By promoting long-term investment

and consistently enhancing biometrics functionality, we are institutionalizing biometrics as a core competency.

The Army is leveraging robotics to counter threats and support ISR and a wide range of other missions, including logistics-support missions. Man Transportable Robots (MTRS) are often used by Explosive Ordnance Disposal (EOD) teams when performing reconnaissance missions involving unexploded ordnance and IEDs. Our investment strategy includes assessing various systems that support the repair of MTRS and provide remote investigation and render-safe capabilities with standoff disruption devices. We have successfully fielded over 600 MTRS and 7,000 MTRS support components to deploying units. Between FY11 and FY13, we plan to deliver over 400 MTRS and 7,000 MTRS support components. The Army logistics community plans to use innovative robotic solutions to meet operational needs and expand sustainment and logistics support options.

Robotics capabilities are a force multiplier for the Army, freeing Soldiers to perform other high priority tasks while enhancing force protection. A modernized Advanced EOD Robotic System (AEODRS) Family of Systems (FoS) is under development, and fielding is planned for FY14. AEODRS is a Joint Service materiel acquisition program, and this capability will be used for dismounted, tactical, and base-support operations. Additionally, as a part of the Army's Brigade Combat Team Modernization Plan we will begin fielding the Small Unmanned Ground Vehicle (SUGV) in FY11. This program will field 37 SUGVs to every BCT.

The Army is using the Capabilities Development for Rapid Transition (CDRT) process to accelerate the delivery of force protection and other kinds of capabilities to the field. During the CDRT process, novel systems and capabilities are evaluated and senior Army leaders make a determination on which ones should be terminated, sustained, or transitioned to a formal acquisition program. The process has evolved since 2004 from an annual consideration of only materiel systems, to a quarterly process that considers both materiel systems and non-materiel capabilities. Senior Army leaders have used the CDRT process to consider 442 materiel systems and 11 non-materiel capabilities. The Army has assessed the viability of 39 systems for acquisition program status and 8 non-materiel capabilities as enduring programs. The IED route clearance package, Armored Security Vehicle (ASV), and the Common

Remote Operated Weapons System (CROWS) are just a few examples of systems that were transitioned to acquisition programs. Examples of non-materiel capabilities include the Weapons Intelligence Team (WIT), the Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC) program, and Company Intelligence Support Team (ColIST) training.

In conclusion, the Army's on-going commitment to provide Soldiers with the best equipment is just that—on-going. With the tremendous support of Congress, the American people, and the Office of the Secretary of Defense, the Army has made substantial improvements in individual Soldier protection, delivered more capable and survivable vehicle platforms, enhanced protection at FOBs and facilities, improved battlefield situational awareness, and provided more effective countermeasures against IEDs and emerging threats. Alone, these initiatives improve our protective posture at every echelon of our formations. Taken together, they ensure the protection afforded to our Soldiers, Army civilians, and contractors remains unsurpassed. As we look to the future, the Army remains fully committed to develop and provide the highest level of protection to our Soldiers, units, and installations. Thank you for this opportunity to discuss the Army Force Protection program.