

ARMY AL&T

January - March 2009



FOCUS ON C4ISR CAPABILITIES



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Focus on C4ISR Capabilities

This edition of *Army AL&T Magazine* highlights the U.S. Army Communications-Electronics Command (CECOM) Life Cycle Management Command (LCMC) and Program Executive Office Command, Control, and Communications Tactical (PEO C3T). Both of these organizations are part of Army Team Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR).

In the article *CECOM LCMC — Past, Present, and Future Sights Fixed on Soldiers*, Timothy L. Rider describes the history of Fort Monmouth, NJ, and the CECOM LCMC, as well as the diverse group of organizations that Fort Monmouth hosts today that are responsible for maximizing C4ISR capabilities for our Nation's warfighters. The heart of Army Team C4ISR, CECOM LCMC works with all the Army Team C4ISR organizations and looks at capabilities from a total enterprise perspective for the Army.

Joshua Davidson's article, *Unit Set Fielding (USF) — Bringing Army Digitization to 112 Combat Formations*, discusses PEO C3T's 5-phase USF process. PEO MG Nickolas G. Justice explains that as the Army started rotating units into the combat theater in support of the global war on terrorism (GWOT), it became obvious that the Army needed to create repeatable processes and lean them so that digitization could be spread across the Army. Through the USF phases, the Army and CECOM LCMC organizations simultaneously provide warfighters with capabilities they need to perform their combat mission.

Learn about the 2-month Initial Operation Test and Evaluation of PEO C3T's Project Manager Warfighter Information Network-Tactical (WIN-T) Increment One in Jason Bock's article, *WIN-T Increment One Gains Valuable User Feedback*. The WIN-T Increment One system provides Soldiers with a high-capacity, reliable, secure communications network at the quick halt.

To maneuver and plan one's course on the battlefield, today's commander uses a vast range of digital systems, notes Joshua Davidson in his article, *Technological Revolution Spurs From Army Tradition*, about PEO C3T's staff rides through various battlefields of the Revolutionary War. The purpose of these staff rides is to help commanders and staff officers confront the realities of terrain, fatigue, and the tactical scenario. The insight gained allows participants to ask more pointed questions about requirements of the systems they are charged with developing and fielding.

Army AL&T Magazine team members Kellyn D. Ritter, Whitney F. Pyle, and Jaclyn Pitts provide highlights of several panels from the 2008 Association of the United States Army Annual Meeting and Exposition in Washington, DC, which took place in October.

- *Army Modernization — How the Army Is Visualizing the Objective Force and Bringing Capabilities to the Soldier* describes modernizing the Current Force to prepare for the challenges of the Future Force. The panel was led by LTG Stephen M. Speakes, Deputy Chief of Staff, G-8.

- *ARFORGEN — Continuing to Enhance the Model and Process* describes how the Army Force Generation model has matured and progressed since it was created more than 2 years ago. The ARFORGEN panel was led by GEN Charles C. Campbell, Commanding General (CG), U.S. Army Forces Command. The article covers reset, manning, equipping, and training. The ultimate goal is always to protect our Soldiers and provide them with the best equipment and technologies in the world, and ARFORGEN will continue to evolve to ensure that our Soldiers have the capabilities they need to fight and win the GWOT.
- *LandWarNet — Transforming to a Warfighter Enterprise* discusses the panel led by LTG Jeffrey A. Sorenson, Chief Information Office/G-6, which explained how LandWarNet is evolving to deliver needed capabilities to Soldiers more effectively and efficiently.
- *Busting the Low-Tech Myth — Army S&T Efforts Support Full-Spectrum Operations* describes some of the current and future science and technology efforts that make the U.S. Army a high-tech organization devoted to developing and fielding the latest technological advancements so that Soldiers can perform their jobs more effectively. The article also addresses expanding the workforce, streamlining Army contracting processes, and recruiting. The panel was led by LTG N. Ross Thompson III, Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology/Director, Acquisition Career Management.
- *Enterprise Logistics — Focusing on the Warfighter* describes how the Army is employing enterprise logistics and public-private partnerships for the warfighter's benefit as well as how the Army is evolving through the ARFORGEN model. The panel was led by GEN Benjamin S. Griffin, then-U.S. Army Materiel Command CG.
- *The Army Enterprise — Developing an Energy Strategy for the 21st Century* outlines how the Army has become an active partner in making its force more energy efficient by adopting new policies/procedures and research and development of potential energy-saving technology. The panel was led by Assistant Secretary of the Army for Installations and Environment Keith Eastin.

Other articles include: *TARDEC Researchers Develop Sensor-Enhanced Armor; Hybrid-Electric Vehicle Experimentation and Assessment Program Supports the Army's Need for Increased Power Demands; 2008 Senior Leaders' Training Forum Addresses Pressing Army Acquisition Issues; A Contracting Campaign Plan for the U.S. Army; and Army Contracting Campaign Plan-Task Force Builds New Vision for Worldwide Army Contracting Operations.*

Finally, on Page 75, you will find the results of our 2008 Readership Survey. We thank all of you who took the time to participate and we hope to incorporate some of your great suggestions in the upcoming months.

As we begin this new year of transition, my staff and I wish each of you a happy, healthy 2009. We thank you for your support this past year, and we look forward to providing you with even more informative articles in the year ahead.

Cynthia D. Hermes
Editor-in-Chief



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CECOM LCMC — Past, Present, and Future Sights Fixed on Soldiers

Timothy L. Rider

In late June 1917, Camp Little Silver, NJ, consisted only of pup tents and tent pegs. The First and Second Reserve Telegraph Battalions were training Soldiers on telegraph technology and, before long, more battalions arrived at the camp. At the end of 1917, 2,416 enlisted men and 448 officers would arrive at or pass through the U.S. Army Signal Corps training post on their way to the “Great War.” Here also, the Signal Corps Radio Laboratory would begin devising means to communicate with the Army’s newest flying machines and to meet other specialized communication needs.

Warfighters depend on CECOM LCMC to develop, acquire, field, and sustain the C4ISR systems that keep them operational. Here, CPT Chad Foster, 1st Battalion, 66th Armor Regiment, 1st Brigade Combat Team (BCT), 4th Infantry Division (4ID), delivers a situation report during an air assault raid on suspected insurgent sanctuaries in Mushahda, Iraq. (U.S. Army photo by PO1 Michael Larson, U.S. Navy.)

From this fast-paced start, the installation that was officially renamed Fort Monmouth in 1925 began a tradition of superb service to the Nation. In the 90 years that followed, the post would shrink and grow at intervals as missions formed and changed. An array of organizations carrying varied and changing banners would pass through before the mission of training Signal Corps Soldiers would pass to another installation. The fast pace, however, continued well into the 21st century because of the sustained focus on Army command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) technologies.

Among the many technological contributions here were numerous milestones in the development of

radar. Vanguard I, the Army's initial foray into satellite communications, was developed at Fort Monmouth in the 1950s with the pioneering use of solar power and is still in use today. Fort Monmouth is where the first artificial quartz crystals were developed, leading to the design of the first portable "walkie-talkie" radio. It is where the Army built the first mobile, digital computer, and much to the dismay of lead-footed drivers, the world's first hand-held radar was built here. Engineers here also made significant contributions to telephone switching system, laser rangefinder, and night vision technologies. "If you were to remove the historic technological contributions to the modern world made by Fort Monmouth, this would be a much less advanced and much less enlightened world," said MG Dennis L.

Via, Commanding General (CG), U.S. Army Communications-Electronics Command (CECOM) Life Cycle Management Command (LCMC).

Today — Engineering the Integrated Army Enterprise

The bottom line for CECOM is the warfighter. "The capabilities we bring to the warfighter are about more than just technology because they must be incorporated into warfighting doctrine," said Via. "Those capabilities achieve their greatest value when they're integrated into a cohesive whole, Soldiers are trained on the new technology, and the systems are sustained and adapted in the warfighting environment. If a Soldier sees, hears, communicates, commands, or protects the force with it, then you know it's a CECOM LCMC product," added Via.

Today, Fort Monmouth hosts a diverse group of organizations collectively responsible for maximizing C4ISR capabilities for our Nation's warfighters. This team is known as Army Team C4ISR and includes CECOM; Program Executive Office (PEO) Command, Control, and Communications Tactical (C3T); PEO Intelligence, Electronic Warfare, and Sensors (IEW&S); PEO Enterprise Information Systems (EIS); and the Communications-Electronics Research, Development, and Engineering Center (CERDEC).

At the heart of the Army Team C4ISR is the CECOM LCMC. "The CECOM LCMC works with all the Army Team C4ISR organizations looking at capabilities and programs from a total enterprise perspective for the Army," said Edward Thomas, CECOM LCMC Deputy to the CG. "In our case we would call that Army LandWarNet."

The CECOM LCMC comprises three functional support centers — the Logistics and Readiness Center (LRC), the Software Engineering Center (SEC), and the Acquisition Center — as well as three separate brigade elements: Tobyhanna Army Depot (TAD), Tobyhanna, PA; the U.S. Army Information Systems Engineering Command (USAISEC), Fort

Huachuca, AZ; the Central Technical Support Facility (CTSF), Fort Hood, TX, and its two partner PEOs (C3T and IEW&S).

"While PEOs and PMs [project managers] have life-cycle responsibility for individual systems, there is a critical necessity for the various C4ISR systems to interoperate — to work as one — in a network-centric environment. Someone must perform the integrating function as it becomes necessary," said Thomas. "That's our primary role. We have an important mission in support of the Army's EIS, meaning those information or management systems that the institutional Army uses to conduct its business."

In addition to the general support provided by CECOM LCMC, TAD has the specific mission to support the PMs for the fielding and sustainment of the Logistics Modernization Program, the new enterprise resource

planning technology system that is helping the Army manage all of its inventory and maintenance programs from the national level down to the tactical, installation, or retail levels. "CECOM LCMC is also responsible for supporting PEO EIS in its role

of providing the new financial accounting system for the Army," said Thomas.

In July 2008, the CECOM LCMC established operational control of the CTSE, a facility that is ensuring systems interoperability Armywide. "Any Army system that has a requirement to exchange information must go to the CTSE for testing in a system-of-systems or enterprise environment,"

said Thomas. "While CECOM supports the Army by providing interoperability certification, it also supports PEOs and PMs with all the technical and functional support they need to manage their programs, get them fielded, and ultimately sustain them."

For example, while PEO EIS is charged with management responsibility across the Information Infrastructure Modernization Program life cycle, all the engineering support to EIS comes from the USAISEC, whose engineers will plan, design, and install the information infrastructure backbone for a post, camp, or station.

The CECOM LCMC also provides PM offices with matrix support personnel who reside within the offices. "The matrix support efforts that take place across Army Team C4ISR are critical because our people are our

The capabilities we bring to the warfighter achieve their greatest value when they're integrated into a cohesive whole, Soldiers are trained on the new technology, and the systems are sustained and adapted in the warfighting environment.



SGT Joseph Kesner, C Co., 148th Infantry Battalion, 37th Infantry BCT, and Ernest Chaney, CECOM LCMC Senior Command Representative, discuss the C4ISR systems carried onboard the High-Mobility Multipurpose Wheeled Vehicle at Camp Arifjan, Kuwait, on July 14, 2008. Chaney is an Army civilian volunteer deployed to SWA from CECOM-Europe, Mannheim, Germany, and is the single point of contact in SWA for all Army Team C4ISR-related matters. (U.S. Army photo by Jim Hinnant, 401st Army Field Support Brigade.)

greatest asset. Over the course of their careers, they develop very specialized C4ISR knowledge,” said Via.

The CECOM LCMC Acquisition Center provides support to PMs and activities across Army Team C4ISR. “The CECOM Acquisition Center will transition and become part of the newly established U.S. Army Contracting Command [ACC], but it will remain collocated with us and in direct support to the CECOM LCMC CG,” said Thomas. “The standup of the ACC should positively impact us because the Army is putting additional emphasis on resourcing the contracting community.”

Sustainment and Readiness for Current Operations

The CECOM LCMC supports the new Army Force Generation (ARFORGEN) process through integrating activities with the U.S. Army Sustainment Command (ASC), the U.S. Army Materiel Command’s lead element for ARFORGEN. The ASC’s Army Field Support Battalions (AFSBns) cut across all of the different commodities, from vehicles to aircraft to C4ISR systems to Soldier equipment and more.

The primary representatives of the CECOM LCMC to the AFSBn commanders are the CECOM senior command representatives. These personnel are located at key power projection platforms such as Fort Lewis, WA; Fort Bragg, NC; and Fort Hood. Three are in Southwest Asia (SWA), and others are located in Germany, Korea, and Rock Island Arsenal, IL.

“We’re the command responsible for fielding new equipment, for resetting C4ISR equipment to bring it back to operational standards, and [for] training Soldiers on that new equipment in



Technicians test a digital switching unit at a tactical operations center (TOC) at TAD. The testing is part of CECOM LCMC’s global field service representative support for 4ID, 1st Cavalry Division, Stryker brigades as well as the TOC reset mission for 4ID. (U.S. Army photo.)

time to have individual Soldiers and, ultimately, units and brigades ready to deploy,” said Thomas.

With operations in SWA as a major focus, the CECOM LCMC continues to support combatant commanders worldwide, including the 30,000 troops on the Korean peninsula as well as those involved in drug interdiction missions in South America and in continuing operations in Kosovo.

The LRC’s logistics assistance representatives and the SEC’s field software engineers, along with TAD’s forward-deployed maintenance experts, conduct a wide range of activities with deployed units to keep C4ISR systems operating. The LRC concentrates on repairs, spares, and maintenance of hardware or physical parts, and the SEC concentrates on software and performing post-deployment software support, which includes maintenance — fixing latent defects or bugs — and updating information assurance to deal with the changing threat environment. The CECOM LCMC’s TAD provides depot support to deployed units in the form of forward repair activities. “Tobyhanna has really transformed itself into an expeditionary capability,” said Dave Sharman, LRC Director.

The CECOM LCMC experts — whether based at a unit’s home station, in a forward center such as the Camp Arifjan Electronic Sustainment Support Center, or embedded in a unit — can diagnose problems and communicate back to the command headquarters. “If it’s a systemic issue that needs some engineering and design work, those same experts can communicate and translate those field problems to our engineers back here in the U.S.,” said Thomas. “Engineers in our labs will duplicate the problem, develop alternatives, and ultimately, through coordination with the field, test different alternatives and come up with solutions.”

“Our personnel are integrated into the units,” said COL Ray Montford, CECOM LCMC Chief of Staff. “They train with Soldiers, deploy with them, and know the systems inside and out, so they know what’s required. When those systems and units re-deploy back to the States, they know exactly what’s required so they can get those systems reset.”

CECOM LCMC has a robust ARFORGEN and unit set fielding integrated process team that includes members from all elements of the LCMC — PEOs, LRC, SEC, TAD, and CERDEC — who manage all of the support needed to ensure combat

brigades are ready for deployment and are supported during deployment and afterward. At any point in time, hundreds of CECOM LCMC personnel are forward deployed in support of Army troops.

A New Chapter Begins

On March 17, 2008, Assistant Secretary of the Army for Installations and Environment Keith Eastin; then-U.S. Army Materiel Command CG GEN Benjamin S. Griffin; CECOM LCMC CG Via; and U.S. Army Research, Development, and Engineering Command CG MG Fred D. Robinson, along with various dignitaries and Army Team C4ISR representatives, gathered at a ceremony to mark a new chapter in the tradition of service and excellence that began at Camp Little Silver more than 90 years ago.

The groundbreaking ceremony at Aberdeen Proving Ground (APG), MD, marked the start of phase one construction of Army Team C4ISR's campus there — a \$477 million project to include five administration and laboratory buildings, a secure shop and warehouse, an auditorium, and a 1.5 million square-foot training facility. Phase two is slated to begin in 2009 with the construction of three more

buildings and renovations of existing buildings. The two phases of construction will create an Army C4ISR Center of Excellence at APG.

As a result of a 2005 Base Realignment and Closure (BRAC) decision, Fort Monmouth will close in September 2011 and CECOM LCMC and most of its Army Team C4ISR partners will relocate their headquarters to APG. "We intend to leverage BRAC as a catalyst for change," said Via. "The Army is making a once-in-a-generation investment in a Land-WarNet, C4ISR, and Battle Command Center of Excellence at APG. Along with state-of-the-art facilities, our personnel who relocate or are hired at APG will have an unprecedented opportunity to innovate and reshape our processes and organizational structures. We're going to build our organization for 2015 and beyond, determining what we need to support the Future Force and its capabilities and requirements."

We have a very powerful team with all of our components creating an incredible force that delivers powerful capabilities to the warfighter every day.

intern program," said Via. "CECOM LCMC has an extensive program of intern professional development and has established an Intern Advisory Council to bring the professional concerns of our many interns to the attention of our senior leadership."

The command has implemented significant training programs for mid- and senior-level management, including the Army Team C4ISR

Civilian Leader Development Program and an Executive Development Program. Since 2005, CECOM LCMC has sponsored more than 650 training lectures, programs, and courses for its personnel to attend. The command has also implemented innovative recruitment methods, including ef-

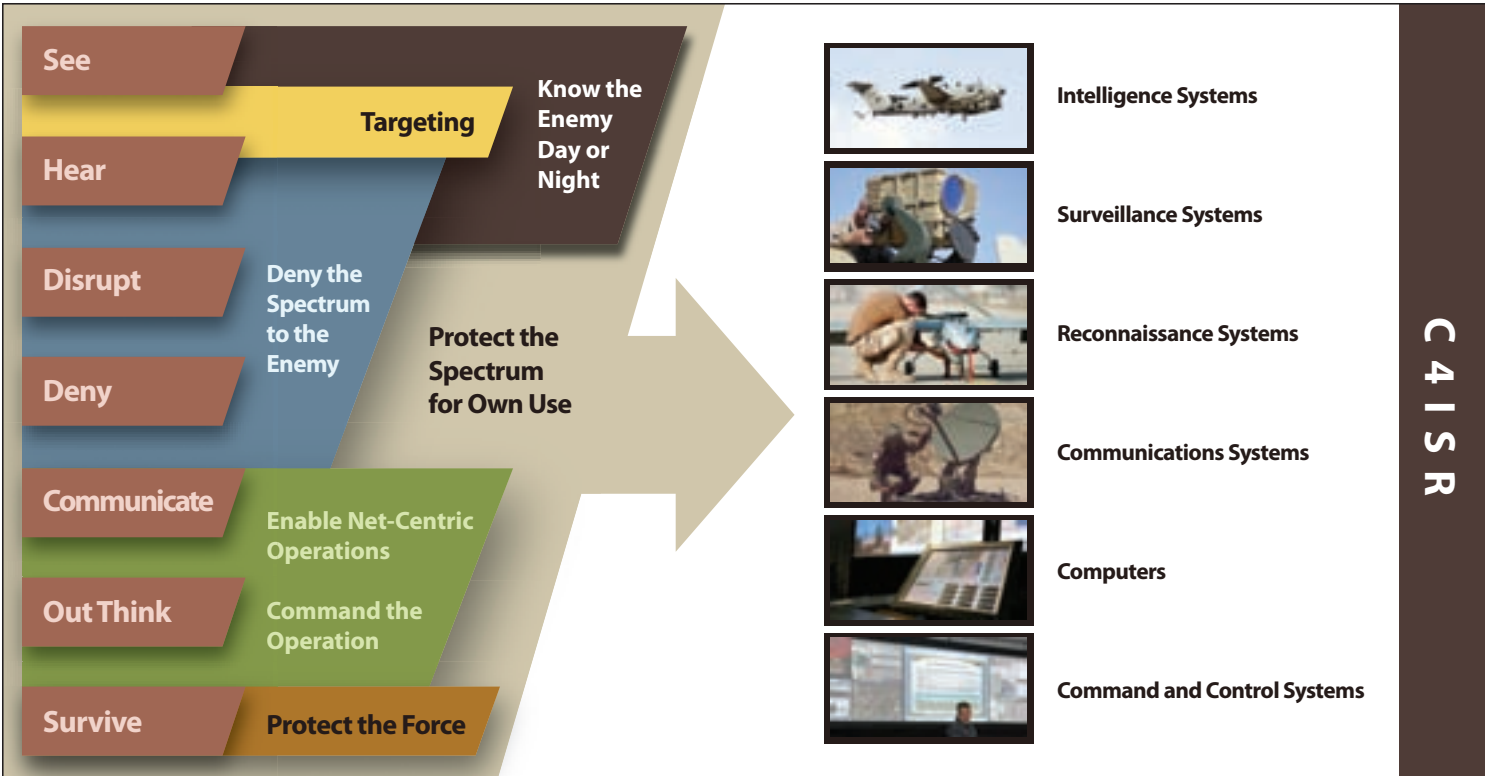
forts at college recruitment fairs, and it has reached out to attract and hire transitioning Soldiers and to facilitate spousal employment.

Positive strategic communications and knowledge capture will also contribute to the successful phased relocation of the workforce as will the architectural vision for the C4ISR Center of Excellence at APG. "We'll have a campus environment sufficient to locate all of our employees within easy walking distance of one another, and within those buildings we're going to collocate people by the domains in which they work," said Thomas. "For example, all of the people working in the satellite communications area — whether they're R&D [research and development] engineers, systems engineers, software engineers, logisticians, or PM personnel — are going to be located together."

In reconstituting the command in its new location at APG, one of the CG's top priorities will be to take care of the CECOM LCMC personnel who are critical to the commander's success. "One of the catalysts for building CECOM 2015 and for growing our future Army civilian leaders is an emphasis on our command's



SSG Stephen Achee and SSG Elizabeth Engstedt, Combat Service Support (CSS) Automated Management Office, Headquarters Support Co., 449th Aviation Support Battalion, Texas Army National Guard, maintain the CSS Very Small Aperture Terminal satellite at Logistical Support Area Anaconda, Baghdad Province, Iraq. (U.S. Army photo by SGT Huey Kehl.)



C4ISR

C4ISR provides indispensable capabilities to the warfighter in support of information operations.

Mission personnel, who are currently spread across 40 to 50 widely separated buildings at Fort Monmouth, will occupy a much smaller 16-building complex at APG. “There’s going to be a building for communications systems, a building for command and control, and a building for ISR. Buildings for all of the different disciplines from cradle to grave will be located together, and we think that is going to be a terrific improvement for us,” said Thomas.

The relocation of Army Team C4ISR is already happening as an initial presence of early move volunteers and new hires is being formed at APG. “We’ve begun moving our people down there in phases. Approximately 300 positions have already moved and are being housed in interim building spaces,” said Thomas. “Next year, we’ll move about 500 to 600 people. If we’re successful, and we think we will be, by the time the first phase of the Army Team C4ISR campus is ready in 2010, we’ll already have about

1,000 people down there with our core management structure and many of our core capabilities in place. We’ll be able to round out our organization there through 2010 and 2011,” said Thomas. Via added that over half of the CECOM LCMC worldwide workforce is not affected by the move of the headquarters to APG and will remain stable.

In his first philosophy of command briefing to the workforce after assuming command, Via commented, “Throughout my entire career as a Signal Corps officer, I’ve been a customer of this command, so I have a direct appreciation of what CECOM brings to the table for the warfighter. And since my arrival, I’ve gained an even greater appreciation of the critical role CECOM LCMC plays every day in support of our deployed Soldiers. Our warfighters depend on the technological edge our systems provide, and they depend on us to develop, acquire, field, and sustain these C4ISR systems and keep

them operational. We will never let them down.”

Via said that since taking command 1 year ago, he has traveled extensively throughout the command’s worldwide footprint and has also visited with warfighters in theater, preparing to deploy, and returning from theater. “I consistently receive accolades about the great work Army Team C4ISR does,” he said. “We have a very powerful team with all of our components creating an incredible force that delivers powerful capabilities to the warfighter every day. At the end of the day it’s all about the Soldier.”

(Author’s Note: Elina Tsaturyan of the CECOM LCMC G-3 contributed to this article.)

TIMOTHY L. RIDER is the Media Relations Officer at Fort Monmouth. He served 8 years in the Army as a public affairs specialist/photojournalist and has a B.S. in liberal science from Excelsior College.



Unit Set Fielding (USF) — Bringing Army Digitization to 112 Combat Formations

Joshua Davidson

As it began to digitize its forces, the Army was limited in the fielding of its capabilities to between two or three brigades per year. This year, it is scheduled to reach 112 combat formations. The 5-phased USF process, initiated by the Army's Program Executive Office Command, Control, and Communications Tactical (PEO C3T) in FY06, is a repeatable process developed in response to the increased number of units receiving its equipment. The process has since improved the ability of PEO C3T personnel to support, field equipment to, and train Soldiers. "As we started rotating units into the combat theater in support of the global war on terrorism, it became obvious that we needed to create repeatable processes and lean them out so that we could spread the wealth of digitization across the Army," said MG Nickolas G. Justice, PEO C3T.

The Army's fielding process equips its Soldier force with complex systems, as well as basic fuel necessities. (U.S. Army photo by Jason Bock.)

Through the USF phases, the U.S. Army and the organizations of the Communications-Electronics Command (CECOM) Life Cycle Management Command (LCMC) simultaneously provide warfighters with each capability they need to perform their mission in combat. This means providing the Army Battle Command Systems (ABCS) 6.4, the communications systems, power, network, and enablers — all at the same time. The five phases of USF are:

- Phase I (Planning) — During detailed fielding and new equipment training.
- Phase II (Execution) — During fielding and training operations.
- Phase III (Reception, Staging, Onward Movement, and Integration) — Deploying or at an Army combat training center where units receive their training prior to deployment.
- Phase IV (Deployment) — For support of units when they are deployed.
- Phase V (Reset) — During the unit's reset upon return from deployment.

Over time, the PEO C3T staff has learned valuable lessons from the units it supports. “The ability to work closely with units just makes us better,” Justice remarked. “We learn more from units than they get from us. It's our privilege and our pleasure to be able to go out and engage with them, because those guys are just super.”

The PEO has learned how to change its fielding methods to align itself with those units' business processes. “In the Army, our combat formations have some awesome processes that allow them to do repeated tasks,” Justice stated. “These processes also allow them to push down and let people at every level of that formation accomplish their mission.” The units are very knowledgeable of their role and, therefore, function effectively from repeatable processes. In creating USF, the PEO C3T borrowed the battle drills that are rehearsed and mastered by units.

USF Firsthand Experience

LTC Omar Jones, 2nd Stryker Cavalry Regiment (2SCR), discussed how 2SCR recently entered the reset phase of USF. The regiment completed the majority of the process before a recent return from Iraq. Jones drew a similar correlation to Justice's. “In its previous AirLandBattle doctrine, the Army provided a doctrinal template that Soldiers used to predict their enemies' actions,” Jones said. “The commander then applies this to his or her analysis to adapt that template to the specific unit and conditions.”

The CECOM LCMC and PEO C3T staff followed a comparable process where they put forth a template for how they planned to field and support

a unit. The plan was then shown to a commander who would decide how to modify it for the specific requirements of his or her unit.

Jones was most impressed by two aspects of USF, the first being the holistic approach to fielding. “That makes it so much more effective and efficient from the unit perspective, having that model that is already laid out for you,” he said. The second is the validation process, which gives a unit confidence to know that expert support representatives will be with them from the time each ABCS is turned on. Those representatives were present when Jones' units first reached Kuwait in 2007 and during their arrival to Iraq in the fall. They remained present to ensure that each system that was plugged into the network functioned properly and that communications were possible among separate command posts. The fielding team was present each step of the way to provide invaluable assurance that the proper tools and reachback were available in the event of an issue.

The validation process was comprehensive and ensured the true interoperability and network functionality of each system after fielding. Achieving this would not be easy without the holistic-based USF process. “The confidence attained toward bringing the systems into combat by working with the CECOM LCMC and PEO C3T representatives was of great benefit,” Jones said.

Before beginning a mission, 2SCR takes steps to ensure the unit's Soldiers are comfortable that the systems they are bringing into combat will function and that they have the support they need. “I felt that we had that support and were able to gain confidence through the USF process,” Jones stated.



Soldiers pass floor sections along an assembly line and into a tactical operations center during a rotational exercise at the U.S. Army National Training Center, Fort Irwin, CA. (U.S. Army photo by Jason Bock.)

Jones, whose unit is now concluding the entire USF process with the reset phase, described the transformation from phase to phase as “seamless.” He said that the reset process was already coordinated for his unit prior to entering that phase. “It really was, in my mind, a partnered effort all the way through, and I felt very comfortable with the way it proceeded,” he said.

Partaking in the entire process gave Jones the chance to witness Army Team Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)

equipment in multiple life cycles. Reflecting upon this, Jones called the PEO C3T and CECOM LCMC “truly synchronized.” “It gave me one point of contact and one organization to go to that really coordinated all of those other project managers [PMs] working on ABCS or various C4 systems and, to me, that was a great advantage.”

For Jones, USF made identifying an appropriate point of contact among the numerous agencies he coordinated with Armywide a straightforward process. He called the civilian field service representatives (FSRs) provided by PEO C3T and CECOM LCMC “invaluable.” The unit’s regimental S-3 and sergeant major absolutely embraced them. “We often called them Soldiers in khaki pants,” Jones noted.

Throughout the process, the digital systems engineers (DSEs) and FSRs were involved closely with the unit’s S-6 shop. Typically, it was the Soldiers who would repair systems and support

a squadron’s headquarters. However, many times, they obtained expert system advice from the civilian support staff.

During reset, much of the responsibility to synchronize Soldiers’ efforts falls on the brigade combat team (BCT) itself. This is the appropriate method for coordinating the schedule of the BCT, which is responsible for ensuring training dates and resources are available. The PEO C3T’s assistance in planning eases this coordination effort. “The more supporting organizations that move to a USF model, the easier it will be for the unit to focus during reset and training for deployment,” Jones said. For the unit’s

signal Soldiers and war-

rant officers, accomplishing their missions in theater would have been difficult without the support and expertise of those FSRs.

At one point, the terrestrial-based unit was required to establish a communications network across the entire city of Baghdad, Iraq. This rare feat was achieved because of the expertise the Soldiers achieved during the fielding process. The FSRs worked as a team with the Soldiers and provided knowledge that was a key component of this remarkable achievement. At any location, the regiment could receive quick support from the fielding team. The BCT began the fielding process by setting up seven command posts in a single training area. By the time it reached the validation process, a

very cohesive team of Soldiers and contractors was in place. Spending time to become acclimated with one another paid great dividends when both shared missions.

“During training, the DSEs develop a working relationship and build trust with the unit they support,” said Frank Connolly, Regional DSE Lead, 407th Army Field Support Brigade. Many deploy with the unit into theater. The DSEs become closer with the Soldiers, who realize that they deal with many of the same issues.

Jones said that USF provided a more efficient and effective method of fielding systems to his unit. Pre-coordination of phases let Jones and other unit members determine which assignments needed an increased priority and allowed them to develop a sequential order of training classes for the fielded capabilities. Jones was also appreciative of the opportunity to partake in the after action review (AAR) process. “I had the luxury of seeing many of the AAR

Through the USF phases, the U.S. Army and organizations of the CECOM LCMC simultaneously provide warfighters with each capability they need to perform their mission in combat.



An Army Airborne Command and Control System is prepared for shipment. (U.S. Army photo by Jason Bock.)

comments from us and other BCTs get incorporated in the process,” he said. “Each AAR is a great process for learning.”

At the initiation of fielding, the five separate phases of the USF model allowed the Soldiers to be aware of friction points and areas of concern with the capabilities they received. At the conclusion of reset, it will allow them to take measures to eliminate and mitigate those friction points.

USF Flexibility

The benefits of having the USF process in place also surfaced when President George W. Bush announced the troop surge in January 2007. When Jones’ unit began the USF process, it expected it would spend the majority of FY08 training in Europe. As it reached the final phases, it was deployed to Iraq for 15 months. The unit already was conducting classes on the ABCS 6.4 suite of digitized battlefield applications and was about a month away from its validation exercise prior to receiving its deployment orders. USF proved adjustable, as it was able to perform its second validation exercise while in Kuwait. USF’s flexibility allowed for changes during the middle of the fielding process.

GEN Benjamin S. Griffin, then-Army Materiel Command (AMC) Commanding General (CG), credited MG Dennis Via, CECOM LCMC CG; Justice; and their staffs for the impact they have made toward smoothing out the fielding process. “C4ISR is a continuous process, and whether it’s at the individual Soldier level, the unit level, the platform level, air, or ground, we’ve

made tremendous strides since I gave up command of the 4th Division,” said Griffin, who commanded the division from 1999 to 2001.

Originally, USF was managed solely by PMs from PEO C3T. Today, the PEO C3T’s PM

Command Posts leads Phases I-III, while the CECOM LCMC’s Logistics and Readiness Center (LRC) manages Phases IV and V.

The more supporting organizations that move to a USF model, the easier it will be for the unit to focus during reset and training for deployment.

The involvement of other organizations, such as the CECOM LCMC and AMC, is incredibly important to USF and the critical role of sustaining units after fielding capabilities to them. “One of the benefits of having the LRC lead those two phases is that we

have a command structure out there in AMC that does sustainment in the field,” Justice said. “We are leveraging AMC’s sustainment structure to do the Phase IV and Phase V operations for us. And, frankly, I need to integrate with them anyway because this is a cycle, not a linear process.”

The Single Interface to the Field (SIF) Process

The SIF process and its associated portal have played an instrumental role in synchronizing warfighters, those who support them, and senior leaders. The SIF provides the warfighter with an entry point for support of any system managed by the CECOM LCMC. It not only guides them to the assistance they need; it also links them to



A Command Post Platform vehicle is unpacked during a rotational exercise at the U.S. Army National Training Center. (U.S. Army photo by Jason Bock.)

mission-essential information pertaining to areas such as fielding and training.

The SIF project is rapidly reaching one of its primary overarching goals — to be the single worldwide access point for users and/or the user support community to obtain C4ISR support. The SIF portal is becoming the primary tool for an Army Team C4ISR integrated support solution.

The SIF portal is one method for users to initiate contact with the Support and Operations Center (SOC) at Fort Hood, TX. The SOC provides tiered support, which is similar to that of companies such as Dell®. However, it is required to adhere to military standards. The round-the-clock center, established in January 2007 under Justice’s direction, provides a single point of support for issues with hardware, software, interoperability, systems architecture, training, and field support across Army Team C4ISR.

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WIN-T Increment One Gains Valuable User Feedback

Jason Bock

To obtain concise feedback from its primary user base — the Soldier — Program Executive Office Command, Control, and Communications Tactical's (PEO C3T's) Project Manager Warfighter Information Network-Tactical (PM WIN-T) conducted an Initial Operational Test and Evaluation (IOT&E) of its Increment One system, formerly known as the Joint Network Node (JNN), at Fort Lewis, WA.

SGT Roy Mejares operates a WIN-T Increment One STT during the WIN-T IOT&E at Fort Lewis. (U.S. Army photo by Jason Bock.)

The 2-month exercise offered Soldiers an opportunity to train on maintenance, configuration, and setup of the system, which provides Soldiers with a high-capacity, reliable, secure communications network at the quick halt. Situations also present the opportunity to bring in field service representatives (FSRs); logistics, operations, and engineering support; as well as Army Test and Evaluation Command (ATEC) evaluators.

“The only way we can understand the issues is from the feedback we’re getting from the Soldiers and commanders on the ground,” said LTC Ray Compton, Product Manager, WIN-T Increment One. “As we see something from the field, we try to analyze it to see what the impact is and then quickly put in new configurations to go out.”

Since the majority of WIN-T Increment One has been fielded to most of the combat force on operational needs statements, the IOT&E was an opportunity for MG Nickolas G. Justice, PEO C3T, to watch the Soldiers use the system.

“It was amazing to just sit back and watch those units. They did an incredible job with jumping those command posts, getting equipment up and running, locking in on their satellites, and getting their communications set up,” said Justice.

Justice stated that testing the remaining four increments of WIN-T will be a learning process for PEO C3T. “You want to work through, rehearse, and practice with the equipment,” Justice said, “and getting the equipment in the field is the first place you really begin to understand its strengths and weaknesses.”

The organization’s experience in combat formations has served to mitigate the outcome of test events, which in an IOT&E are designed to measure if equipment is suitable and effective in a unit, instead of its ability to function.

“We don’t develop systems to have Soldiers operate them,” remarked Justice. “We develop systems to empower Soldiers and give them a greater capability than they have today.”

Mike Hedley, WIN-T Increment One Deputy PM, had similar thoughts on the importance of gathering Soldier feedback, especially when considering the WIN-T Increment One fielding that is already underway to the current force. “This is essentially a new contract from how we were building JNN

We develop systems to empower Soldiers and give them a greater capability than they have today.

before it became Increment One,” Hedley said. “It certainly will help us flush out any bugs and learn from the Soldiers themselves in a controlled environment, so we can

ensure that we can make the product better in the future for the warfighter.”

The Army’s movement toward the WIN-T network fielding brings advancements in setup time, connection time, reliability, and easier use over its communication predecessors.

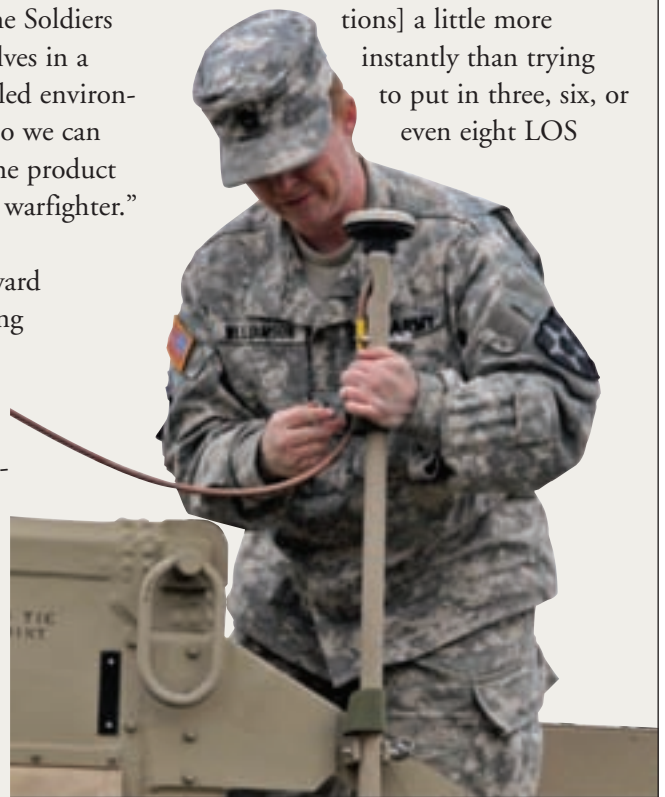
Increment One Improvements

Since the early 1990s the Army has employed a line-of-sight (LOS)-based communications system known as Mobile Subscriber Equipment

(MSE). MSE, which is currently being replaced in the field by WIN-T Increment One, is a digital, secure, highly flexible system used to provide a means of communicating throughout the battlefield, regardless of location, in either a static or mobile situation.

The physical setup time for the WIN-T Increment One compared to MSE is somewhat comparable according to WO3 Kevin Gonzalez, the Brigade S6 Network Management Technician. In an interview during the IOT&E at Fort Lewis, Gonzalez explained that a good team with fair conditions could ready an Increment One setup in roughly 90 minutes, while MSE ran closer to 2 hours.

The significant improvement of WIN-T Increment One over MSE lies within the time needed to establish communications once the system is stood up. “Once they get the satellite shot in the air,” Gonzalez said, “we have [communications] a little more instantly than trying to put in three, six, or even eight LOS



SSG Sheila Williamson, WIN-T Increment One supervisor, participates in the setup of an Increment One platform vehicle during the Fort Lewis WIN-T IOT&E. (U.S. Army photo by Jason Bock.)

shots in different places.” And because the connection is made through satellite and not along an LOS path, the reliability is superior as well. “At Fort Lewis, with all of these trees and mountains, it becomes a challenge with LOS technology,” Hedley said. “With the satellite’s beyond-LOS capability, it’s able to get around that and continue the command and control that’s needed for our warfighters to keep the network up.”

“Once you get that shot, you don’t lose it,” noted SPC Michael King, a Satellite Transportable Terminal (STT) Operator.

STT

The STT is a next-generation trailer that offers Ku- or Ka-band operation. The STT incorporates proprietary active compensation tracking techniques that positively track out the effects of wind, permitting significant weight reduction and eliminating the

need for outriggers for faster setup and teardown.

King had high praise for the reliability of the satellite network and added that during tests, he was able to maintain his communications through a storm with winds up to 30 miles per hour. “This satellite capability,” added Compton, “really expands not only the mobility but also the ability to be farther away or closer, and the natural or man-made terrain objects are not blocking their command and control.”

The STT also became a prime example of small factors that may be discovered during a user exercise that had gone previously unnoticed and would represent a major impact on operations upon being deployed.

“One of the key issues that we’re looking at right now is the STT satellite terminal,” Compton said. “We found out from the Soldiers that the power cable that’s on here is too short. These are quick things that we can take a look at, adapt, fix, and ensure that the next unit has those capabilities for them.”

While physical catches like the length of a power cord are often omissions from factory assemblage or structural design, Soldiers need to rely on the environmental impacts, terrain, and personnel actions when assessing a system’s ability to perform in combat.

“The network is as reliable as

how we take care of the equipment,” said CPT Frank Hwang, the 1st Battalion, 17th Infantry Regiment S6.

During the exercise, Hwang explained there were no negative issues with the network he observed that could be attributed to the system or conscious actions of the operator. “If it is maintained properly and given what it needs,” Hwang said, “it stays on line.”

The Army’s movement toward the WIN-T network fielding brings advancements in setup time, connection time, reliability, and easier use over its communication predecessors.

As the Army designates more of its capabilities to be supported by the network WIN-T provides, the reliability of that network backbone becomes increasingly critical. Ease of use, ease of setup, and the ability for the Soldier to troubleshoot are as important as the strength of the satellite connection itself.

“As much as we try to advertise plug and play — and I know we try to make everything be that simple — what we are doing right now in the communications world is pretty complex and difficult,” Gonzalez said.

From what Gonzalez has observed, the Increment One fielding has gone well due in large part to configuration and technical support. “This is a complicated business we are in,” Gonzalez added, “and the biggest thing I could stress is training.”

Training and System Support

In many ways, the training concept is a constant presence in the life of a Soldier. It’s necessary before deployment, in theater, and during the reset process. System experts onsite can help a Soldier continue his or her training even after class.



The WIN-T Increment One STT can be configured to operate over Ku- or Ka-band satellite frequencies. (U.S. Army photo by Jason Bock.)

FSRs, logistics assistance representatives (LARs), and digital systems engineers (DSEs) provide onsite presence to assist Soldiers and, if not onsite, are a radio or cell phone call away. "Having experts with us after we got out of class has been invaluable," said SSG Sheila Williamson, WIN-T Increment One supervisor. "They taught us all types of things that we were not able to touch on in class."

Gonzalez cited getting familiar with equipment and how it is configured and understanding signal flow as key elements to a signal Soldier's development and learning. It is important for an officer who runs and maintains network communications to understand where that job fits into the Army's mission.

"A lack of understanding of the overall mission, as a signal Soldier, will make it a little more difficult for you to do your job," Gonzalez said. An important part of that communication and understanding occurs across units. The need to bring reliable communications to Soldiers on the ground and in combat cannot be overlooked, but within tactical operation centers, the communication between signal officers and operators in sister units can be a valuable tool in maintaining network reliability.

"It is very important to have all the operators on the same sheet of music," Williamson said. "We share a lot of information back and forth because they may have problems we don't. We learn from what they're learning and they learn from what we're learning."

"We have a good working relationship with all the S6s and G6s who are in the fight today," Hedley said. "We have several telephone conversations weekly with them to understand



A WIN-T Increment One STT is powered by one trailer-mounted Tactical Quiet Generator. (U.S. Army photo by Jason Bock.)

some of the issues they may be having. And we have a great team assembled that works through those issues pretty well."

Learning and understanding are all a part of the Army's action to bring the technical advantages of its suite of battle command capabilities to the Soldier at every level. By empowering and handing responsibilities down the command chain, the Army is able to lean its processes and deliver capabilities at a more expedient rate than ever before.

"We're definitely moving in the right direction and we're delivering these capabilities down to levels that we never have reached before," Gonzalez said. "If the Soldiers on the ground cannot get all the information they need, then it will be difficult for them to make a decision."

In essence, directing communications down to the company level equals clear communication back to the top. "We can completely displace ourselves anywhere we want on the battlefield, communicate with each other, and then have our link to brigade since it's via satellite," Hwang said. "You

can be all around the world as long as you have a way of reporting information to higher command."

The next stage for WIN-T will be Increment Two and a satellite-based on-the-move (OTM) network capability. "I think that probably the biggest challenge with OTM capabilities will be network management," Gonzalez said. "That will bring a whole new dynamic with trying to manage a network that will be forever changing as people are moving from one location to another."

"You are always going to be in a constant fight with the commercial world, and the commercial world is going to have the newest greatest thing there is. But, as warfighters, we need to ensure information assurance. ... If we don't do all the proper steps, that impact could take down a whole commander's network and then we're into some even bigger issues in the warfight over there," Compton concluded.

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Technological Revolution Spurs From Army Tradition

Joshua Davidson

To maneuver and plan one's course on the battlefield, today's commander uses a vast range of digital systems, many times from locations far away from the fight. Lacking these technologies during the Revolutionary War, however, commanders had to be present on the battlefield itself to plan and visualize their course of action. "They were actually on the field," said Dr. Ricardo Herrera, a historian of the Combat Studies Institute, Combined Arms Center, Fort Leavenworth, KS.

LTC Paul Tiongson and Scott Morris of the Army Test and Evaluation Command headquarters view the bank of 128 processors of the High-Performance Computing Army Laboratory for Live/Virtual/Constructive Experimentation (HALLE) during a visit to Fort Monmouth, NJ, in September 2007. HALLE is a PEO C3T and Communications-Electronics Research, Development, and Engineering Center technology that applies high-fidelity rigorous analysis in system-of-systems engineering, system architecture, and data collection. (U.S. Army photo by Joshua Davidson.)

Dr. Herrera; Dr. Curtis King, who shares the same title; and COL James Johnson (USA, Ret.), Executive Director, Hudson River Valley Institute of Marist College, Poughkeepsie, NY, have walked numerous members of the Army's Program Executive Office Command, Control, and Communications Tactical (PEO C3T) through various battlefields during "staff rides" at areas such as Saratoga, NY, and Forts Clinton and Montgomery, NY. During these staff rides, participants assumed the persona of the battles' primary players and examined how Revolutionary War commanders responded to enemy actions without technology, along with other tactical aspects of battle.

Revolutionary War Communications

During the American Revolution, commanders had to rely upon reports coming in from their brigade or division commanders. "They also had to rely upon themselves, frequently riding the line, getting an idea of what was going on, and sensing the battlefield, much as commanders do today. Commanders can't do it all from the rear or electronically. They've got to get out there and get a feel for what's happening — something that I think is a constant in the art of command and leadership," Herrera stated. Aside from those methods, commanders could rely on maps, many of which provided only a small amount of aid.

Even with today's satellite communications technologies and mapped images, planning a battle requires more than just knowledge of one's terrain. "[The commander] must visualize how he will fight that battle," King said. "So, some things have not changed at all, despite the technological tools. It's hard to train that, even today. Sometimes it's just a gift."

The current force capabilities provided by PEO C3T's Project Manager Battle Command (PM BC) allow warfighters to plan their actions over topographical maps. So, what did Soldiers use to actually record their plan during the Revolutionary War? "Pen and paper," Herrera said. When time permitted, a staff engineer would use a pen to sketch plans on a map. Some Soldiers even drew their plans into the ground using what was referred to as a sand table. "And then for the siege of Yorktown, VA, which was more formalized work, they'd sketch where the artillery should be and the angles at which it should fire to a certain degree, but that was still pen and paper; we're talking sketch-map type things," King said.

Today's commanders use the Advanced Field Artillery Tactical Data System (AFATDS) to plan and execute fires during each phase of action, whether it is a deliberate attack or defensive operation. Commanders can use the system to give orders, reposition radars, and communicate to the lowest levels of units. AFATDS is part of Army Battle Command

WIN-T Increment One provides battalion-level and above warfighters with the ability to connect to the Army's digitized systems, voice, data, and video via satellite Internet connection at the quick halt.

Systems (ABCS) 6.4, a suite of digital systems that warfighters use to locate friendly units through Global Positioning System technology, organize logistics, analyze intelligence data and terrain, and manage the airspace, along with other missions. Both are assigned to PM BC.

Gathering and processing information intelligence was done by Soldiers in the American Revolution in a rather old-fashioned way. "They depended on what they saw and heard to make judgments," Johnson said. Scouts and spies were leveraged to gain an edge in the reconnaissance and counter-reconnaissance battles. If time permitted, commanders and their subordinate commanders convened in councils of war to reach decisions.

"Modern staffs and sophisticated systems can now facilitate the process, but commanders, such as MG Israel Putnam in the Hudson Highlands and Gov. George Clinton at Fort Montgomery, still had to make the tough calls themselves," Johnson said.



PEO C3T systems, such as Command Post of the Future, have enhanced commanders' capabilities in collaborating on the battlefield. (U.S. Army photo by Richard Mattox.)

Requirements that shaped the future steps of battle today, set forth by the U.S. Army Training and Doctrine Command (TRADOC), were also non-existent. Missing were the war game scenarios played out at combat training centers, where today's Soldiers train and prepare for deployment. Training during the Revolutionary War era mainly involved repeatedly firing one's weapon. Today, PEO C3T's civilian support staff trains Soldiers prior to and during deployment. Soldiers are also provided with computer-based training on applications and the satellite communications network, which is also taught at the U.S. Army Signal Center, Fort Gordon, GA.

During the American Revolution, the two basic means of communications were paper and voice. Eventually, during the Civil War, flags were introduced as means of communications. Herrera noted that chemistry between the commander and a subordinate is a factor of the Revolutionary War communications that remains critical today. "How well can the subordinate function, understand, or get the gist of the commander's intent in his orders; and then how well can he translate them on his own into action without the commander's presence?" Herrera asked.

Generally, the commander's staff would be charged with delivering orders. Back then, the commander's staff differed greatly from today's staff, which includes separate Soldiers who report to the commander in areas such as personnel, logistics, and communications. In some cases, Soldiers would pass the orders across the marching line.

During the battles of Forts Clinton and Montgomery on Oct. 6, 1777, requirements to physically travel to vast areas of the battlefield to relay messages put many lives in danger.

Like the Soldiers who supported them, commanders were under both direct fire from the British and loyalist musket volleys and indirect fire from British ships in the Hudson River. "They commanded in the kill zone and dispatched aides and couriers who faced fire to deliver their orders," Johnson said. "Face to face conversations were the only secure communications that they had as they depended on voice, drums, fifes, and cannon or musket shots to transmit commands. Like their lives in combat, their communications were always at risk."

Today's Communications

The satellite communications provided today have greatly transformed the Army's method of fighting. Warfighter Information Network-Tactical (WIN-T) Increment One provides battalion-level and above warfighters with the ability to connect to the Army's digitized systems, voice, data, and video via satellite Internet connection at the quick halt. Future increments, provided by PM WIN-T, will bring forth communications on-the-move. PM WIN-T is assigned to PEO C3T.

"Communications [systems] have allowed the speed of maneuver to increase," said MG Nickolas G. Justice, PEO C3T. "They've allowed us to

support the forces from farther distances, and they've allowed fires to be coordinated from afar. So, with those elements, basically you've made distance less of a limiter, you've made speed an enabler, and you've allowed sustainment to be global."

PEO C3T senior management members who participated in the staff ride to Forts Clinton and Montgomery determined that the rugged terrain, where the battles were fought, would have made even modern satellite and frequency modulation communications difficult, particularly for the British in the attack. "GEN Henry Clinton did about as well as he could to synchronize and to coordinate the dual attacks on the two forts using the sound of musket fire as the primary signal," Johnson said. "Clinton was plagued by the tyranny of time and space as he divided his force for the approach marches, effectively putting them out of supporting distance as they were separated for most of the operation by Bear Mountain and Popolopen Creek. Modern communications would have made it easier for him to communicate with Sir James Wallace's advanced naval squadron, which was providing naval gunfire support."



The Advanced System Improvement Program version of the Single-Channel Ground and Airborne Radio System is being fielded to the Army and has an inventory of nearly 300,000. (U.S. Army photo by Jason Bock.)

Commanders at Forts Clinton and Montgomery used the sights and sounds of their surroundings, along with messages from subordinates to gain situational awareness of the tactical situation. They used their eyes and ears to assess a situation.

Currently, the PEO C3T's Force XXI Battle Command Brigade-and-Below (FBCB2) Blue Force Tracking tracks and displays friendly vehicles and aircraft that appear on a computer screen as blue icons over a topographical map or satellite image on the ground. Users can manually add red icons that show up as the enemy on the screen and are simultaneously broadcasted to all the other FBCB2 users on the battlefield. Other capabilities include creating, sending, and displaying graphics such as bridges, minefields, obstacles, supply points, and other battlefield hazards. Users can also send messages to each other similar to e-mail on the Internet.

Many of the battle command systems provided by PEO C3T are known to lift the fog of war for commanders and provide them with an improved common operational picture, where they share a common view of the battlefield. To explain why, in his opinion, staff rides have served to lift the fog of war for the managers of the aforementioned capabilities, Johnson referred to this quote from theorist Carl von Clausewitz, who wrote in *On War*, "War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty."

Johnson continued, "Clausewitz therefore reasoned that, 'A sensitive and discriminating judgment is called for; a skilled intelligence to scent out the truth.'" He added, "That is the purpose of staff rides: to help

commanders and staff officers develop their judgment and hone their intelligence, so that they can lift the fog of war before they are faced with the pressures of combat or the Program Objective Memorandum cycle. As participants walk the battlefield, they are forced to confront the realities of terrain, fatigue, and the tactical scenario. The insights that they gain should help them ask more pointed questions about the requirements for the systems they are charged to develop and to field."

Often times, staff rides provide participants with an understanding of the factors behind their chosen solutions. One of those solutions was expanding the warfighters' ability to communicate to locations farther than they can see, or beyond-line-of-sight (LOS), a capability introduced with WIN-T Increment One, when it replaced the Mobile Subscriber Equipment network.

"LOS back in those days [of the American Revolution] was — can I see those signal flags?" Justice said. "Could I literally be within the visual range, so that I could get that message across? If you could do that and relay your communications, you had an advantage. Today, that LOS is much farther than my visual LOS, but that radio can see to the horizon and so you begin to understand how to put things in place and what the strengths and weaknesses of things are."

The staff rides have allowed PEO C3T members to step back into history and examine the reasons why a commander might have positioned

forces in specific locations. "And when you start seeing how he set up his communication routes, you begin to question what is driving you to do certain things today," Justice said. "Are there things that are going to cause us problems with our systems today that have to do with the environment in which we operate?" The answer to that question demonstrates

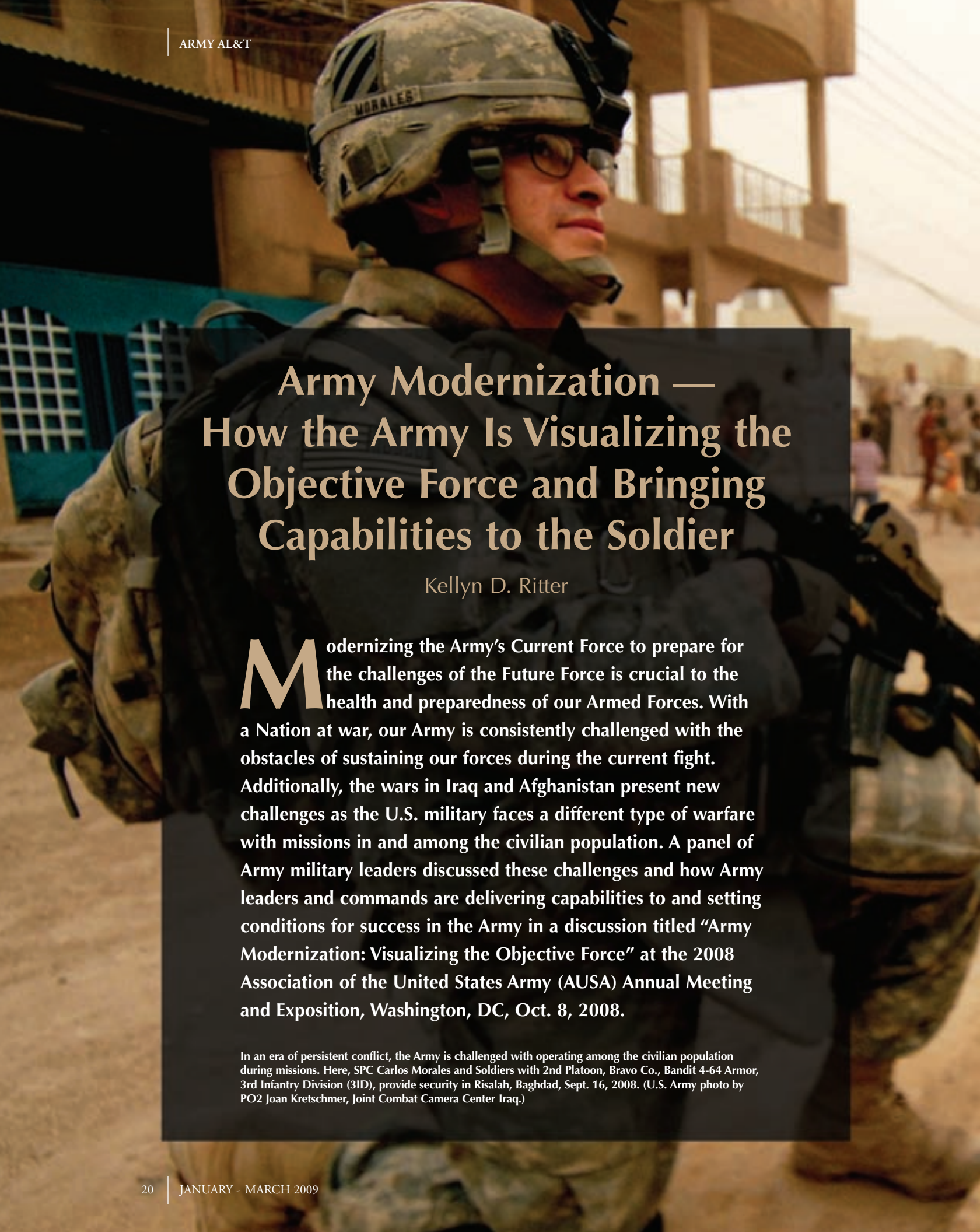
the role satellite communications have played in overcoming the limitation of terrain.

Justice used the staff ride to examine the weaknesses that might have resulted from extending the command and control communications line farther into the battlefield. He determined

the limitations that might have spurred future challenges or ways the enemy can use those challenges to disrupt unit operations. This is one reason for the excitement being felt for reintroducing terrestrial communications into the satellite network in the second of WIN-T's four increments. "We need that redundancy and that fallback position to make sure that Soldiers have all the capabilities that they need in a high intensity battlefield," Justice concluded.

Many of the battle command systems provided by PEO C3T are known to lift the fog of war for commanders and provide them with an improved common operational picture.

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Army Modernization — How the Army Is Visualizing the Objective Force and Bringing Capabilities to the Soldier

Kellyn D. Ritter

Modernizing the Army's Current Force to prepare for the challenges of the Future Force is crucial to the health and preparedness of our Armed Forces. With a Nation at war, our Army is consistently challenged with the obstacles of sustaining our forces during the current fight. Additionally, the wars in Iraq and Afghanistan present new challenges as the U.S. military faces a different type of warfare with missions in and among the civilian population. A panel of Army military leaders discussed these challenges and how Army leaders and commands are delivering capabilities to and setting conditions for success in the Army in a discussion titled "Army Modernization: Visualizing the Objective Force" at the 2008 Association of the United States Army (AUSA) Annual Meeting and Exposition, Washington, DC, Oct. 8, 2008.

In an era of persistent conflict, the Army is challenged with operating among the civilian population during missions. Here, SPC Carlos Morales and Soldiers with 2nd Platoon, Bravo Co., Bandit 4-64 Armor, 3rd Infantry Division (3ID), provide security in Risalah, Baghdad, Sept. 16, 2008. (U.S. Army photo by PO2 Joan Kretschmer, Joint Combat Camera Center Iraq.)

LTG Stephen M. Speakes, Deputy Chief of Staff, G-8, emphasized that the Army's modernization effort is headed for success. Speakes reflected on an excerpt from the 2003 Army Posture Statement: "The Objective Force is the Army's full-spectrum force that will be organized, manned, equipped, and trained to be more strategically responsive, deployable, agile, versatile, lethal, survivable, and sustainable than we are today — across the full spectrum of military operations as an integral member of a cohesive Joint team."

Critical needs of the Army were clear in 2003, and now 5 years later, the Army is fulfilling those needs and fielding the Objective Force. The Army has adapted to the era of persistent conflict and is in the process of fielding a force that is versatile, expeditionary, agile, lethal, sustainable, and interoperable for the 21st century. Speakes proclaimed that the Army is on the right track to success — "We've taken that central vision and we've adapted it to an era of persistent conflict."

Challenges

The panel members' remarks specified that modernizing the Army is a complex challenge. BG Robert B. Abrams, Deputy Commander, Combined Arms Center for Training, U.S. Army Training and Doctrine Command (TRADOC), advised that the complexity of the

operational environment in which our Soldiers work "does not replicate or resemble what we prepared for before Sept. 11 [2001]." Conventional, stability, and irregular operations are intertwined and the conditions within an area can change rapidly, causing increasing challenges for Soldiers. The international battlefield environment is perhaps more complex than ever before and the complexity is expected to increase in the future. Therefore, the Army must modernize to remain technologically ahead of our enemies and be able to adapt to ever-changing capabilities requirements.

LTG Michael A. Vane, Director, Army Capabilities Integration Center, advised that modernizing the Army is crucial to protecting U.S. national security. He explained that our national security depends on global security, which requires diplomatic, information, military, and economic (DImE) power. DImE requires local security in the U.S. itself and also in deployed areas. This local security requires landpower, and to have dominant landpower requires a full-spectrum modernized force. Vane said that Soldiers face adaptable adversaries today and to be effective against these, the Army's landpower must be versatile, agile, lethal, sustainable, and interoperable. TRADOC's challenge in modernizing the force is to maintain meeting the need of continually changing sets of capabilities.

Abrams advised that we are not in a "3-block war," meaning offense, defense, and stability operations are not done disjointedly. Our Soldiers have to do all three simultaneously, presenting significant change from the Army's previous operations and radically raising the level of mission complexity. Conducting full-spectrum operations in an urban environment is a new challenging facet of the battlefield. Since our Soldiers operate among the civilian population, they must be able to close and destroy the enemy while engaging the populace. Modernized protection and equipment are critical to accomplishing this task.

The Army has made great advancements in overcoming these challenges with *Field Manual 3-0, Operations*, which recognizes the obstacles of 21st-century conflict and commits to resource all units across the full-spectrum of operations. "We have embraced the notion as an Army that we will operate in the future among the people," said Abrams. "That's a major cultural change for the U.S. Army and landpower. Before, we'd always avoid the population areas; now we embrace it."

TRADOC — Developing a Dominant Landforce

Vane explained how TRADOC enables full-spectrum operations to fulfill the Army's needs and achieve

Army modernization. He advised that dominant landpower is essential to this goal: “Land forces must be capable of conducting full-spectrum operations and [have] the ability to simultaneously conduct offense, defense, and stability operations across the spectrum of conflict as well as civil support operations.” The Army is developing a dominant landforce with a sense of urgency because of its critical nature to mission success.

Achieving a dominant landpower and Army modernization success requires the Army to adopt a holistic approach. In the 21st-century era of persistent conflict, military power alone is not enough. “We must not only be able to kick down the door, but to clean up the mess, and sometimes rebuild the house afterwards,” said Vane.

The Army is also aggressively pursuing organizational change to modular forces. The Army Force Generation

(ARFORGEN) model provides a process for narrowing a unit’s focus according to its mission. The division-corps Army is tailored to land forces for regional combatant commanders.

Abrams provided a warfighter’s perspective on how the Army can get the capabilities needed for modernization

The Army has adapted to the era of persistent conflict and is in the process of fielding a force that is versatile, expeditionary, agile, lethal, sustainable, and interoperable for the 21st century.

to its Soldiers. Full-spectrum operations are conducted at squad, platoon, and company levels, so the force must be trained and prepared to operate at those levels. Abrams advised that the Army needs a battle command network that is distributed down to the Soldier level.

This network would enable every Soldier to operate in today’s complex battlefield environment. Reiterating a topic Army Chief of Staff GEN George W. Casey Jr. also discussed at AUSA, Abrams said, “Our Soldiers are our most precise capability we have, both lethal and nonlethal.” Therefore, we must enable and equip them to do their jobs effectively.

Future Combat Systems (FCS) — The Core of Army Modernization

FCS offers the capabilities needed to modernize the Army. The era of persistent conflict and the challenges it presents in both the present and future drive the Army to develop FCS. Speakes outlined the steps the Army must take to implement FCS and modernize the Army:

- Finish Army growth, so that requisite growth will bring the Army into balance by FY11.
- Focus on the Future Force. For that force to be effective, it has to start providing answers today to warfighters’ needs. The FCS investments that the Army has made over the past years are beginning to take precedence and provide capabilities. The Army needs to get these capabilities into Soldiers’ hands as soon as possible.
- Accelerate capabilities to infantry brigades. Today’s Soldier has to be part of the battle command network for it to be useful.
- Restore funding to FCS and complementary capabilities. The Army needs to deliver FCS on time and on target and be absolutely committed to the FCS program.
- Limited modernization for combat and tactical vehicles. The Army needs to take advantage of the money and opportunities that have been provided to upgrade vehicles so they are more prepared for today’s fight. The Army needs to be fiscally purposeful with this money and recognize the benefits it has provided for our force.

MG Charles A. Cartwright, Program Manager FCS (Brigade Combat Team), and Gregg Martin, Vice President, Boeing, FCS, Lead Systems Integrator, provided an FCS program update. FCS includes eight hybrid



The Soldier is the Army’s key precise capability. For Soldiers to accomplish missions effectively, the Army must enable and equip them with mission-critical capabilities. Here, SSG Henry Flores III, 2nd Combined Arms Battalion, 8th Infantry Regiment, 2nd Brigade Combat Team, 41D, provides security during a patrol of Diwaniya market, Iraq. (U.S. Army photo by SrA Eric Harris, Multi-National Division-Central.)

electric Manned Ground Vehicles (MGVs) on a common chassis, two classes of Unmanned Aerial Vehicles (both with electro-optic/infrared laser designation and network capability), unattended systems including unattended ground sensors (UGS) and the Non-Line-of-Sight (NLOS) Launch System, and the family of unmanned ground vehicles (UGVs) to include the Small UGV (SUGV) and Multifunctional Utility/Logistics and Equipment Vehicle.

The FCS family gives Soldiers advanced technological, information-gathering, and intelligence, surveillance, and reconnaissance (ISR) capabilities. Cartwright advised that there are active protection systems across all platforms (medical, combat, etc.) and the FCS network is tied together in all of these platforms. Every platform receives the same capabilities, making FCS much more advanced than previous stovepiped Army systems.

When FCS was first conceptualized, the Army had to overcome immense challenges until it was made a tangible reality. Today, the FCS program is evolving and getting closer to being deployed into the hands of Soldiers. Martin advised that every one of the FCS systems is in some form of the test and evaluation phase and the program is about halfway through the development cycle. The FCS program is currently “keyed into detail, design, critical design reviews, and interqualification testing,” he said. FY09 will be focused on

detail design for final prototype builds, FY10 will be the initial integration, and FY11 will be formal qualification testing. Cartwright advised that FCS has involved Soldiers in development from the beginning: “The bottom line: it’s all about Soldiers and prototype testing.” This enables the FCS program to be tailored to Soldiers’ needs in the initial development and testing phases, so the program can remain fiscally and punctually on track.

LandWarNet

BG Brian J. Donahue, Coordinator, LandWarNet Office of the Deputy Chief of Staff, G-3/-5/-7, explained how the Army will bring FCS network capabilities to the force and synchronize the LandWarNet concept to bring a networked capability to the Army. “What we are seeking to do here is establish a minimum baseline, a battle command environment for the entire

operational Army,” he said. “And it is from that minimum baseline that we will tailor up to meet the needs of specific formations.” He advised that the Army’s task is to enable the current fight en route to the Future Force and that Army transformation is an incremental process over time. Some FCS capabilities can be introduced in early capability set fieldings now, with the entire FCS program being fully fielded later.



FCS is aiding Army modernization by bringing unprecedented capabilities to the warfighter. Here, Soldiers from the Army Evaluation Task Force, Fort Bliss, TX, test the FCS’ SUGV. (U.S. Army photo.)

All LandWarNet/battle command capabilities are delivered in 2-year increments and are tailored for each modular formation.

To make the implementation of modernization most effective, the Army will use a capabilities set decision process, an annual deliberation process that will develop capability set courses of action for decision. All courses of action must be fiscally affordable and interoperable to be feasible and the courses of action will vary the application of resources. These decisions will be based on what provides the greatest operational value with which to spend our resources.

The Army Modernization panel at AUSA 2008 provided a holistic view of Army modernization — what it entails and how Army leadership will accomplish its integration into the force. As Speakes affirmed, “This is an Army that is proud of its modernization program, confident of what it’s doing, and deeply appreciative for its remarkable success.”

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Land forces must be capable of conducting full-spectrum operations and have the ability to simultaneously conduct offense, defense, and stability operations across the spectrum of conflict as well as civil support operations.

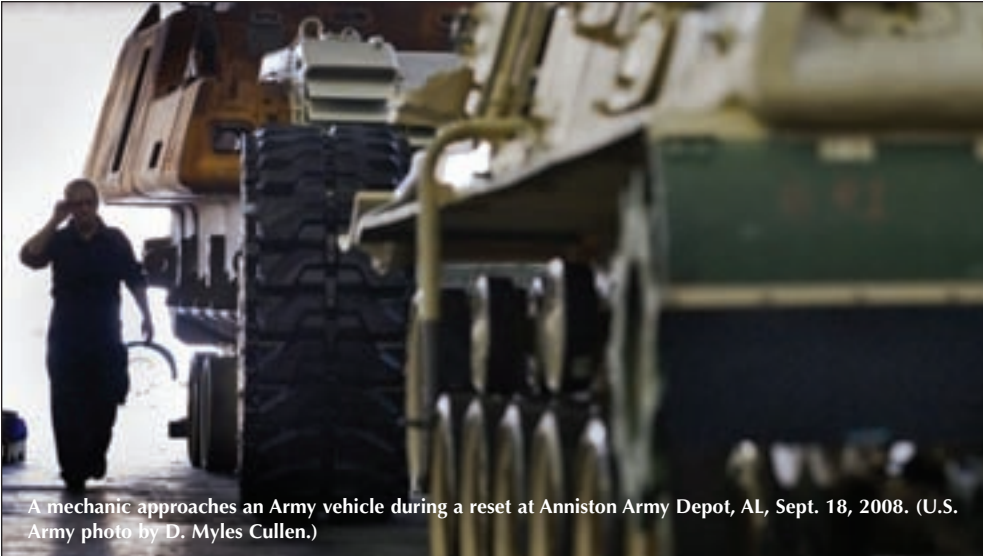
ARFORGEN — Enhance the Mod Whitney

Continuing to Model and Process

F. Pyle

Since it was created and implemented more than 2 years ago, the Army Force Generation (ARFORGEN) model has matured and progressed, and it will continue to do so in the future. An ever-evolving strategy, ARFORGEN provides the flexibility needed to support an Army at war by ensuring that warfighters are always ready and available to defend our freedom. Army leaders met at the Association of the United States Army Annual Meeting and Exposition in Washington, DC, Oct. 7, 2008, to discuss the Army's ARFORGEN strategy.

SGT Roman Aquino, with the California National Guard's 49th Adjutant General, Personnel Support Battalion (Bn), fires his M4 assault rifle with Soldiers of his unit in the reflexive fire course at Camp Atterbury, IN, Sept. 26, 2008. (U.S. Army photo by SPC John Crosby.)



A mechanic approaches an Army vehicle during a reset at Anniston Army Depot, AL, Sept. 18, 2008. (U.S. Army photo by D. Myles Cullen.)

A relatively new approach, ARFORGEN is the structured progression of increased unit readiness over time, resulting in recurring periods of availability of trained, ready, and cohesive units. Unlike the old way of doing business, in which U.S. Forces were designed to be “all ready, all the time,” units are now task-organized in modular expeditionary forces tailored for mission requirements. To understand how this new way of strategic thinking is transforming the Army, it’s important to understand ARFORGEN’s capabilities, as well as its limitations.

ARFORGEN is:

- A supply-based model and a demand-based process.
- A process of systems.
- Event-based.
- Adaptable/dynamic.
- Evolving.
- Continuous.

ARFORGEN is not:

- Exclusively a model, nor a process.
- An independent process.
- Calendar-based.
- Static.
- An objective end state.
- Episodic.

When President George W. Bush initiated a surge of 20,000 Soldiers to deploy to Iraq in January 2007, ARFORGEN adapted. When first initiated, ARFORGEN used a calendar-based model, which forced lots of activity to occur in a pressed amount of time. In the midst of the surge, ARFORGEN has transformed into the more familiar event-based model because various efforts had to be coordinated in a short time frame — efforts that were not originally identified as part of ARFORGEN’s schedule. This flexibility demonstrated that ARFORGEN

is sufficiently capable of meeting the full-spectrum of the Army’s warfighting demands.

In an effort to enhance its effectiveness and efficiency, ARFORGEN is currently undergoing specific modifications in relation to reset, manning, equipping, and training processes. Additionally, these aspects are evolving to self-synchronize across the entire ARFORGEN cycle.

Reset

Army Chief of Staff GEN George W. Casey Jr. recently sent out guidance to “establish a balanced 6-month process following an extended deployment that systematically restores deployed units to a level of personnel and equipment readiness that permits the resumption of training for future missions.” ARFORGEN is currently working to align its reset life cycle with this guidance.

To accomplish this, ARFORGEN has established a pilot model to test new reset procedures. Previously, only 25 percent of Automatic Reset Induction



ARFORGEN is transforming to 76 manned and ready brigade combat teams (BCTs) to meet wartime demands. Here, SSG Justin Wise, 320th Bn, 3rd BCT, 101st Airborne (AB) Div (Air Assault), patrols with other Soldiers through the marketplace in Mahmudiyah, Iraq, June 9, 2008. (U.S. Army photo by SPC Richard Del Vecchio, 55th Combat Camera.)



Since 2003, more than 140 Multiple Launch Rocket Systems (MLRS) have been reset and redeployed. Here, Bravo Battery, 2nd Bn 20th Field Artillery Regiment, 4th Fires Brigade, 4th Infantry Division (Div), launches an MLRS rocket from Forward Operating Base Q-West, Qayyarah Airfield, Ninawa Province, Iraq, against an enemy Iraqi insurgent target. (U.S. Army photo.)

(ARI) items were turned in for reset before a command left theater, and 85 percent of the equipment returned to home station. Because of this, the majority of a command's equipment lay dormant for weeks while it was shipped back to CONUS. Under the pilot model, there will be 100 percent ARI turn in, 100 percent property accountability, and 100 percent of destroyed equipment will be returned to the Defense Logistics Agency simultaneously with a command departing from theater. The goal is to reduce the redeployment timeline for equipment and have it reset within 180 days of returning from theater.

Manning

Life-cycle manning complements the ARFORGEN model by providing cohesive units that are trained and deployed together, thus providing increased stability and predictability for Soldiers and their Families. Originally, the ARFORGEN objective state called for a 36-month life cycle. To address reality, this 36-month model required some modifications.

The Active Component model included guidance for Soldiers to be deployed for 1 year and have a 2-year

dwelling period, with deployments being determined by time-based start dates captured in the Army Campaign Plan. The reality is that Soldiers are deployed for 12-15 months and have only a 12-month dwelling period, and deployments are guided by event-based start dates. Because deployments are longer and dwelling periods are shorter than initially expected, ARFORGEN life-cycle manning timelines have adjusted. The updated ARFORGEN model calls for stabilizing Soldiers returning home

during the first 180 days that they are in theater. This means that Soldiers will know their next assignment months in advance, with the goal being for 90 percent of Soldiers to know where they are going 30 days before they return home. The hope is that this will alleviate heightened stress on Soldiers and their Families and provide them with the predictability that ARFORGEN originally outlined.

Equipping

The Soldier is the centerpiece of the Army and one of ARFORGEN's main goals is to provide warfighters with the best equipment available. ARFORGEN is currently facing numerous challenges in trying to meet this goal, including that the current fight and Army growth are consuming readiness as fast as we can build it. Wartime requirements, such as theater-provided equipment and coalition loans, exceed modified tables of organization and equipment, and transitioning of non-Programs of Record (PORs) to PORs has created an unplanned funding need. Additionally, the cost to properly equip the Army has increased



SGT Christopher Walsh and PFCs Brett Nissen and Adam Johnson of Co. B, 2nd Bn, 325th Airborne Infantry Regiment, 2nd BCT, 82nd AB Div, prepare for patrol at the Sha'ab Joint Security Station in eastern Baghdad, Jan. 15, 2008. (U.S. Army photo by SSG Mike Pryor, 2nd BCT, 82nd AB Div.)



A forward observer with 2nd BCT, 82nd AB Div, practices using the lightweight laser designator rangefinder to determine the location of a target during call-for-fire training. (U.S. Army photo by SSG Mike Pryor.)

significantly. When the global war on terrorism (GWOT) started, it cost \$12,000 to equip one Soldier; it now costs \$17,000.

To overcome these challenges, ARFORGEN is transforming to increase readiness for deployed and next-to-deploy formations, finishing “grow-the-Army” requirements to realize 76 manned and ready BCTs, and rebuilding Army pre-positioned sets over time. The ultimate end state is to bring the Future Force to the Current Force, ensuring that our Soldiers are equipped with the best technologies available.

Training

The current training support contract within the Army is not designed to support the ARFORGEN model. It’s an execution-based strategy that does

not look ahead and is not synchronized Armywide. ARFORGEN’s objective is to modify the training strategy and synchronize it with the

The Soldier is the centerpiece of the Army and one of ARFORGEN’s main goals is to provide warfighters with the best equipment available.

current mobilization strategy. Previously, there were 10-15 general training centers within CONUS. ARFORGEN’s next step is to transform these centers into six locations that will address specific training sets and mission requirements. For example, all Soldiers assigned to the Military Police will train at Fort Bliss, TX. Additionally, this new training strategy will synchronize all four sets of training requirements — mobilization, demobilization, annual, and home station — that are mandatory for all Soldiers. This strategy is aimed at providing Soldiers and their Families

another layer of stability and predictability when gearing up for their next mission.

A Work in Progress

As described above, ARFORGEN is in a constant state of transformation. By implementing new strategies and techniques, the ARFORGEN model continues to develop its reset, manning, equipping, and training capabilities so that they are in line with the needs of warfighters. The ultimate goal is always to protect our Soldiers and provide them with the best equipment and technologies available. ARFORGEN will continue to evolve as a model and a process to ensure that our Soldiers have the capabilities they need to fight and win the GWOT.

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LandWarNet — Transforming to a Warfighter Enterprise

Jaclyn Pitts

LandWarNet is transforming to an enterprise structure that will maximize warfighter capabilities by giving Soldiers a single identity and providing access anywhere in the world, at any time. Army leaders discussed the importance of LandWarNet's transformation at the Association of the United States Army (AUSA) Annual Meeting and Exposition in Washington, DC, Oct. 6, 2008.

LTG Jeffrey A. Sorenson, Army CIO/G-6, listens as LTC John Kolasheski, 3rd Brigade Combat Team (BCT), 3rd Infantry Division (3ID), tells him about his unit's communications operations at Patrol Base Assassin, Iraq, Jan. 19, 2008. (U.S. Army photo by SPC Emily J. Wilsoncroft.)



LTG Jeffrey A. Sorenson, Chief Information Officer (CIO)/G-6, led a panel discussion, “Transforming LandWarNet for the Warfighter,” to explain how LandWarNet is evolving to deliver needed capabilities to the Soldier more effectively and efficiently. Sorenson explained that although LandWarNet exists, it does not have the capabilities needed for warfighters today, such as a single identity for the Soldier and the ability to connect to the network anywhere in the world. The transformation to an enterprise structure will provide those capabilities and others.



BG Brian Donahue, Director of LandWarNet, G-3/-5/-7, and LTG Jeffrey A. Sorenson, CIO/G-6, listen to BG Michael Basla, from the U.S. Air Force Command, Control, Communications, and Computer Systems Center, as he answers a question from the audience Oct. 6, 2008. (U.S. Army photo by Jacqueline M. Hames.)

As defined by the Army Posture Statement, LandWarNet is the Army’s portion of the Global Information Grid, and it moves information through a seamless network, enabling the management and use of warfighting and business information. Because the Army is moving to a modular, expeditionary force, LandWarNet must follow suit and become more streamlined through an enterprise structure. The Army plans to achieve that goal with the use of Network Service Centers (NSCs), which federate networks and create a seamless network wherever a Soldier is. The Global Network Enterprise Construct, which will be supported by NSCs and function as the basis of the transformed LandWarNet, will optimize Soldier connectivity by providing the basics to get Soldiers connected.

What we must be able to accomplish is information superiority, getting to the warfighter the information he or she must have to make a decision at a critical point on the battlefield and to be able to do this in an environment we’ve never had to fight in before.

“As a CONUS-based Army, our relevance can be largely defined by our responsiveness,” said BG Brian Donahue, Director of LandWarNet, G-3/-5/-7. “Our responsiveness is largely defined by our expeditionary capabilities. Our relevance to the Joint force command is going to be defined by how quickly we can get into the fight. Our expeditionary capabilities are network-dependent.” LandWarNet will enable the preparation for war, the transition to war, and all phases of combat operations, increasing the speed and efficiency of Soldiers and, therefore, the Army. Having connectivity at all phases of combat operations allows Soldiers to hit the ground running and immediately engage the enemy, as well as gives Soldiers access to accurate information quickly, increasing their lethality.

Becky Harris, Global Information Grid Enterprise Services Director,

discussed DOD’s net-centric enterprise services (NCES). The NCES program’s goal is to deliver 11 different capabilities. “What’s exciting to me about these capabilities is that they’re not just for one user,” Harris said. “They are a set of information-sharing capabilities, an information infrastructure to allow us to operate, collaborate, and leverage what we’ve all done in a much more agile and robust manner.”

By employing NCES capabilities, such as user access provided through Defense Knowledge Online, content discovery, robust certificate validation, and the Joint enterprise directory service, unanticipated users may enter with a public key infrastructure certificate and conduct a query for information. Certificates are then validated and sent to the policy decision point where it is determined whether the user has the necessary attributes to execute his/her query. If all requirements are met, the query is executed and results come back. At this point, the user’s attributes are again checked before the results are given to the user. “Can you just see the power of applying a few of these technologies? Capabilities open up in a secure manner from a data source that was not readily available,”

Harris said. "My message to you is the vision is becoming a reality. ... We are starting to build the foundation to realize this vision."

BG(P) Susan S. Lawrence, U.S. Army Network Enterprise Technology Command (NETCOM)/9th Signal Command (Army) Commanding General, discussed transforming LandWarNet from NETCOM's perspective. "What we must be able to accomplish is information superiority, getting a warfighter the information he or she must have to make a decision at a critical point on the battlefield and to be able to do this in an environment we've never had to fight in before,"

Every single Soldier must touch the network. As you look at FCS, and you look at what brings the precision engagement, the unmanned sensors, and the common platforms together, it is the network.

she said. "How do we now fight and prevail in this environment to provide the right information to the warfighters? If you look at the global transformation of where NETCOM is today, the strategic communications message we have to deliver is that your information is absolutely critical and you have to protect and defend it just like you would a weapon system on the battlefield."

"When a Soldier loses an M-16, the warfighter knows what to do about it: lock down, search for it, and the Soldier will never do it again,"

Lawrence continued. "What do we do with a Soldier who took sensitive information and released it on the NIPRNET [Non-Secure Internet Protocol Router Network] of where every one of our dining facilities are located in Iraq? Which one could cause more harm or danger to our Soldiers out in the field? That is how we have to start thinking about our information and how we're going to defend it."

Lawrence emphasized that currently, there is no single identity for warfighters. "You can't fight until the network finally catches up with you,

where you get your battle command information, and then you've got to be able to figure out where you were, what you missed in a fight, and get caught up," she said. "Every single Soldier must touch the network. As you look at FCS [Future Combat Systems], and you look at what brings the precision engagement, the unmanned sensors, and the common platforms together, it is the network."

The transformed network is going to move forward in 2009, and it will be flexible, plug-and-play, and will have the capability to reconfigure on the spot no matter what the mission is. "From the desktop to the foxhole and back again," Lawrence said. "And we're going to do it from home station training and move it to the full spectrum of operations

The transformed network is going to move forward in 2009, and it will be flexible, plug-and-play, and will have the capability to reconfigure on the spot no matter what the mission is.

so we have seamless battle command. Our warfighters need this today. ... As one force, we can be the country's professionals in delivering the single IT [information technology] service provider

so we can deliver these capabilities to our warfighters on the battlefield. We're excited about it; it's going to happen and it's a great time to be in NETCOM."

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LTG Jeffrey A. Sorenson, the Army's CIO/G-6, interacts with the audience during the panel discussion "Transforming LandWarNet for the Warfighter" at the AUSA Annual Meeting and Exposition Oct. 6, 2008. (U.S. Army photo by Jacqueline M. Hames.)

Busting the Low-Tech Myth — Army S&T Efforts Support Full-Spectrum Operations

Kellyn D. Ritter and Jaclyn Pitts

Some may think that the U.S. Army is not on the cutting edge of technology when it comes to weapons systems, vehicles, equipment, and other elements necessary in the theater of operations. However, the truth of the matter is the exact opposite — the U.S. Army is a high-tech organization devoted to developing and fielding the latest advances in technology so that Soldiers can perform their jobs more effectively. The Army is also working to appeal to the younger workforce by using modern technology and creating a faster-paced work environment, in addition to reaching out to local communities and partnering with industry on high-tech endeavors. This was the overarching message that panelists gave during a military forum at the Association of the United States Army Annual Meeting and Exposition in Washington, DC, Oct. 8, 2008.

The Excalibur is a high-tech Army precision munition that reduces collateral damage and, therefore, the logistical burden for Soldiers on the ground. Here, an Excalibur explodes out of an M777 Howitzer at Camp Taji, Iraq. (U.S. Army photo by SPC Derek Miller.)

Expanding the Acquisition Workforce

LTG N. Ross Thompson III, Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology/Director, Acquisition Career Management, discussed how the acquisition workforce is projected to grow and change over the next few years. “We are actively working to bring in high-tech, quality Soldiers, as well as high quality Department of the Army civilians to work for the U.S. Army,” he said. “The opportunities working for the U.S. Army are very exciting whether you are wearing a green uniform or a business suit.”

Thompson also discussed the impact of Section 852 of the *National Defense Authorization Act (NDAA) of 2008, Public Law No. 110-181*, which directed the establishment of the Defense Acquisition Workforce Development Fund. This fund enables DOD to recruit and hire, develop and train, and recognize and retain its acquisition workforce.

“One of the primary ways we are going to use this fund over the next 5 years is to take money from service contracts and put it into recruiting and retaining the military workforce,” Thompson said.

Thompson also explained the value of college loan retainer programs to attract young people to the acquisition workforce. “A recruiting tool might be to offset college loans a student might have,” he said.

“There are about 38,500 people in the acquisition workforce, and we’re projected to ‘grow’ by about 5 percent over the next couple of years, to about

2012,” Thompson stated. However, from 2003 through 2005, there were not enough acquisition professionals to handle all of the Army’s contracting missions, he added. “Congress was asking the right questions on how this happened, and a lot of answers came from downsizing the acquisition workforce in the [19]90s. Since 2001, the number of contract actions and contract dollars we have been executing has grown about 600 percent in contract actions and at least double in the dollar value,” he said. “In 2007, 25 percent of every federal contract dollar was put on contract by the U.S. Army. You can’t do that with a workforce that’s flat.”

The U.S. Army is a high-tech organization devoted to developing and fielding the latest advances in technology so that Soldiers can perform their jobs more effectively.

In the military acquisition workforce, there are fewer than 1,600 people, but it is projected to grow by 135 positions over the next 5 years in military contracting and program management. “What’s new for us is the skill set of non-commissioned officers [NCOs],” Thompson explained. “In the [U.S.] Air Force, well over 50 percent, or 1,100 of about 1,900 or 2,000 Air Force military contracting professionals are NCOs. They are very well qualified, and the Army recognized that to do expeditionary contracting, we needed NCOs.”

Thompson said the emphasis is not so much on high technology but on



Army Chief Marketing Officer Edward Walters advised that, “High-tech experiential marketing is a key piece of the Army’s new integrated marketing approach.” This type of marketing is exhibited in the AEC, which uses advanced technology and cutting-edge marketing theories to encourage young people to join the Army. (U.S. Army photo by Jacqueline M. Hames.)

recruiting people to be able to do high-tech missions. All of the acquisition career fields require highly trained people, not just scientists and engineers, but also business and financial experts to put together contract instruments. “My strategic objective is to make the Army a very tough customer,” Thompson said. “We pay too much for our products and services. I want the Army’s acquisition workforce negotiating the best deal for the U.S. Army because that allows us to put the best capabilities in the hands of Soldiers.”

Streamlining Army Contracting Processes

Jeffrey P. Parsons, Executive Director, Army Contracting Command, U.S. Army Materiel Command (AMC), discussed drawing young people to the acquisition workforce through technology. He stressed the need for increasing the number of acquisition professionals and making the

contracting process as transparent as possible. "In terms of dollars, [AMC] is probably executing more than 80 percent of every contract dollar that the Army is spending these days," he said. "The preliminary numbers for FY08 indicate our command executed more than \$104 billion in contracts, a 20-percent increase over last year, which was a 20-percent increase over the year before. When you're facing that kind of workload, you have to look at different ways of handling this business, and it's not just a matter of increasing the number of people. We're trying to take some of the technology out there and bring that into our process to improve our ability to create better contracting officers."

Parsons stressed the need for technology to attract and retain young, bright people in the workforce. "We need to find a way to harness the technology that we have because these new folks coming into the workforce are not used to a structured environment.

We've got to find a way to take the tools we have today and make this more of a virtual enterprise," he said. "In a virtual contracting enterprise, the challenge is that we must have the ability for Soldiers [overseas] to be able to enter the enterprise so that they can do work, be efficient, and, at the same time, give visibility into what they are working on."

There are many different kinds of applications in the contracting business today, such as programs that write solicitations and contracts, and interface with finance and logistics systems. Most of those systems at one point were based on client servers. "We have taken all the systems and are moving them all onto the Web so that we now have the capability for Soldiers in Iraq to be able to

I want the Army's acquisition workforce negotiating the best deal for the U.S. Army because that allows us to put the best capabilities in the hands of Soldiers.

electronically access this enterprise, write contracts, and feed into databases that will allow them to see where contracts may already be in the system," Parsons said. "We're building a data warehouse to capture all that contract information and make it visible to anyone in our workforce."

From the workforce perspective, much can be done with this contracting data.

"We can now track all certification levels individuals may have and get an idea of how well the workforce is developed and where they have experience," Parsons stated. At the supervisor level, supervisors can tell what types of contracts their employees have been working on, so that they can move people onto new contracts in which they may not



The new AEC is a prime example of the Army's high-tech marketing and recruiting plan. Here, SSG Rodney Smith (right), one of more than 20 Soldiers who staff the AEC, uses the global base locator to teach visitors about the many Army installations throughout the world. (U.S. Army photo by Carrie McLeroy, U.S. Army Soldiers Media Center.)

have experience working, to further develop their skill sets.

High-Tech Army Recruiting

Edward Walters, Army Chief Marketing Officer and Principal Deputy Assistant Secretary of the Army (DASA) for Manpower and Reserve Affairs Recruiting and Retention, spoke about the Army's new method of high-tech marketing and recruiting. A core goal of the high-tech Army recruiting process is to attract men and women who wouldn't normally consider the Army as a career option. Walters advised that, "High-tech experiential marketing is a key piece of the Army's new integrated marketing approach. ... [The Army is] shifting marketing dollars away from pure sponsorship," meaning that money will be used to foster Army experiences for recruits. We "create opportunities for young men and women to experience the Army by talking to real Soldiers and really getting to experiment with Army technology," said Walters.

The new Army Experience Center (AEC) is a prime example of high-tech marketing. The AEC team applied alternative business practices to recruiting and created innovative programs that enhance understanding of the Army. The AEC pilot program's objective is to increase recruiter effectiveness through integration of Army marketing and recruiting functions and understanding of Army life through an experiential and marketing environment.

The center opened in Philadelphia, PA, on Aug. 28, 2008, and it changes the entire recruiting approach. The recruiting process used to be very

Army researchers, scientists, and engineers are developing smaller and more capable systems to aid Soldiers on the battlefield. Here, an MAV takes off near a Doña Ana, NM, mountain range July 30, 2008, during a 3-day training exercise conducted by Combined Arms Battalion Soldiers to test the experimental technologies of Army FCS. (U.S. Army photo by Stephen Baack.)



intimidating. Recruiting buildings were not visually appealing and recruits often felt confused by the entire process. The AEC is sleek, modern, and very visually appealing. Its goal is to create a nonthreatening, nonintimidating environment in which to experience the Army. The center offers much more in terms of experiencing the Army and seeing

To keep up the tradition of high-tech excellence, the Army needs motivated, talented people who want to make a difference, who want to challenge what we have today and move the state of the Army.

the technology and benefits the Army has to offer than sitting down at a desk for a recruiting appointment. The AEC includes state-of-the-art gaming stations; team-based simulations and games; a modern, comfortable sitting lounge where recruits can talk to recruiters and Soldiers; new realistic Army simulations including the Apache and Black Hawk helicopters and High-Mobility Multipurpose Wheeled Vehicles; touch-screen career simulators that explain and identify

Army careers; and global base locators that enable recruits to explore Army installations. In the center, visitors receive briefings in high-tech command and control centers where real Soldiers relay realistic virtual scenarios. For more information about the AEC, visit www.thearmyexperience.com.

Army recruiting is also done through the efforts of individual Army organizations. To keep up the tradition of high-tech excellence, the Army "needs motivated, talented people who want to make a difference, who want to challenge what we have today and move the state of the Army," said Dr. Grace M. Bochenek, U.S. Army Tank Automotive Research, Development, and Engineering Center (TARDEC) Director. This can be accomplished by attracting and retaining the best and brightest through outreach programs. TARDEC hosts robotics, engineering, and technology days with local schools where kids are exposed to robots and the future of technology. This program's participation has increased dramatically over the last 2 years and is projected to increase again in 2009. TARDEC also participates in For Inspiration and Recognition of Science and Technology (S&T), an intelligent ground



TARDEC has fielded more than 360 SPARKs to Soldiers in the GWOT. The SPARK provides additional stand-off capability to vehicles and crews against pressure-activated improvised explosive devices. (U.S. Army photo courtesy of TARDEC.)

vehicle robotics competition that allows for cooperation and mentoring between students and teams. This competition also continues to grow.

Dr. Thomas H. Killion, DASA for Research and Technology and Chief Scientist, agreed that the Army needs to foster the new generation of science and engineering careers through recruiting. “Tomorrow’s technology is in the minds of today’s youth,” said Killion. The Army engages youth through an Army educational outreach program that includes interactive experiences. The Army also participates and sponsors youth S&T competitions, including the Web-based eCYBERMISSION program, and tuition assistance and job placement for students involved with Army S&T.

Many may be unaware that TARDEC and the Army are actively involved in tackling national strategies, including high gas prices, fuel shortages, and energy security.

High-Level Technology

Killion provided an overview of the Army’s current and future high-tech systems and equipment. He explained there is a perception that the Army is low-tech and dangerous, and the Army is trying to change that perception because it is simply inaccurate. He advised, “The Army is a high-tech service. We provide Soldiers with technology that enables them to effectively do their job safely and efficiently.” This technology will “increase the capabilities of our forces, the protection of our Soldiers, and our ability to support the mission that the Nation asks the Army to perform.”

Killion advised that the Army is pursuing S&T to transform the imaginable into capability.

Killion listed several examples of current high-tech Army technology including:

- Precision munitions, including the Excalibur.

- Unmanned systems, including the PackBot® and Fido®.
- Unmanned Aerial Vehicles, including smaller, more capable systems, such as the Micro-Air Vehicle (MAV).
- Command and control advancements that allow commanders and Soldiers to accomplish missions using advanced communication resources.
- Power sources, such as fuel cell and battery cell technology, which enable Soldiers to have power for their high-tech systems for longer amounts of time in more isolated areas.
- Soldier protection, such as interceptor body armor, vehicle advanced armor, and modular protective systems.

Future technologies that the Army is developing include:

- Nanotechnology (designing new materials from the atom up) and biotechnology (mimicking biology).
- Immersive technology for training. The Army is using graphic and speech recognition technology for synthetic human training, which increases the variety and effectiveness of training for Soldiers.
- Autonomous and smaller systems.

The Army is increasing the autonomy of the unmanned systems to reduce the demand on the Soldier. Small systems include the Nanoflyer, which provides surveillance and weighs 2.7 grams — the same weight as a penny.

- Soldier performance. The Army is developing technology that controls systems through brain monitoring, as well as technology that gives the Soldier vast logistical and physical capabilities. An example of this is the Exoskeleton, which gives additional capabilities to the individual Soldier and reduces the burden on the Force.

Ground Vehicle Technology

Bochenek provided a grass-roots perspective of TARDEC, the ground vehicle systems center of excellence. TARDEC is driving technology and innovation into ground vehicles every day. Bochenek advised that many may be unaware that TARDEC and the

Army are actively involved in tackling national strategies, including high gas prices, fuel shortages, and energy security. These issues are directly related to the Army's ground vehicles. "DOD is the largest single consumer of all the mobility fuels in the world," said Bochenek.

TARDEC's cutting-edge high-tech investments include:

- Biodiesel fuels.
- Hydrogen fuel vehicles.
- Mobile grids that link hybrid-electric vehicles together to create a networked power source.
- Higher energy and power density batteries.

Bochenek cited the recent roll out of the hybrid-electric Non-Line-of-Sight Cannon as an example of the Army's technological success. She explained how far the Army has come to achieve feats like this: "The hybrid system that was developed in 1994 for a 15-ton combat vehicle occupied a volume of 6 cubic meters, which was way too large to put on a Future Combat Systems [FCS] platform. The work that we've done over the [past] decade ... has [led to the volume being] about at 3 cubic meters, if not less. That's powerful."

The success of TARDEC's ground vehicle program is reliant upon partnerships. TARDEC has 83 cooperative research and development agreements with industry that can exchange engineers and data and share technology.

TARDEC also has synergy with the automotive industry, forming a joint collaboration with car companies' automotive research centers, including General Motors, Ford, Chrysler, Toyota, and Hyundai.

TARDEC has made immeasurable contributions to the global war on terrorism (GWOT), including the fielding of 500-plus Mine Resistant Ambush Protected Expedient Armor Vehicles and 360-plus Self-Protection Adaptive Roller Kits (SPARKs). Bochenek concluded that, "The U.S. Army and TARDEC are a hub of innovation. We work on some of the most tremendous things you could possibly want to work on. The bottom line is we deliver and we provide new capabilities to our Soldiers."

Overall, the Army is moving forward not only in technology, but also in building and developing a strong acquisition workforce to carry out contracting missions for years to come. By reaching out into the community through high school and college intern programs, as well as working with industry partners both large and small, the Army acquisition workforce is continuing to provide Soldiers with the technology they need.

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Dr. Thomas H. Killion, DASA for Research and Technology and Chief Scientist, provided an overview of the current and future Army high-tech systems and equipment. He reported that the Army is pursuing S&T to transform the imaginable into capability. (U.S. Army photo by Jacqueline M. Hames.)

Enterprise Logistics — Focusing on the Warfighter

Jaclyn Pitts

Enterprise logistics is about making elements work together. It's also about public-private partnership. Ultimately, though, it's about supporting our customer — the warfighter. Military leaders discussed how the Army is employing these elements and partnerships for the warfighter's benefit and how the U.S. Army enterprise is evolving through the Army Force Generation (ARFORGEN) model during a panel discussion at the Association of the United States Army Annual Meeting and Exposition in Washington, DC, Oct. 8, 2008.

"The focus on the Soldier will not change," said GEN Benjamin S. Griffin, then-U.S. Army Materiel Command (AMC) Commanding General (CG). **"The mission of AMC will not change. It's focused on the Soldier."**

The enterprise logistics approach is streamlining the business aspect of logistics to help Soldiers efficiently accomplish their missions. Here, U.S. Army 1LT Jonathan Kiel and 2LT Michael Cooper (facing page) discuss clearing the route of obstacles for a convoy headed to designated Iraqi communities on Aug. 19, 2008. (DOD photo by SPC Daniel Herrera.)



Partnership

AMC relies heavily upon partnerships within the private sector. “When we reach out for help, the private sector has been right there to help and work with us and partner with us,” Griffin said. And it’s not just partnerships with big businesses, either. “We learn every day how to be more efficient. ... It’s big business and it’s small business. I’ll be the first to tell you that for us, small business is big business, too. This is key to the success of our ability to do the job.”

Charles M. Hall, Executive Vice President, Combat Systems, General

Dynamics, discussed enterprise logistics from the defense industry perspective. “Partnering is a major piece of enterprise logistics,” he said. “In my experience, it requires strong leadership and is not for the weak.”

“When I started down this path, we were all in our own silos,” Hall said. “In today’s environment, there are fewer silos. We have to focus on the core and we must have strong leadership across the enterprise so that your employees buy into this, whether they are Soldiers or workers in the factories. ... If you don’t have a good business model when you

establish a joint venture, and you don’t have the right decision-making model or the right leadership, then you’re going to have problems in these kinds of relationships.”

Hall also emphasized the qualities of the Future Force: “Versatile, expeditionary, agile, lethal, sustainable, and interoperable. ... I would say the first five of those tie very heavily in my mind to enterprise logistics, and the relationships we’re talking about here can help influence that.”

Kevin Fahey, Program Executive Officer (PEO) Ground Combat

Systems, discussed the PEO perspective of life-cycle management across the enterprise. “When we’re talking about life-cycle management, it really is the integration of AL&T [acquisition, logistics, and technology] across the life cycle,” he said. “We’re all in the same boat, all working for the common good of the warfighters in the field. We’ve got to continually understand our roles and responsibilities.”

Feedback

AMC’s CSM

Jeffrey J. Mellinger discussed the importance of Soldier feedback. “A lot of times we’ll field something that has the potential to be the greatest thing we’ve ever seen on the battlefield, but when Soldiers get it in their hands, they find ways to break it that we never envisioned, and find ways to use it that we never would have thought of. Therefore, it’s critical we get that feedback so that we know how

We have to focus on the core and we must have strong leadership across the enterprise so that your employees buy into this, whether they are Soldiers or workers in the factories.

they’re using it and how it broke, so we can reconfigure parts and procedures to get it out to them.” One of the challenges often faced is obtaining feedback, because equipment failure often occurs in isolated events, so it is difficult to capture the systemic picture across the theater of operations. Mellinger also discussed the

benefits of Soldier innovation, such as development of a glass shield for gunners’ turrets to protect gunners from improvised explosive device blasts.

COL Bryan Roberts, Deputy Chief of Staff (DCS)/G-8, Joint Requirements and Assessments, said

he has seen a tremendous difference with reset between 2005 and 2008 because of enterprise management. “I think the logistics community has been using this enterprise concept for a long time,” he said. “Enterprise management is alive and well in

the logistics community, and were it not for the business approach to support the warfighter, we certainly would not be as successful as we are in the complex environment in which we work.”

ARFORGEN

AMC focuses on daily support to the Joint warfighter, getting feedback from the field, and finding a balance between the current and future fight. “There is a certain amount of goodness in making sure that what we’ve developed day-to-day and what we’re doing today is applying to the future,” Griffin said. “Our focus is on ARFORGEN and sustaining our Life Cycle Management Command because that’s so critical to us. That is key; we’ve got to work together as a team.” ARFORGEN is the structured progression of increased unit readiness over time, resulting in recurring periods of availability of trained, ready, and cohesive units. The goal is to achieve a sustained, more predictable posture to generate trained and ready modular forces.

Roberts also stressed the importance of using the ARFORGEN model. “We need to manage expectations, and we need to know that ARFORGEN is a model that needs to be flexible enough to move around the calendar and make sure we get everything done.” Some of the challenges of ARFORGEN include synchronizing Soldier equipment and training resources and aligning them during reset. “Asset visibility is extremely important in ARFORGEN,” Roberts said. “AMC is on point in terms of the process here in CONUS and is interjecting where they are needed in order to speed up the process.”

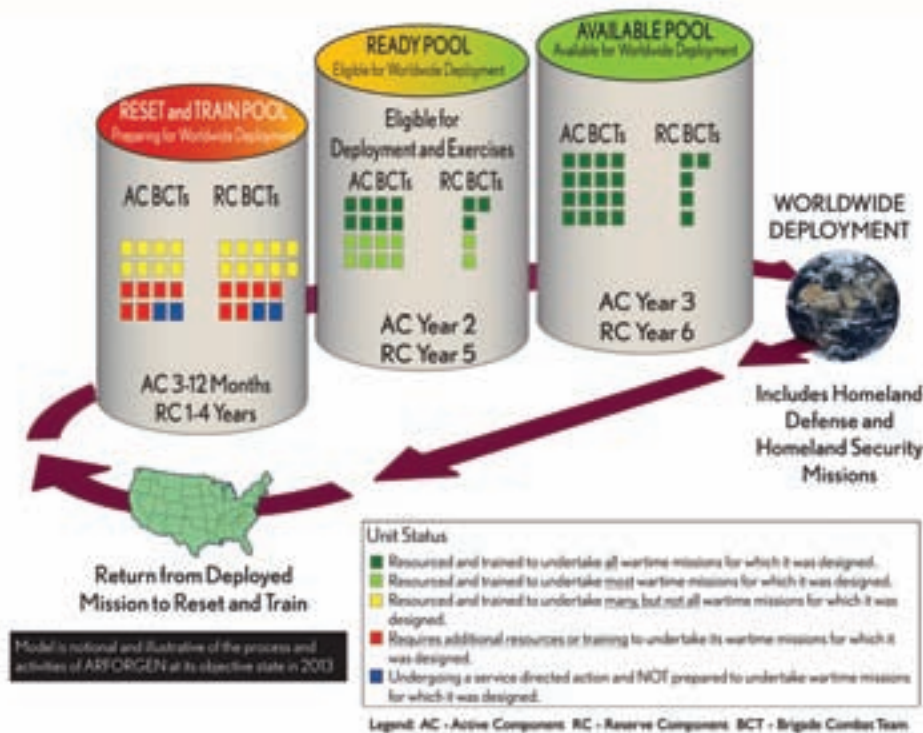
BG(P) (now MG) Rodney O. Anderson, Deputy CG (Support), 82nd



At the Missile Recycling Center on Anniston Army Depot, AL, Amtec Corp. employee Donnie Chastain, left, and Anniston Defense Munitions Center (ADMC) explosives operator Torrence Sims prepare a Tube-launched, Optically-tracked, Wire-guided missile to be removed from the launch tube. ADCM and Amtec partnered to recycle these missiles. (U.S. Army photo by Miranda Myrick.)

ARFORGEN Model

Generating Trained and Ready Forces to Meet Global Demands



about this enterprise approach, what we're really talking about is adapting the institutional Army to support the operational Army," she said. "The chiefs of staff have focused on transforming the operational piece of our Army since 1974. Now we have an operational Army that's 21st-century, expeditionary, agile, and lethal, and probably a 20th-century institutional Army since it hasn't transformed since 1973."

The Army is a large enterprise handling billions of dollars on a daily basis. As an institution, the Army must be a good steward and manage its resources as efficiently and effectively as possible. "We're looking at the Army as an enterprise, with AMC being the primary owner of the life-cycle management enterprise," Dunwoody said.

"The million-dollar question is while we're at war, while we're transforming, while we're growing the Army, and while we're doing BRAC [Base Realignment and Closure], can we afford to take on another challenge at the department level to change the way we do business to be more effective? I think the answer is that we can't afford not to. If we really want to rebalance the Army, we have to take a hard look at how we're doing business from the entire institution and see if we can do it more effectively and more efficiently to support ARFORGEN and the warfighter," Dunwoody concluded.

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Airborne Division, discussed enterprise transformation through support from AMC. "AMC's sustainment strategy and the fielding of the sustainment network with specific guidance to partner with units and anticipate and assist across the logistics enterprise proved invaluable in accomplishing the mission in Afghanistan," he said.

Anderson also discussed three challenges to the ARFORGEN enterprise-level mission:

- Continuing to mature the network and strategy of supporting units forward through a network of logisticians linked to the industrial base.
- Building sustainment capability and capacity in coalition and national forces we support.
- Continuing to advance and streamline property accountability, especially at the company battery loop level.

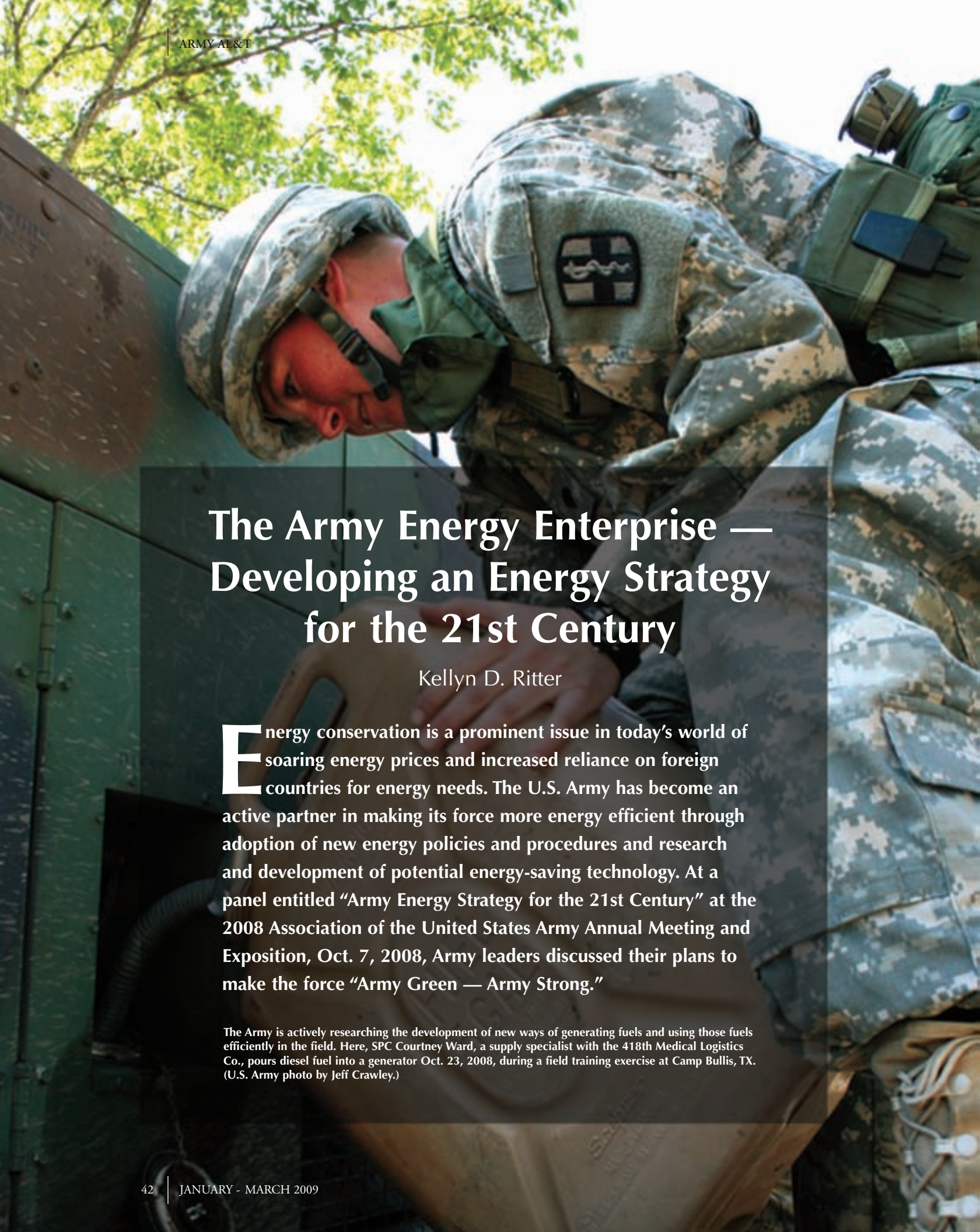
LTG Mitchell H. Stevenson, DCS/G-4, discussed three major components of ARFORGEN:

- Visibility — Being able to see what is going on in retrograde and in reset.
- Control — Understanding the impact of the policies made and resources provided.
- Capacity — Receiving, transporting, and repairing equipment.

"The bottom line is all about understanding and applying an equipment sustainment strategy through the life cycle and understanding these three components," he said.

Enterprise Transformation

LTG(P) Ann E. Dunwoody, AMC Deputy CG/Chief of Staff (*Editor's Note:* Dunwoody recently received her fourth star and is now AMC CG), discussed enterprise transformation and fiscal responsibility. "As we talk

A soldier in camouflage uniform is shown from the chest up, leaning over a green metal structure. He is wearing a helmet and a tactical vest. He is pouring fuel from a black container into a generator. The background shows green trees and a bright sky.

The Army Energy Enterprise — Developing an Energy Strategy for the 21st Century

Kellyn D. Ritter

Energy conservation is a prominent issue in today's world of soaring energy prices and increased reliance on foreign countries for energy needs. The U.S. Army has become an active partner in making its force more energy efficient through adoption of new energy policies and procedures and research and development of potential energy-saving technology. At a panel entitled "Army Energy Strategy for the 21st Century" at the 2008 Association of the United States Army Annual Meeting and Exposition, Oct. 7, 2008, Army leaders discussed their plans to make the force "Army Green — Army Strong."

The Army is actively researching the development of new ways of generating fuels and using those fuels efficiently in the field. Here, SPC Courtney Ward, a supply specialist with the 418th Medical Logistics Co., pours diesel fuel into a generator Oct. 23, 2008, during a field training exercise at Camp Bullis, TX. (U.S. Army photo by Jeff Crawley.)

The MGV's need for a large amount of energy to support its electronics is fulfilled through a hybrid-electric capability. Here, the FCS program's MGV Non-Line-Of-Sight Cannon prototype successfully fires its first artillery projectile. (U.S. Army photo.)



Energy Conservation Importance

Paul Bollinger, Deputy Assistant Secretary of the Army for Energy and Partnerships (DASA(E&P)), Assistant Secretary of the Army for Installations and Environment (ASAIE), moderated the Army Energy Strategy panel. He explained the vital role that energy plays in the Army's missions, especially in today's Army where Soldiers are deployed in *Operations Enduring and Iraqi Freedom*. During wartime, the Army's energy consumption almost doubles. Bollinger declared that "war is expensive, but it does not have to be wasteful." He explained that a 1-percent energy reduction in theater results in a reduction of almost 6,500 Soldier trips. This not only saves energy, but it enables the availability of Soldiers, equipment, and logistics for other missions.

ASAIE Keith Eastin advised that the Army consumes 22 percent of DOD's energy (approximately \$1.6 billion a year) on installations alone, excluding contingency operations. Eastin advised that implementing a successful energy strategy is critical to the Army's success. "We undertake this mission

because it sustains our Army's ability to fight and win our Nation's wars," he said.

Rising energy costs are another concern for the Army. Since 2002, energy consumption, while not consistently, has gone down significantly. However, the cost of energy has gone up. The Army is cutting energy use, but the increased costs negate this reduction. Since 2002, energy consumption was cut by 8.4 percent, but energy cost has gone up by 60 percent. Dr. Thomas H. Killion, DASA for Research and Technology and Chief Scientist, advised that the Army has a real challenge in terms of transportation costs, which include fuel acquisition and protection and providing supply lines to our troops. All are critical parts of the Army's infrastructure, but present a large and growing cost. To drive down that cost, in terms of technology, the Army must

design more efficient vehicles and develop new ways of generating fuels and using those fuels efficiently in the field.

A challenge in reducing energy consumption is that the Army itself is growing in numbers. As the size of the Army increases, so will the amount of energy used. In addition, the Future

Implementing a successful energy strategy is critical to the Army's success. We undertake this mission because it sustains our Army's ability to fight and win our Nation's wars.

Combat Systems (FCS) being developed for the Future Force require more energy. The *National Defense Authorization Act for 2009* also contains many energy responsibilities and requirements for DOD and the Army. These challenges are evidence that the Army must act now to enact its

energy strategy and prepare the Army for its energy future.

Secretary of the Army (SecArmy) Energy Strategy

SecArmy Pete Geren made energy conservation and reduction a priority for the Army. After the Defense

Science Board and Energy Accountability Office issued energy reports in early 2008, Geren wanted to determine the significance of these reports for the Army. He created the Army Energy Task Force, which consisted of Bollinger as chair and 20-30 participating commands, to generate a report on how the Army plans to handle its energy strategy.

Geren gave specific instructions on the Energy Task Force's role: "I expect the Task Force Report to be the guiding document to reduce Army energy consumption, increase efficiency across platforms and facilities, promote the use of new sources of alternative energy, establish benchmarks for our environmental footprint, and provide guidance for the creation of a culture of energy awareness across the Army."

The Energy Task Force Report recommended establishing the DASA(E&P) as the person responsible for Army energy. It also created the Senior Energy Council, co-chaired by Eastin and Army Vice Chief of Staff GEN Peter Chiarelli, which is responsible for the Army's energy policy, programs, and initiatives. This council briefs the SecArmy twice a year on all Army energy issues. The council also works to accelerate the use of renewable energy resources, expedite metering in Army installations, implement practices and technologies that control Forward Operating Bases (FOBs), and uphold energy accountability to reduce consumption.

Geren's energy security strategy rolled out in early October 2008. This

strategy was developed to implement enterprise-wide solutions for energy and will lead the Army to energy independence. The market today will demand more aggressive methods and holistic approaches for saving energy, and the Army plans to meet those challenges.

Solution — The Energy Strategic Plan

The Army's Energy Strategic Plan developed by the Senior Energy Council and approved by Geren directs the

The market today will demand more aggressive methods and holistic approaches for saving energy, and the Army plans to meet those challenges.

Army to move installations from net-energy consumers to net-energy producers over the next 15 years. The Army needs to produce more energy on its installations and export this energy for a monetary profit that can be given back to the installations. To make the

Army a net-energy producer, options such as solar/wind power, biomass conversion, hydropower, geothermal, solar energy, wave power, and possibly

nuclear energy, are considered. The Army is researching these methods to determine how and the extent to which they can be implemented.

Currently, the Army does not have the resources or expertise to be a net-producer. The panel agreed that to accomplish a reduction in energy consumption, the Army must work with science and industry. As Bollinger pointed out, industry is ahead of the wheel, so the Army needs to partner with them for the use of technology: "We are not trying to reinvent the wheel, but use the technology we know already works."

U.S. Army Corps of Engineers' (USACE) Energy Efforts

LTG Robert L. Van Antwerp Jr., Chief of Engineers and USACE Commanding General (CG), explained how his command is implementing the energy strategic plan. USACE is charged with reducing energy by 2 percent a year and is committed to going above and beyond that if possible. USACE is also tasked with metering every energy source and method and aims to have



An example of Army energy efficiency is the solar panels at the Pohakuloa Training Area, HI, (shown here) that charge the batteries beneath them, which provide enough energy to operate the range tower building beside it and the range pop-up targets. (U.S. Army photo by Chicpaul Becerra, U.S. Army Garrison-Pohakuloa Training Area Public Affairs.)

this completed by 2012. Retroactive work is being completed on existing buildings to implement metering and all new structures are being built with a metering capability. USACE is required to identify new buildings that need or exceed standards, so it is reporting out on every facility built. It is also incorporating energy-efficient specifications and holding standards. USACE's target is a 30-percent betterment/reduction in energy use.

One of USACE's chief tasks is to make new Army facilities as energy efficient as possible. An example of a building that was constructed to reduce energy consumption is the Golden Knight Parachute Team's Headquarters, Fort Bragg, NC. All water that hits the building is reused, geothermal heating is implemented, and there is a special treatment on the building's glass that cools it in the summer and heats it in the winter. Another example is the Niagara Falls Air Reserve Station Lodging Facility, NY, that has a ground heat exchanger designed for air supply to extract air out, making it extremely efficient. The building came in under 50 percent of what a building of its size usually uses for energy consumption.

Energy-efficient and energy-saving options that USACE is implementing on installations include geothermal heat pumps, wind generation, solar hot water, hydropower, biomass wood-chips, and exploring Tactical Garbage to Energy Refinery (TGER) use (see related *Army AL&T Online* article at http://www.usaasc.info/alt_online/article.cfm?iID=0811&aid=03).

The Army's Energy Strategic Plan developed by the Senior Energy Council and approved by Geren directs the Army to move installations from net-energy consumers to net-energy producers over the next 15 years.

Fort Irwin's Energy Efforts

BG Dana J. H. Pittard, National Training Center (NTC) and Fort Irwin, CA, CG, explained Fort Irwin's energy campaign plan, one of the most advanced in the Army. NTC's goal is to reduce its energy consumption and move toward renewable energy by 4 percent per year. A significant step in this goal is reducing costs on the training FOBs at NTC that are similar to those in Iraq and Afghanistan. Each brigade combat team training at NTC uses \$3 million dollars each rotation (10 per year) to rent tents and generators for the NTC FOBs.

NTC used foam technology over the tents, making them semipermanent structures and conserving energy. This reduced generator use by 8 percent and carbon

emissions by 67 percent. An investment of \$16 million to use foam technology on all the FOBs would save the Army approximately \$105 million over 4-5 years. The investment would pay for itself within six rotations.

NTC also examined making each FOB a microgrid. With approximately 1,200 square miles for training, NTC has the potential to use wind, sun, and geothermal power. The center's ultimate goal and environmental campaign plan is to have 100 percent of its energy as renewable resources and make Fort Irwin its own microgrid. Furthermore, NTC plans to make these processes profitable by becoming its own energy net-producer.

Vehicle and FCS Energy Plan
Killion discussed how the Army is applying energy savings to its vehicles. Today's vehicles require a greater consumption of mechanical and electric energy. Tactical vehicles have an increased complexity and consume more power, fuel, heating, and cooling.



The Army is exploring the capability of converting garbage to energy with the TGER, a system already being tested in theater. Here, contractors install a TGER at Camp Victory, Iraq. (U.S. Army photo by Jerry Warner, Defense Life Sciences.)



Tactical vehicles have an increased complexity and consume more power, fuel, heating, and cooling, so the Army must be diligent about conserving their energy use. Here, SPC Carlos Mantano pumps gas into his light medium tactical vehicle during Joint Task Force Guantanamo, Cuba, drivers training. (U.S. Army photo by SPC Erica Isaacson, Joint Task Force Guantanamo Public Affairs.)

Manned ground vehicles (MGVs) have immense electronics in them — sensor, communication, and electronic warfare systems — and are, fortunately, hybrid-electric. The real demand for the hybrid-electric capability came from the need for the energy expended by the vehicle's electronics. The Soldier-as-a-system also demands power. Advanced computers, sensors, and battle command capabilities on the Soldier and his/her weapons require energy. All present a challenge to use battery, fuel cell, or alternative power.

There are several solutions being pursued by Killion's team. These include reducing platform energy consumption, discovering more efficient power sources, employing smart energy management, adopting proactive thermal management, and using alternative fuels. The science and technology (S&T) power and energy strategy involves basic and fundamental research on the design of power systems and new solutions. The strategy also includes advanced development for energy consumption associated with

the vehicle platforms, manufacturing of lighter vehicles that demand less power while still providing the protection needed for our Soldiers' survival, use of lower-power electronics, and implementation of more efficient power sources.

Specific vehicle programs include using robotics for vehicle platforms to conduct transporting and missions, employing TGER, and using advanced and more efficient engine technology to create lighter weight vehicles with better protection.

Killion advised that the Army is making headway in its energy plan: "We are investing in solutions across the board that will pay off in terms of energy-efficient solutions that still provide the Soldier's needed capabilities. It is our ultimate responsibility to

provide the capability that will work when they need it to work and provide the protection to do the things we ask them to do. Our challenge is to bring the best ideas to the table to help us be successful in powering those systems for the future in the most efficient and effective way possible."

We are investing in solutions across the board that will pay off in terms of energy-efficient solutions that still provide the Soldier's needed capabilities.

The Army is committed to implementing its Energy Strategic Plan for the Current Force

and investing in S&T for energy-efficient solutions for the Future Force. Through these efforts, the Army will remain the strongest fighting force in the world while also staying fiscally and environmentally sound.

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TARDEC Researchers Develop Sensor-Enhanced Armor (SEA)

Dr. Thomas J. Meitzler

In February 2007, the U.S. Army Tank Automotive Research, Development, and Engineering Center (TARDEC) Armor Non-Destructive Testing and Evaluation (NDT/NDE) Laboratory began exploratory NDT/NDE of ground vehicle armor plates. One of the NDT/NDE team's goals was to determine to what extent sensors could be used to indicate whether armor plates are able to withstand impacts in the field and continue to protect crews and their vehicles.

Ivan Wong (right) and Tom Reynolds use an electric impact hammer to test vibration location results. A computer triangulates the location of each hit using three embedded sensors in the armor plate. (U.S. Army TARDEC photo by Bill Dowell.)

The Armor NDT/NDE Laboratory, the U.S. Army Research Laboratory (ARL), Argonne National Laboratory, BAE, and General Dynamics Land Systems are working collaboratively to understand and improve ultrasonic imaging technology that is being used to diagnose armor health at various stages in the armor life cycle.

The embedded armor crack detection technology uses ultrasonic data obtained by TARDEC researchers to indicate damage to the armor plates. Researchers monitor the signal from damaged and undamaged plates using ultrasonic sensors. Researchers find the armor plates' natural resonant frequency — or sound — and then compare the undamaged to damaged plates.

TARDEC's Intelligent Ground Systems Team is working with the NDT/NDE Team to create a graphical user interface that allows vehicle commanders to know the status of armor plates as indicated by the embedded sensors.

The NDT/NDE Team works with TARDEC's Manufacturing Business Group, which creates the different armor coupon recipes specified by ARL. After the NDT/NDE Team determines a baseline vibration spectrum for undamaged plates, it damages the plates by shooting bullets at them and then takes another ultrasonic reading.

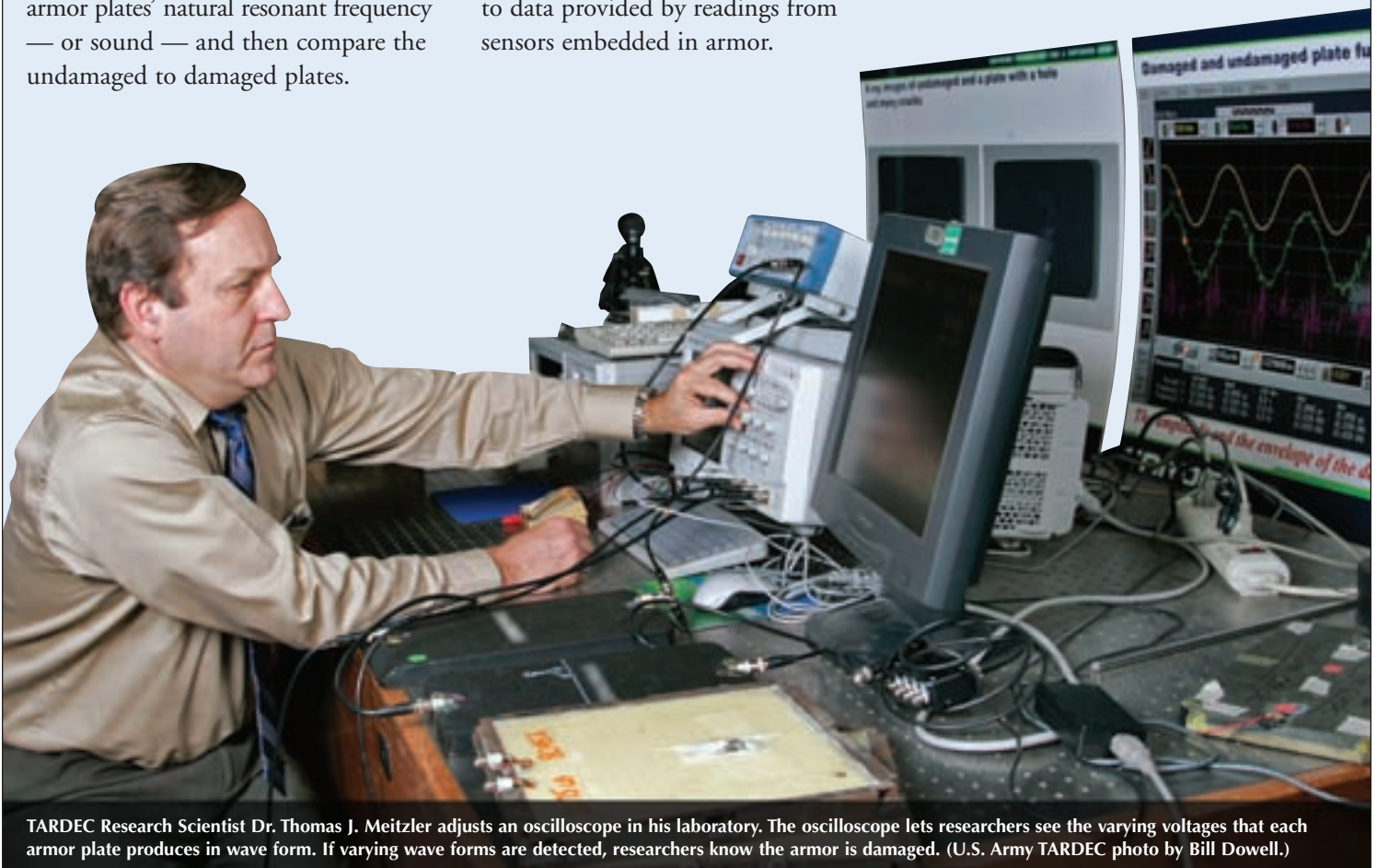
The plates undergo a second embedded ultrasonic evaluation, which obtains high-resolution pictures of the coupons, to determine the extent of the damage. High-resolution pictures are then taken with the in-house X-ray and ultrasound and compared to vibration data. These pictures are compared to data provided by readings from sensors embedded in armor.

SEA uses ultrasonic data measurement in addition to a charted computer display.

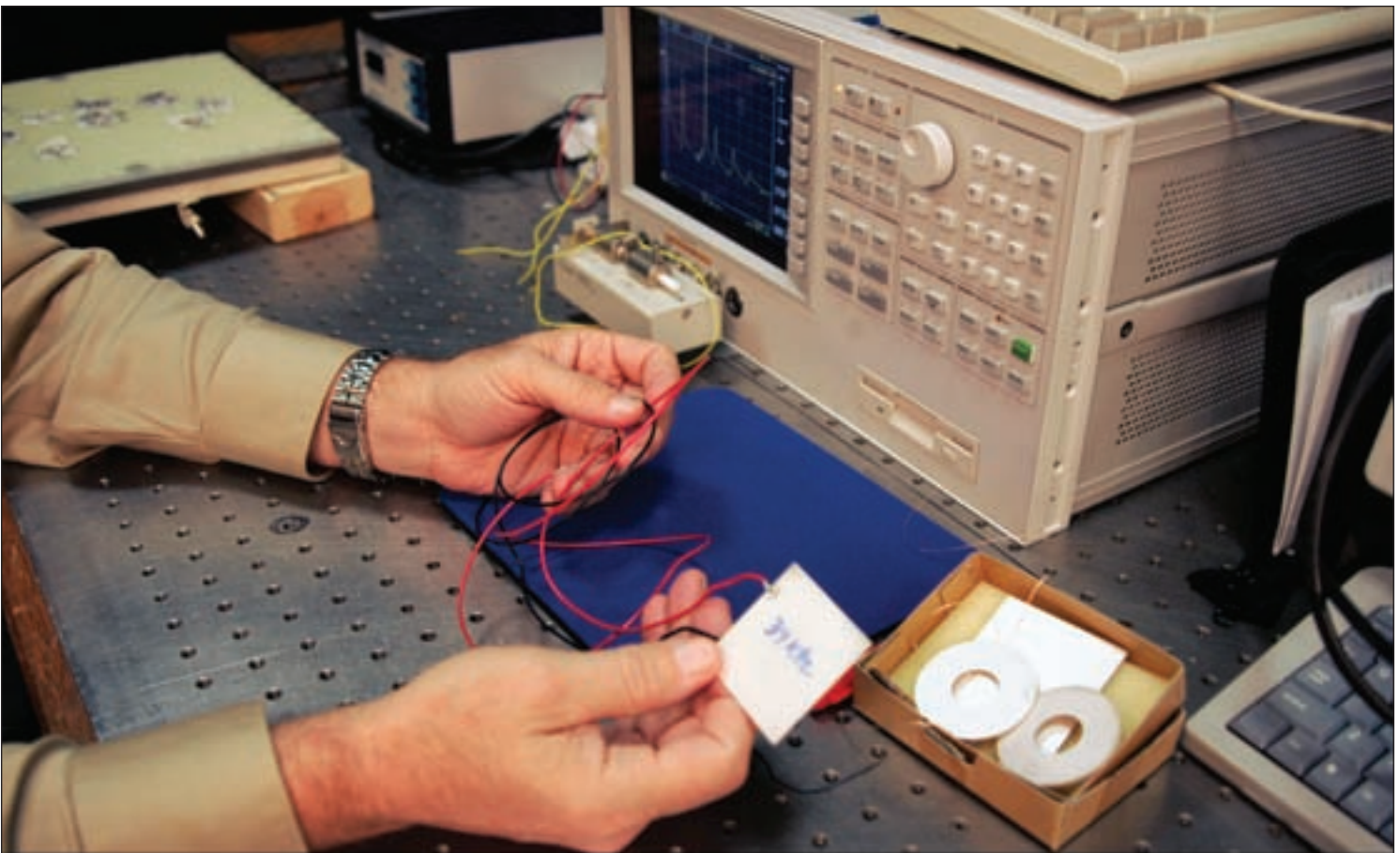
TARDEC's Intelligent Ground Systems Team is working with the NDT/NDE Team to create a graphical user interface that allows vehicle commanders to know the status of armor plates as indicated by the embedded sensors.

Piezoelectric lead zirconate titanate transducers are used to distinguish modes of vibration in plates to indicate plate damage. The amplitudes from the vibration spectrum are compared among damaged and undamaged vehicle plates.

TARDEC started using bonded sensors for ultrasonic crack detection on body armor plates and extended the technique to various types of composite armors used on ground vehicles. In-house NDE techniques are used to calibrate



TARDEC Research Scientist Dr. Thomas J. Meitzler adjusts an oscilloscope in his laboratory. The oscilloscope lets researchers see the varying voltages that each armor plate produces in wave form. If varying wave forms are detected, researchers know the armor is damaged. (U.S. Army TARDEC photo by Bill Dowell.)



Various transducers are being tested to find the best result for detecting cracks in embedded armor. (U.S. Army TARDEC photo by Bill Dowell.)

sensors embedded in armor for crack detection and health monitoring.

TARDEC and ARL are working together to determine how various cracks and defects affect ballistic armor performance. This information can then be given to commanders to better know when to replace armor panels and indicate what missions are possible given the armor condition.

“There is value in pursuing this technology because it allows vehicles being engaged to know the status of the vehicle’s armor,” explained TARDEC’s MAJ Larry Ross.

Future work will concentrate on creating hand-held devices that are usable in the field to detect cracks and defects in armor, since the amenities of the laboratory are not readily available there.

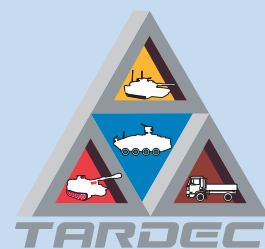
“This is especially true of smart armor that is taking multiple hits. You may know you took a couple rounds — but with this technology you know when you’ve taken a round too many.”

An active NDE system can be used as a vehicle health monitoring system to tell the commander of vulnerabilities, what areas need repair, and what areas can stay in battle. The NDE can also be done at the depot level to assess armor integrity between missions to test armor defects or flaws as well as internal damage that

can lead to armor failure. Knowing the severity of defects helps commanders monitor the armor’s life cycle.

Future work will concentrate on creating hand-held devices that are usable in the field to detect cracks and defects in armor, since the amenities of the laboratory are not readily available there. TARDEC is working with local industry, academia, and other small companies to develop this technology.

DR. THOMAS J. MEITZLER is a TARDEC Research Engineer in the Survivability Technology department. He has a B.S. and M.S. in physics from Eastern Michigan University and a Ph.D. in electrical engineering from Wayne State University.





Hybrid-Electric Vehicle Experimentation and Assessment (HEVEA) Program Supports the Army's Need for Increased Power Demands

MAJ Christine E. Allen, Ghassan Khalil, and Michael Pozolo

The Army's future vehicles will require new technologies to fulfill projected power and energy demands. Hybrid-electric power has been identified as a potential technology that can meet the Army's future needs and provide expanded mission capabilities to the warfighter. The capability improvements include onboard and export power generation availability, silent operations, fuel economy improvements, and synergy with high pulsed loads such as electric weapons and electromagnetic armor.

An XM1124 Hybrid High-Mobility Multipurpose Wheeled Vehicle (HMMWV) was tested on the Perryman 2 and 3 Courses at ATC. These two Perryman courses test a vehicle's response to potholes and marsh-like terrain. (Photo courtesy of ATC.)

Before fielding military hybrid-electric vehicles (HEVs), the technology has to be evaluated for its relevance to military operations and must withstand the harsh military environment. This includes varied terrains — from fully paved to hilly cross country — and extreme environmental conditions — from arctic to desert. In addition to the mobility performance, military HEVs must meet safety, reliability, maintainability, and availability requirements under all shock, vibration, and environmental conditions. To address the above challenges, the U.S. Army Tank Automotive Research, Development, and Engineering Center (TARDEC) has established the HEVEA program.

The program has three key products: the HEV performance database that includes lessons learned; an established and accredited Test Operations Procedure (TOP) to assess fuel economy for hybrid and conventional vehicles; and a validated Vehicle Propulsion System Evaluation Tool (VPSET) to predict

hybrid-electric and conventional vehicle automotive performance as well as projected fuel economy. Additionally, the program includes measurement of the onboard and export power capability from a hybrid platform and the effects of extreme temperature conditions on hybrid-electric performance.

Improving Testing Methods

For the HEV performance database, a total of nine hybrid-electric and nine conventional mechanical vehicles were evaluated over five different test courses. These vehicles span all weight classes of tactical wheeled vehicles. Traditionally, the military conducts vehicle fuel economy tests at the Munson standard fuel economy course at the U.S. Army's Aberdeen Test Center

Hybrid-electric power has been identified as a potential technology that can meet the Army's future needs and provide expanded mission capabilities to the warfighter.

(ATC), MD. The Munson test course is mainly flat, paved terrain with some moderate slopes. Although the Munson standard fuel economy course can be used to test the HEVs, it does not provide the opportunity to explore the full benefit of hybrid-electric fuel economy. HEV fuel economy is heavily influenced by the frequency of braking to recover kinetic energy from the brakes.

The limitations of using only the Munson standard fuel economy course and the lack of a comprehensive method to estimate the fuel economy gain from the energy storage system (the battery pack) drove TARDEC and ATC to develop a new TOP. The new procedure takes into account the energy gain and loss

from the battery and compensates for it in equivalent fuel consumption

measurement. Another reason for the new TOP was to resolve the inconsistent fuel economy claims attributed to hybrid-electric power. Although the claims can be real, they vary from one driving condition to another. Therefore, a combination of five driving courses — ranging from public highways to rough, hilly cross-country terrains — was selected for the new test method. These courses provide driving conditions that represent most of the expected mission scenarios that a military

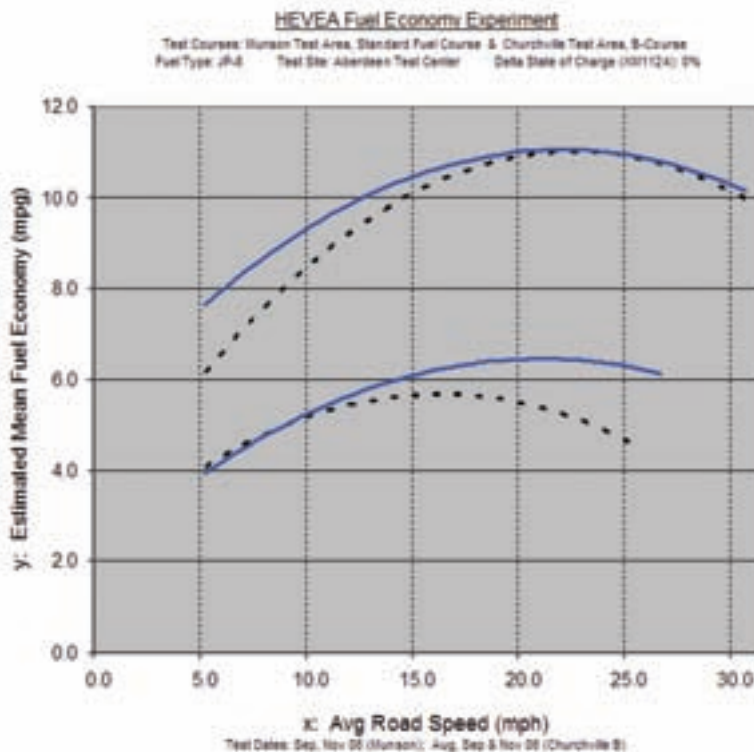


Figure 1

vehicle experiences throughout its life cycle. Although different vehicles have different mission profiles, using vehicle data from the five terrains traversed can provide valuable predictive information on performance variance as the mission profile is varied.

Evaluating Fuel Economy

A hybrid-electric propulsion system contains two sources of power: an engine and a battery pack. Therefore, it is necessary for fuel economy evaluation to compensate for the energy usage from the battery. Statistical models based on regression analysis were used to derive a functional relationship between the mean fuel economy (miles per gallon (mpg)), the average road speed (miles per hour (mph)), and the delta State of Charge of the battery. Residual analysis was performed to validate this statistical model. This method proved to be adequate when the vehicle is going through varying driving conditions. Under these conditions, the battery is continuously supplying energy to supplement the engine when needed, and then regaining the same energy when the engine

power is sufficient enough for mobility and battery charging. It should be cautioned that when attempting to compare vehicle results, gross vehicle weights (GVWs) should be similar to make an accurate comparison on performance. Otherwise, results could be skewed in favor of the lighter GVW vehicle.

The data in Figure 1 show a fuel economy gain of 11 percent over ATC's hilly, cross-country, Churchville terrain and 5 percent over the Munson flat, paved terrain. The same model, with a 95-percent confidence band for the mean fuel economy, is shown in Figures 2 and 3. The statistical model developed by TARDEC is used to validate a VPSET. VPSET was also developed by TARDEC to assess performance in support of program manager (PM) programs.

As M&S-based acquisition becomes more prevalent, there is a greater need for common, well understood software tools to support technical analysis during the acquisition

A combination of five driving courses was selected for the new test method. These courses provide driving conditions that represent most of the expected mission scenarios that a military vehicle experiences throughout its life cycle.

process. VPSET provides a flexible, easy-to-use tool to evaluate a wide range of conventional and hybrid-electric propulsion system types in a consistent and timely manner.

In past acquisitions, contractors submitted propulsion system/vehicle performance models to the Source Selection Evaluation

Board (SSEB) using many different commercial and in-house software tools. Execution of these performance models by the SSEB was cumbersome because of software license issues as well as user training required for unfamiliar programs. Also, there was no assurance that the various models handled all technical aspects with the same level of fidelity, making comparison of outputs more difficult. VPSET was developed to address these issues by creating a standardized evaluation tool for propulsion analysis in support of the acquisition proposal evaluation process. While not intended to replace commercially available codes, the data inputs and computational approach are similar and will be familiar to the contractor's M&S staff. Both government and contractor personnel will have a clear understanding of model inputs, component properties, assumptions, and performance predictions. The code supports development of first-order propulsion system models for a wide variety of powertrains,

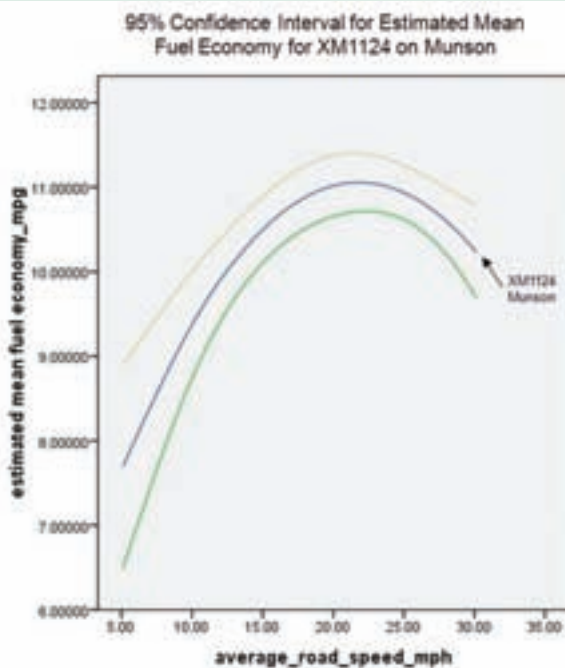


Figure 2

TARDEC's VPSET Streamlines Acquisition Process

The VPSET has been developed by the TARDEC Ground Vehicle Power and Mobility Modeling and Simulation (M&S) Team in partnership with Southwest Research Institute. VPSET has great potential to streamline the acquisition proposal evaluation process for ground vehicles by both the U.S. Army and the U.S. Marine Corps.

including conventional diesel-mechanical and series or parallel hybrid electric. Higher fidelity models can also be developed with additional component input data.

Code modularity will facilitate future updates to VPSET to incorporate new propulsion technologies. VPSET will enable the government to verify contractor model input and results and to evaluate performance prediction and risk against technical requirements while achieving considerable time savings. Use of a single evaluation tool will provide greater clarity for both evaluators and contractors when comparing M&S results from different concepts. VPSET model output is being extensively validated with conventional and HEV test data obtained during the HEVEA program. The Office of Naval Research, Naval Surface Warfare Center, is also pursuing further development of VPSET for assessing fuel efficiency-enabling technologies. This tool has already been used and displayed its relevance throughout TARDEC to assess performance in support of PM programs.



An International Military and Government (IMG) Future Tactical Truck System-Utility Vehicle, designed to carry a payload of up to 3 tons, is attached to a dynamometer, which tests the engine's torque and rotational speed. In 2004, International Truck and Engine started IMG to focus on the call for armored and unarmored military vehicles. (U.S. Army photo courtesy of ATC.)

In conclusion, the previously used standard fuel economy TOP has been revised to include the HEVs over the courses described above. The draft TOP was sent out to government agencies, industry partners, academia, and engineering societies, such as the Society of Automotive Engineers and Environmental Protection Agency, for review and comments. Once all comments to the draft TOP are collected, the new TOP will be finalized and adopted as a standard test for fuel economy evaluation. The VPSET will continue to be validated as additional data are available from the HEVEA program and other field vehicle testing. The HEVEA vehicle testing is continuing through the end of 2009 and all the test data generated to date has been stored in a government database for future reference.

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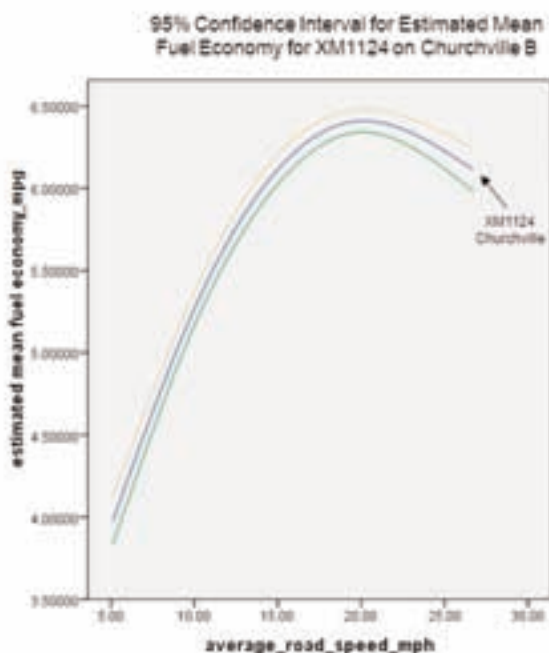


Figure 3

2008 Senior Leaders' Training Forum (SLTF) Addresses Pressing Army Acquisition Issues

Ben Ennis

Photos by McArthur Newell, BRTRC Contractor

A rmy Acquisition Executive (AAE)/Principal Deputy Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASAALT) Dean G. Popps and ASAALT Military Deputy (MILDEP) LTG N. Ross Thompson III hosted the annual SLTF in Dallas, TX, Nov. 17-20, 2008, for more than 100 general officers and Senior Executive Service acquisition workforce leaders. The theme for this year's forum was "Design, Develop, & Deliver! Optimizing ASAALT Capabilities to Support Joint Warfighters." The 2008 SLTF's intent was to provide senior Army acquisition leaders with a forum to discuss current and emerging acquisition programs and policies. Direction was presented through general session briefings, workshops, and breakout discussions. The specific objectives for the training forum as presented by Mark Rocke, ASAALT Deputy Assistant Secretary for Strategic Communication and Business Transformation, were:

- Provide a venue for senior leaders to become better informed on major challenges.
- Discuss merging strategic objectives for the Army and the broad enterprise level.
- Gain a better understanding involving acquisition policies, procedures, trends, doctrine, etc.

AAE Dean G. Popps prepares to read a proclamation issued by the Dallas mayor proclaiming the 2008 SLTF event as Army SLTF Week in Dallas.



Strategic Challenges

Popps and Thompson set the stage by giving a brief overview of the strategic challenges facing the acquisition community. Popps stated that FY09 will not be business as usual for the Army acquisition community. He emphasized the need to learn to operate in a new budget environment and to educate the new administration about Army acquisition and how we are transforming into a business enterprise.

Thompson emphasized that we are currently going through a lot of change in leadership within the Army acquisition community. He wants senior leaders to work across boundaries and look at doing things for the greater good when it comes to programs and organizations.

The acquisition community received additional funding through Section 852 of the *National Defense Authorization Act of 2008*. The money is to be spent on increasing the quantity and quality of acquisition workforce personnel. "When you go out to recruit for positions, don't just fill them with anyone. Look for the right people," Thompson said. He also emphasized the need to improve position certification. As of the meeting date, 50 percent of acquisition workforce personnel are certified for the position they hold. This is a 10-percent increase from last year, but Thompson feels it is still not good enough. Although he feels certification levels can never be 100 percent, he wants to see the numbers in the mid- to high 70th-percentile range.

Workshops

A variety of strategic partners and Army staff leaders provided updates and workshop support during the forum. One strategic partner, Kathryn A. Condon, Executive Deputy to the U.S. Army Materiel Command (AMC)

Commanding General (CG), gave a brief overview from an AMC perspective. She talked about challenges with Base Realignment and Closure (BRAC) and advised that BRAC has been an enabler for AMC by allowing construction of state-of-the-art facilities. She recognized the personnel challenges associated with getting the right workforce needed because of BRAC. This should be an opportunity, however, to bring in the bright young scientists and engineers who were previously restricted by the hiring process. According to Condon, it's an opportunity to reshape the workforce for the future.

One obvious question Condon anticipated and answered was how AMC will adapt to operating from Huntsville, AL. She advised that AMC will adapt the same way as other Army organizations that changed locations have adapted, and she did not foresee any change in AMC operations. Condon said that employees do not have to be close to

the Pentagon to make effective decisions. According to Condon, AMC can collaborate with other personnel and organizations still in the Pentagon area and allow them to be AMC's advocate.

Senior acquisition leaders also heard from Levator Norsworthy Jr., Deputy General Counsel, Acquisition, who gave a general overview on changes to laws and policies affecting the acquisition process. Norsworthy said that many things that were regulation or

guidance are now in law. "Certifications at milestones are now in law; we can work with the changes but we need to substantiate," Norsworthy told the audience. "[The] *Nunn-McCurdy [Amendment]* changes imposing more discipline show that Congress is very serious about the way we plan, coordinate, and justify our program expenditures."

SLTF attendees had the opportunity to attend various workshops, such as: Program Startup, Leveraging the Army Business Enterprise Hub, Evolving

The 2008 SLTF's intent was to provide senior Army acquisition leaders with a forum to discuss current and emerging acquisition programs and policies.



Kathryn A. Condon, Executive Deputy to the AMC CG, gives her presentation to SLTF participants during the 2008 event.

Doctrine for Expeditionary Contracting Challenges, Enhancing Communication for Strategic Effect, Rapid Acquisition Initiatives, International Export Licensing and Foreign Military Sales, Army Contracting: Best Practices and Campaign Plan Update, and Business Transformation: Strategic Project Selection. Highlights below from one of the workshops are indicative of discussions and issues presented in all of this year's workshops.

Nancy Moulton, Business Transformation Director, ASAALT, served as the principal workshop leader and led the discussion on the Business Transformation: Strategic Project Selection. Moulton presented information on the topic "Strategic Project Selection: Lean Six Sigma (LSS) Deployment Status and the Way Ahead."

Moulton advised that LSS changes and policies must be clear to all. According to her, employees frequently spend much time and money solving problems, but really only cure symptoms. To solve a problem, one needs to know the root cause. Not getting to the root cause means never knowing if the problem is truly solved. Sometimes you find out that someone is not doing what you want them to do — not because they do not want to do it, but because they do not understand what you truly want. Moulton allowed the audience to identify major LSS issues and answered many of the audience's questions and concerns. A summary of some of the comments, questions, and concerns are highlighted below:

Q: What if you begin a project and save money, but then the project is canceled? Is this not a waste?

A: No. The lessons learned can probably be used by the people involved on future projects.



SLTF audience members listen to a presentation by Kristen Baldwin, Systems and Software Engineering Office, Deputy Under Secretary of Defense Acquisition and Technology.

Q: Some contractors fight against LSS projects. How do you handle this?

A: You must show them how LSS can be profitable for them. This may be through how you write the incentive clauses to the contract. They need to receive a percentage of the cost savings in profit or they will resist the effort.

Q: We have gotten away from quality systems engineering [SE]. Does LSS interrelate to SE and can it help?

A: Yes. LSS can be an effective tool to improve SE. LSS has many useful tools that can be used to benefit PMs.

Q: Relative to LSS, what is completion?

A: For LSS, completion is when a pilot program has been implemented, proving the improvements in time and/or cost, and when full-scale implementation has been approved.

Q: Can PMs tailor the program to meet their needs like PM Ammunition has?

A: This flexibility is being incorporated into the program.

Q: Historically we have often performed a project but later the organization falls back into the same old ways. Why?

A: This is because we have not changed the process and have not institutionalized the resulting process. We have instead worked on a project.

The 2008 SLTF provided an excellent forum for senior Army acquisition leaders to confer on the acquisition issues that our Army faces today. The shared lessons learned and wealth of information communicated at the SLTF will enable our senior leaders to continue to make our acquisition, logistics, and technology community a valuable and important support resource for our Soldiers.

(Author's Note: The following people contributed to this article: Erica Ford, Alexis Holden, Shirley Hornaday, Polly Merlo, Bonnie Stewart, and Roger Yocom.)

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A Contracting Campaign Plan for the U.S. Army

MG George R. Harris

One of the key issues facing today's Army is our ever-increasing reliance on contracted support. Much has been said about headlines related to contract fraud, which came out of theater beginning in 2007. This prompted establishment of the Army Contracting Task Force (ACTF), co-chaired by LTG N. Ross Thompson III, Military Deputy (MILDEP) to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASAALT), and Kathryn A. Condon, Executive Deputy to the Commanding General (CG), U.S. Army Materiel Command (AMC). The ACTF's immediate focus was to stop contract fraud in theater and provide for urgently needed improvements in expeditionary contracting operations.

Contractors move a reel of cable for construction at the Mosul Passenger Terminal on Forward Operating Base Diamond Back. The renovation is being conducted by a partnership of Iraqi agencies and the USACE to reopen the terminal after 14 years. (U.S. Army photo by SGT Eric Rutherford, 115th Mobile Public Affairs Detachment.)

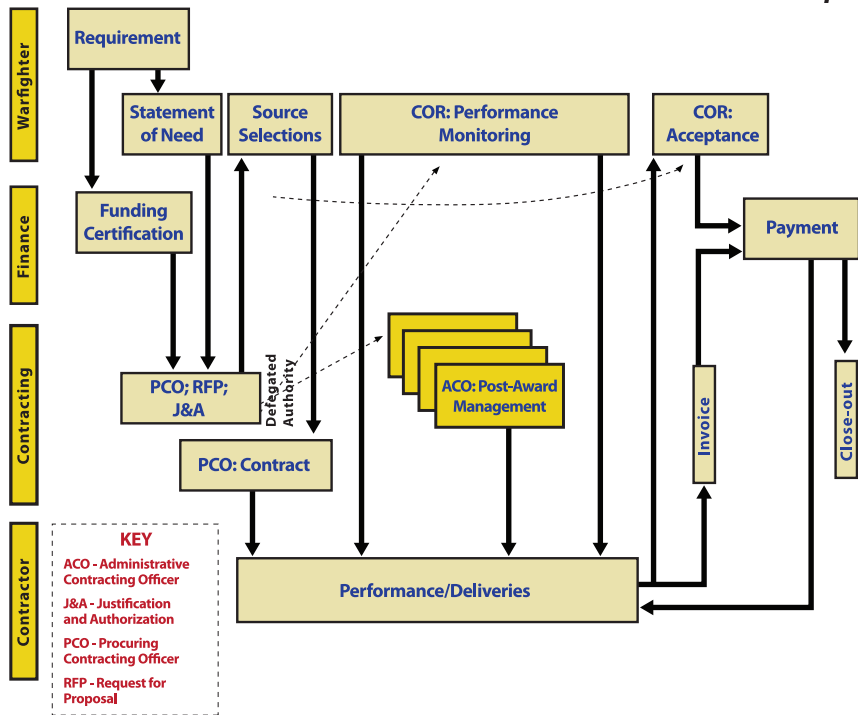
This effort culminated in March 2008, with publication of the ACTF Close-Out Report. A follow-on Army Contracting Campaign Plan-Task Force (ACCP-TF) was established by Under Secretary of the Army Nelson M. Ford to review various findings and recommendations pertaining to Army contracting, most of which emanated from the October 2007 Report of the Commission on Army Acquisition and Program Management in Expeditionary Operations *Urgent Reform Required: Army Expeditionary Contracting* (also known as the *Gansler Commission Report* after Dr. Jacques Gansler, former Under Secretary of Defense for Acquisition, Technology, and Logistics) to Congress. The ACCP-TF then determined the requirements and resources needed to effectively address these findings based on total Army analysis across doctrine, training, leader development, organization, materiel, personnel, and facilities.

With the 1-year anniversary of the *Gansler Commission Report* recently passed, the ACCP-TF will use this opportunity to describe some background and the significant actions being taken by our Army to improve our ability to effectively manage contracted support. While there is still much left to do, considerable progress has already been made.

Many in our Army may not realize that this issue is much bigger than just some fraud in theater. It is also more than just “a contracting problem.” What we are dealing with here is a revolution in the way our Army supports itself. This is a “support” issue. It’s about how our Army will manage its support for operations worldwide. In 1995, the Army executed 73,000 contract actions worth \$26 billion. In 2007, the Army executed 455,000 contract actions worth \$112 billion.

Contracting Is More Than Writing Contracts

Source: Nov 07 - Gansler Report



While the Army’s contracting workload (contract actions) increased more than sixfold, the Army’s contracting workforce — the professionals who manage these processes — was not grown beyond a baseline of approximately 5,500. This created a bubble of risk and an environment where fraud was inevitable. As a point of reference, in 2007 the U.S. Air Force executed 208,000 contract actions worth \$69 billion, with a workforce of approximately 7,000.

The various steps in the contracting life cycle (see figure) can be categorized in terms of pre-award (requirements development, independent cost estimates, funds certification, contract award, etc.) and post-award (contracts management, monitoring of vendor performance, acceptance of work, payment,

contract close-out, etc.). In the environment we faced after Sept. 11, 2001, the limited number of contracting professionals available to support

The work of the ACCP-TF is about shrinking the bubble of risk by providing for more effective management of Army contracted support.

urgent warfighting requirements had no choice but to be focused on pre-award efforts. The contracts had to be awarded to provide timely support to the warfight. Soldiers’ lives and military operations depended on timely and effective con-

tracted support. Post-award administration became something the workforce would get to as it had time. This is time that could seldom be found in our wartime support environment.

We have an Army that is more reliant on contracted support, for both peacetime and wartime operations, than at any other time in our history. The work of the ACCP-TF is about

shrinking the bubble of risk described above, by providing for more effective management of Army contracted support. Proposed solutions lie in a combination of new contracting structure/manpower, new doctrine/policies and improved training, and more effective use of automated tools and support. Our target audience is not restricted to the contracting professional. With reliance on contracted support at all-time highs, the ACCP-TF has focused much of its work on empowering commanders and their staffs (the noncontracting professionals) to manage their contracted support.

New Contracting Structure/Manpower

Twelve different organizational concept plans have been approved to date, adding 446 Active Component military and 1,208 government civilians, who will be dedicated to more effective management of Army contracted support. These plans will grow the Army's existing contracting workforce by approximately 25 percent. Other concept plan approvals are still pending, the most significant of which calls for added structure of 241 warrant officers and 431 civilians to address capability gaps in contract administration services. For the first time in more than 30 years, Congress has acted to increase the Army's allotted number of Active Component

general officer positions by passing legislation enabling the Army to add 5 acquisition billets. The first of these five billets has already been filled by BG Camille M. Nichols, the first commander of the U.S. Army Expeditionary Contracting Command (ECC).

The most significant structural change is the stand-up of the U.S. Army Contracting Command (ACC) on March 13, 2008. This new 2-star command, established under AMC, is organized with the ECC to provide much-needed deployable military contracting expertise and a Mission and Installation Contracting Command (MICC) to oversee worldwide contracting operations vital to support of our installations and acquisition centers. The mission of the former U.S. Army Contracting Agency has been absorbed by the new MICC. This new structure consolidates approximately 70 percent of Army contracting structure under the ACC commander, who reports directly to the AMC CG. More importantly, new capability in the form of the ECC's 7

Twelve different organizational concept plans have been approved to date, adding 446 Active Component military and 1,208 government civilians, who will be dedicated to more effective management of Army contracted support.

New Reserve Component structure (370 military) will add 3 CCBns and 75 CCTs of deployable surge capability. The U.S. Army Corps of Engineers (USACE), in need of support for construction contracting operations, will have a Military Contingency Contracting Team for each of its nine divisions. The U.S. Army Training and Doctrine Command has added contracting professionals (military occupational specialty 51C) to support the combat training centers (CTCs) with realistic incorporation of contracted support exercise scenarios. Other approved structure includes positions to support contracting training, operations, and oversight at

QDA; USACE; Program Executive Office (PEO) Simulation, Training, and Instrumentation; Judge Advocate General; U.S. Army Installation and Security Command; and the Criminal Investigation Division Command.

New Doctrine/Policies and Improved Training

Doctrine, policies, and training are evolving to reflect today's new reality for contracted support. As the Army is drafting new doctrine for the employment of our new CSBs, we are also working with the Office of the Secretary of Defense (OSD) to ensure understanding of how our new ECC structure will support the Joint Contracting Command of the future. Army policies have been updated to allow for earlier accessions of new officers and noncommissioned officers into the contracting career field approximately 2-3 years earlier



Mahbullo Holmadov, a contract employee with Architecture, Engineering, Consulting, Operations, and Maintenance Government Services, pressure washes the underside of an M1151 High-Mobility Multipurpose Wheeled Vehicle at 3rd Battalion, 401st Army Field Support Brigade's (AFSB's) wash rack at Bagram Airfield Afghanistan. (U.S. Army photo by Jim Hinnant, 401st AFSB.)

deployable Contracting Support Brigades (CSBs), 8 Contingency Contracting Battalions (CCBns), and 83 Contingency Contracting Teams (CCTs) will be available to support the commander's contracting operations in the future warfight.

than past practices. Contracting lessons learned from theater are actively sought and incorporated into our institutional training (at least 16 courses to date). These lessons learned are also being used to build realistic contracted support training scenarios for use at the CTCs and in other collective training exercises.

The prompt, thorough, and accurate writing of statements of work (SOWs) on the front end of the contract (which saves money by getting it right the first time), as well as better contracting officer's representative (COR) management on the back end, are responsibilities of the warfighter (or requirements generating activity) and should be seen as Army core competencies. We need to ensure that commanders and their staffs are prepared to take full "ownership" for their support. As such, the Operational Contracting Support — Planning and Management Training Course has been established to provide non-contracting professionals, serving with brigade, division, and corps-level staff, with the skills needed for requirements development, to include the writing of SOWs, and effective post-award administration, to include COR management and contract close-out. The pilot course will be taught in February 2009 at the Army Logistics Management College-Huntsville, AL. The Defense Acquisition University has also made significant upgrades to its curriculum, focused primarily on contracting professional and COR skill sets. It also offers a distance learning curriculum of great value to the Reserve Component.

Automated Tools and Support

The Army is working to implement essential process and technology improvements to further address the needs of our contracting professionals, as well as the warfighting commander

Contract workers with General Dynamics Land Systems work under the lights to remove slat armor from 4th Stryker Brigade Combat Team, 2nd Infantry Division, Stryker Combat Vehicles, at a 401st AFSB work area at Camp Arifjan, Kuwait. (U.S. Army Photo by Jim Hinnant, 401st Army Field Support Brigade.)



and staff. The Army is already fielding the Virtual Contracting Enterprise (VCE) as a short- to mid-term solution to provide Web-based Standard Procurement System/Procurement Desktop Defense capabilities. The fielding of VCE, which is scheduled for completion by 2012, also serves as the vehicle through which we will transform the Army to fully "paperless" contracting operations. Of greater impact will be Army initiatives, led by PEO Enterprise Information Systems, to field an automated procurement (contract writing) system. This system will provide for automated, user-friendly (TurboTax®-like) drop-down menus with checklists and samples to guide the noncontracting professional through requirements development and writing of the SOW. This automated procurement (contract writing) system will be fully integrated as part of the Army's Enterprise Resource Planning system and enable simplified cradle-to-grave management of our contracted support with improved oversight, visibility, traceability, and accountability throughout the contracting life cycle.

In summary, the Army has indeed taken tremendous strides toward

improving capabilities to effectively manage contracted support requirements. The task at hand is to transform from our traditional Cold War Army support culture to today's reality that much, if not most, of the support necessary for successful operations in both peacetime and wartime will be contracted. With more than \$100 billion being executed annually via Army contract vehicles, each 1 percent in savings generated through more effective management and/or reduced waste, fraud, and abuse returns more than \$1 billion to the operational commander for high-priority Soldier needs. We must change our culture. We must, as an Army, learn to effectively manage our contracted support. We cannot afford to do otherwise.

MG GEORGE R. HARRIS serves as the Assistant MILDEP (Reserve Component) to the Principal MILDEP, Office of the ASAALT. He was appointed to lead the ACCP-TF by Under Secretary of the Army Nelson M. Ford in February 2008. Harris holds a B.S. from the U.S. Military Academy, an M.B.A. from Syracuse University, and a master's in strategic studies from the U.S. Army War College. He is also a U.S. Army Command and General Staff College graduate.



Army Contracting Campaign Plan-Task Force (ACCP-TF) Builds New Vision for Worldwide Army Contracting Operations

Doby A. Bokinsky

This article describes the initiatives developed by the ACCP-TF and emphasizes significant changes to Army contracting practices. Under the direction of MG George R. Harris, the ACCP-TF provided oversight in addressing the recommendations contained in the Report of the Commission on Army Acquisition and Program Management in Expeditionary Operations (also known as the *Gansler Commission Report*, after Dr. Jacques Gansler, former Under Secretary of Defense for Acquisition, Technology, and Logistics). Subsequent to the report *Urgent Reform Required: Army Expeditionary Contracting* dated October 2007, and the follow-on report of the Army Contracting Task Force, dated March 2008, Under Secretary of the Army Nelson M. Ford established the ACCP-TF with the mission to “review the *Gansler Commission Report* and other government contracting reports to determine the requirements and resources needed to address the findings and recommendations.”

Contractors arrive at the Al Akad station build site, Baghdad, Iraq, to conduct a ground survey and to estimate for the future construction of the Al Akad Iraqi police station. (U.S. Army photo by SGT Daniel Blottenberger, 18th Military Police Brigade.)

The *Gansler Commission Report* contained one overarching recommendation: implement the Commission's recommendations rapidly and measure success. The overarching recommendation contained four supporting recommendations:

- Increase the stature, quantity, and career development of military and civilian contracting personnel (especially for expeditionary operations).
- Restructure organization and restore responsibility to facilitate contracting and contract management in expeditionary and CONUS operations.
- Provide training and tools for overall contracting activities in expeditionary operations.
- Obtain legislative, regulatory, and policy assistance to enable contracting effectiveness in expeditionary operations.

The four supporting recommendations further included 40 recommended actions to support the Commission's findings. Of the 40 recommended actions, 22 are Army-specific and are central to ACCP-TF efforts. The remaining 18 are DOD initiatives, regulatory or statutory in nature, and require adjudication at higher levels.

Recommendation 1

Increase the stature, quantity, and career development of military and civilian contracting personnel (especially for expeditionary operations). In September 2008, the U.S. House of Representatives passed *Section 503 National Defense Authorization Act (NDAA) for 2009*, which increases Active Component general officer billets from 302 to 307. These five billets are earmarked for acquisition. Army contracting organizations submitted concept support plans, detailing their contracting command requirements to the Army Deputy Chief of Staff (DCS), G-3/-5/-7. Army

staffing of these concept plans documented additional requirements for 648 military and 1,365 civilians.

The Commission recommended that military contracting personnel begin their contracting careers early. Policy changes to accelerate the accession of officers and noncommissioned officers (NCOs)/enlisted by 2-3 years (at the 5-6 year mark) are now in place.

Another Gansler-recommended action was to ensure that expeditionary contracting deployment is not an initial assignment. This recommendation is being implemented through new Army policy that will restrict expeditionary contracting deployment from being a first assignment. The *Goldwater-Nichols Act*, in concert with added Army measures, is working to ensure Army acquisition (and contracting) promotions are commensurate with overall promotion rates.

Recommendation 2

Restructure organization and restore responsibility to facilitate contracting and contract management in expeditionary and CONUS operations. Secretary of the Army Pete Geren directed realignment of the U.S. Army Contracting Agency to the U.S. Army Materiel Command (AMC) and establishment of the U.S. Army Contracting Command (ACC) subordinate to AMC. The ACC (Provisional) was activated on March 13, 2008, and contains two subordinate commands — an Expeditionary Contracting Command focused on contracting support

to forward-deployed and forward-stationed forces, and a Mission and Installation Contracting Command focused on contracting support for CONUS installations.

Under Secretary of the Army Nelson M. Ford established the ACCP-TF with the mission to review the *Gansler Commission Report* and other government contracting reports to determine the requirements and resources needed to address the findings and recommendations.

Army expeditionary contracting capabilities will grow to 7 Contracting Support Brigades (CSBs), 8 Contingency Contracting Battalions (CCBNs), 14 Senior Contingency Contracting Teams (SCCTs), and 69 Contingency Contracting Teams (CCTs). Additionally,

fielding of 3 CCBNs and 83 SCCTs/CCTs to provide Reserve Component surge capability for operational contracting has begun.

Recommendation 3

Provide training and tools for overall contracting activities in expeditionary operations. This recommendation contains two broad areas: train as we fight and develop and field contract tools. The ACCP-TF emphasized the need to adapt training exercises to stress rapid acquisition, logistics, and contracting in expeditionary operations, and include contracting operations and planning requirements in all military exercises. The Army is successfully modifying the training curricula for expeditionary contracting operations, and the U.S. Army Training and Doctrine Command (TRADOC) has integrated contracted support scenarios into exercises conducted at the U.S. Army National Training Center, Fort Irwin, CA. Curricula addressing contractor roles in expeditionary operations are being

developed at the Officer Advanced Courses, U.S. Army Command and General Staff College, U.S. Army War College, Sergeants Major Academy, and throughout the Defense Acquisition University. The Army is also developing a 2-week resident course to formally train selected staff members in the brigade through Army service component command levels on how to plan for and manage operational contract support (OCS) and how to develop requirements packages. The initial OCS Planning and Management Certification Course is scheduled for the 2nd quarter of FY09.

Training is key. TRADOC is working to incorporate wartime contracting lessons learned into training at the combat training centers. Sixteen professional military education courses now contain new or enhanced expeditionary contracting subject matter, and additional courses are being examined for opportunities to insert topics related to expeditionary contracting. The Army is also working hard to develop and field the contract tools needed for expeditionary forces. The Army has partnered with the Office of the Secretary of Defense (OSD) to publish and distribute a Joint Contingency Contracting (JCC) handbook. This pocket-sized reference addresses the JCC environment and equips contingency contracting officers with vital information for Joint service operations.

Additional training guidance tailored for new contracting officers and NCOs is also being published.

The Task Force is working with AMC to field the Virtual Contracting Enterprise (VCE) and implement

TRADOC is working to incorporate wartime contracting lessons learned into training at the combat training centers.



SFC Robert Roach, water operations NCO, 76th Brigade Special Troops Battalion, and contractors from Kellogg, Brown, and Root (KBR), wench a new, high-capacity, multistage centrifugal water pump into place at the Al Qayyarah pump house at the Tigris River Nov. 5, 2008, as part of a massive, joint project overseen by the 16th Sustainment Brigade (SB) to build water infrastructure in the drought-prone Ninawa region in northern Iraq. (U.S. Army photo by SGT Keith Anderson, 16th SB.)

“paperless” contracting operations. The VCE will serve as the Army’s interim automatic contracting support tool until a new automated procurement system can be developed and fielded. The VCE is not a contract writing system, but it will enhance current contracting operations until our vision for an Army-enterprise system that supports full cradle-to-grave contracting operations can be realized. The goal for Army contracting activities is to complete their transitions not later than their VCE implementation date (projected for completion by 2012).

Key to our future success is an ACCP-TF initiative to develop an automated

Army/defense procurement (contract writing system), or “acquisition pipeline,” to fully address needs of both the warfighter and the contracting professional in cradle-to-grave management of our contracted support. When fully implemented, this tool will support the Army’s Enterprise Resource Planning System through improved capabilities for requirements development and management of procurement processes that will benefit from improved oversight, visibility, traceability, and accountability throughout the contracting life cycle.

Recommendation 4

Obtain legislative, regulatory, and policy assistance to enable contracting effectiveness in expeditionary operations. The following topics briefly describe the Commission’s recommended actions and OSD accomplishments. Enactment of *NDAA FY09* provided for:

- Expedited hiring authority for defense acquisition positions — Provides the Secretary of Defense the ability to expedite hiring processes for DOD acquisition positions.
- Optional life insurance election opportunity for certain federal civilian employees — Allows employees to purchase additional life insurance when deployed in support of contingency operations, and allows newly designated DOD emergency-essential employees and any federal employees the right to obtain Option A or obtain/increase Option B coverage within 60 days of deployment.
- Waive annual limitation on premium pay and aggregate limitation on pay for federal civilian employees — Provides a 4-year extension (2009-2012) to the *NDAA 2008* provisions that allow federal civilian employees in the U.S. Army Central Command area of responsibility (CENTCOM AOR) during 2008 in support of military operations or declared emergencies to be eligible for an

increased amount of premium pay, and to receive these payments in the same calendar year earned. The following incentives were authorized and implemented prior to *NDAA 2009* enactment:

- ◆ In September 2007, DOD issued guidance that DOD civilian employees who are injured, wounded, ill, or who incur diseases while deployed in support of hostilities overseas are eligible for medical treatment in military facilities. They continue to be eligible for medical treatment in a DOD facility or the private sector for conditions compensable under Department of Labor Workers' Compensation Programs and receive medical care as long as needed. There is no "combat zone" or "war clause" exclusion for workers compensation eligibility.
- ◆ The Global War on Terrorism Civilian Service Medal was

- approved in August 2007. This theater award recognizes the contributions and accomplishments of DOD civilians who performed duties in direct support of the Armed Forces.
- ◆ Personal vehicle storage — Provides authority for federal employees to store a personal vehicle while deployed by means of a temporary change of station.
- ◆ Quarters and lodging — Provides authority to pay quarters and lodging costs for federal employees deployed by means of a temporary change of station.
- ◆ Relocation expenses following death — Provides authority to pay relocation expenses for family members to enable return to their former home following the death of a federal employee in the CENTCOM AOR.
- ◆ Death gratuity — Provides authority to pay \$100,000 death gratuity to the survivors of federal employees who die of injuries in connection with service with an Armed Forces contingency operation.
- ◆ Increased danger pay and foreign post (hardship) differential rates — Provides authority to increase the maximum rates for danger pay and foreign post differential for federal civilians from 25 percent of salary to 35 percent and includes Afghanistan and Iraq.
- ◆ Foreign service benefits — Provides authority to grant federal civilians serving in Iraq and Afghanistan certain foreign service gratuities, benefits, and allowances, such as death gratuity equivalent to 1-year's salary, travel and transportation, and relocation expenses in the event



The ACCP-TF provided oversight in addressing recommendations to improve Army contracting practices. Here, SGT Noel Watson and SGT Dennis Palmer, 1067th Transportation Co., Pennsylvania Army National Guard, review final details of a convoy briefing with a Northrop Grumman contractor prior to a Combat Logistics Patrol at the National Training Center, Fort Irwin. (U.S. Army photo.)



Employees operate a laundry facility in the theater of operations under KBR's current Logistics Civil Augmentation Program contract. (U.S. Army photo.)

of death. Transportation for home leave (increased accrual rates) and periods of rest and recuperation are not to exceed 20 workdays during any 12 consecutive months.

- ◆ Uniform Code of Military Justice (UCMJ) expanded coverage — Provides UCMJ jurisdiction over DOD civilian employees, contractor personnel, and other civilian personnel serving with or accompanying the Armed Forces overseas during declared war or in contingency operations.

Other language of *NDAA 2009* reads, “Pre-position waivers of small business

and U.S. labor provisions, [the] *Buy American [Act]*, *Berry Amendment*, and specialty metals allow rapid, local buying for expeditionary operations.” OSD has submitted three proposals regarding this that are still under consideration:

- Authority to acquire products and services produced in a contingency theater of operations outside the United States that would support military or stability operations taking place in that contingency theater of operations.
- Express option for deciding protest of contracts/task and delivery orders in support of emergency operations, which

requires the Comptroller General to expeditiously adjudicate such protests on contracts/task and delivery orders made in support of emergency operations.

- Exceptions for national security and emergency operations that would create a national security exception to the requirement that DOD procure food, clothing, tents, fabrics, and hand or measuring tools from American producers. This provides the flexibility required to better fulfill needs that directly support emergency operations without a *Berry Amendment* waiver. The OSD will continue to pursue the legislative approval of these proposals.

In summary, the ACCP-TF has considered and addressed all recommendations contained in the *Gansler Commission Report*. Complete implementation will be accomplished over a period of time because of Program Objective Memorandum and budgetary cycles, human resources workload, and the lack of institutional capacity to quickly accommodate the requisite training and development for newly hired personnel. The mandate of the ACCP-TF has been met, and the ACCP-TF concluded its efforts in December 2008. The Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASAALT) leadership will continue to provide the support, structure, and oversight needed to ensure a premier contracting workforce. Our Soldiers and our Nation deserve nothing less.

DOBY A. BOKINSKY is the ACCP-TF Strategic Communication Director. She holds a B.S. in business administration from Strayer University and an M.P.A. from the University of Oklahoma. Bokinsky is certified Level III in program management and is a U.S. Army Acquisition Corps member.



From the Acquisition Support Center Director

With a new administration, 2009 promises to bring new challenges that come with a major transition during a time of war. The Army song resonates “First to fight for the right, and to build the Nation’s might, and the Army goes rolling along.” That promise still rings true today.



During this era of persistent conflict, the Army as well as the Army Acquisition, Logistics, and Technology (AL&T) Workforce will continue what we do best — solving new challenges head-on with resounding success. We can be proud that the AL&T Workforce’s dedication to duty is vital to making the “Army Strong.” In 2009, I’m expecting the AL&T Workforce to stand ready with our Soldiers as they take the point on our Nation’s path to victory over our enemies.

FY08 Position Certification and Continuous Learning Points (CLPs) Update

There’s encouraging news to report on acquisition certification. From Oct. 1, 2007, to Oct. 1, 2008, acquisition workforce members certified in their positions improved by more than 12 percent. This is nearly an 8-percent increase over the previous FY. More than 49 percent of the acquisition workforce is now properly certified. There’s also great news about CLPs. The number of acquisition members achieving at least 80 CLPs within the recent 2-year cycle improved by 31 percent. This is a 100-percent improvement from FY06. Ten thousand more workforce members met the 80 point standard than in FY06. Keep up the good work!

Section 852 Army’s Catalog of Opportunities

The U.S. Army Acquisition Support Center (USAASC) has fervently been preparing the Army’s Section 852 Catalog of Opportunities in response to the *National Defense Authorization Act (NDAA) of 2008, Public Law No. 110-181*. Principally important to this act is the establishment of the Defense Acquisition Workforce Development Fund (DAWDF), which permits DOD to recruit, hire, train, recognize, and retain its acquisition workforce with an estimated budget exceeding \$3 billion. In September 2008, LTG N. Ross Thompson III, the Army’s Director, Acquisition Career Management (DACM), met with Deputy Under Secretary of Defense for Acquisition and Technology James I. Finley. In the meeting, the DACM gained incremental approval and

supplemental funding, enabling partial deployment of the Army’s initiatives. For the Army, this approval resulted in a \$69.6 million allocation of multiyear FY08 funds. USAASC will attempt to ensure that the AL&T Workforce is updated on future Section 852 DAWDF implementation efforts via *Army AL&T Magazine* and *Army AL&T Online* articles. The Army’s Catalog of Opportunities can found online at <http://asc.army.mil/career/programs/852/initiatives.cfm>.

Senior Service College Fellowship Program (SSCFP)

Since its inception in 2006, two Huntsville, AL, SSCFP classes have graduated from the program and the third class is in progress. In 2007, Warren, MI, came onboard with its first class that graduated in the summer of 2008. In 2009, Aberdeen Proving Ground, MD, personnel will be able to apply for the program. SSCFP is a 10-month leadership development and educational opportunity for our senior-level civilians. The program’s ultimate purpose is to provide leadership and acquisition training to prepare senior-level civilians for their next leadership roles, such as acquisition key billet project and product manager central-select list positions, as well as to groom them for program executive officer and other acquisition key leadership positions. As a result of this program, graduates from the 2006-2007 classes are now serving in these senior-level positions.

Competitive Development Group/Army Acquisition Fellowship (CDG/AAF)

CDG/AAF is a 3-year leadership development program offered to GS-13 or National Security Personnel System-equivalent Army Acquisition Corps (AAC) civilians with identified potential for future leadership roles. The application for the 2009 Fellows was online for the first time, and, along with an increased marketing effort to our acquisition community, there was a huge interest in the program. The applicant pool increased 100 percent from 2008 to 2009. Board-selected 2009 Fellows will receive orientation to the program in February. Year group (YG) 2006 Fellows will graduate at the same time.

Future Career Development Opportunities

As we look forward to 2009, there are some new opportunities for our AL&T Workforce regarding career development. As a result of the CDG/AAF program online application experience, we are incorporating many of our Acquisition Education, Training, and Experience (AET&E) programs using online applications in the Army Acquisition Professional Development System, which can be found at the Career Acquisition Management Portal at <https://rda.altess.army.mil/camp/> and by clicking the Career Acquisition Personnel and

Position Management Information System tab. Here are some of the opportunities for 2009:

- The Acquisition Tuition Acceptance Program funds part-time degrees.
- The School of Choice Program funds full-time degrees.
- New for 2009, the Carnegie-Mellon University hosts an educational opportunity for the information technology civilian and military workforce.
- CDG/AAF annual selection announcement will be in June 2009 for YG 2010 Fellows.

E-mail blasts will be sent to the AL&T Workforce announcing these opportunities with most applications available online. For more information on other AET&E opportunities, go to the USAASC Web site at <http://asc.army.mil/career/programs/aete/default.cfm> or contact Joan L. Sable, Chief, Acquisition Career Development Division, at (703) 805-1243/DSN 655-1243 or joan.l.sable@us.army.mil.

2008 Senior Leaders' Training Forum (SLTF)

The SLTF, held in November 2008 in Dallas, TX, was a resounding success. Army acquisition senior leaders, program executive officers, life cycle management commanders, and selected members of the Army's senior leadership met to share and discuss information about acquisition direction, guidance, and policies. (*Editor's Note:* See related article on Page 54.) The SLTF attendees are now sharing the knowledge and experience gained from SLTF with their respective organizations, keeping the acquisition workforce honed and ready to serve. My sincere gratitude goes to all who helped make the SLTF a tremendous learning experience.



Craig A. Spisak
Director, U.S. Army
Acquisition Support Center



U.S. Army Developmental Test Command (DTC) Employee Chosen as Outstanding Civilian

Mike Cast

DTC's Greg Brewer was selected as an "outstanding civilian" to represent the "vital contribution all Army civilians make," at a media engagement in New York City, Oct. 1, 2008. Secretary of the Army Pete Geren presided over the event, which was a showcase for the Army's success in recruiting.

The U.S. Army Accessions Command, responsible for recruitment and initial training of Soldiers, hired the Weber Shandwick public relations firm to promote the event, which underscored a very successful recruiting year. In 2008, nearly 170,000 people enlisted or reenlisted in the active Army, the Army Reserve, and the National Guard.

The Army selected Brewer to acknowledge his work on behalf of Soldiers as the senior automotive test manager for tactical wheeled vehicles including the Mine Resistant Ambush Protected (MRAP) family of vehicles. Brewer also earned the Army's Tester of the Year Award for 2007 in recognition of that work. The award citation credits Brewer with "decisive management" of testing to help Soldiers conduct missions safely in the two very different operational environments of Afghanistan and Iraq.

The citation also lauds Brewer for his full-court press to keep MRAP testing on track since spring 2007, when nine vendors with two to four vehicles each arrived at DTC for rapid test support. "Under his guidance, this high-priority program maintained test schedules to support fielding within a 9-month window," the citation reads. "This is unheard of in the acquisition world. Greg used his vast testing experience to quickly organize the test scope, expedite the safety testing, and ready the test centers at Aberdeen Proving Ground, MD, and Yuma Proving Ground, AZ, to receive vehicles for testing."

During the recruitment ceremony in Times Square, GEN William Wallace, Commander, U.S. Army Training and Doctrine Command, witnessed the enlistees' oath of allegiance. The Army also recognized the outstanding support of several Soldiers, including Army recruiters. Family members of enlistees and other honorees also attended.

“The Secretary of the Army discussed how important new recruits are to the Army, and how the Army had met its recruiting goal by recruiting almost 170,000 people for the Active Army, the Reserve Components, and National Guard,” Brewer said. “One of the outstanding Soldiers got up and recited the Soldiers creed, and they had one of the recruits speak about how she felt about being inducted.”

Traffic was open on either side of the staging area for the event, and drivers honked and waved as they passed by. Many people came up to shake Soldiers’ hands and show their support. “They fenced off a little triangle right in the middle of the road, and they set up a tent where the VIPs sat, and then they had 10 people who were representative recruits from all over the country. There were also some drill sergeants who were selected as outstanding Drill Sergeant of the Year. In addition, there were Army athletes who just came back from wrestling at the Olympics, as well as people who had just come back from Iraq. I stood beside all those guys,” Brewer stated.

Brewer, who has been a DTC tester for 4 years, is also responsible for the automotive testing of High-Mobility Multipurpose Wheeled Vehicles (HMMWVs), mine rollers for MRAP vehicles, and gunner protection kits for both MRAP vehicles and HMMWVs. Part of his work addresses the safety aspects of attaching armor kits to vehicles and safety enhancements such as fire-suppression systems, crew air breathing bottles, seat belts, and fire resistant fuel tanks. The test program includes crash testing HMMWVs to determine the vehicles’ overall safety and performance requirements.

Since tests began, Brewer has helped the Army prepare numerous safety releases and safety confirmations, which are documents the Army needs to certify that the vehicles are safe to operate. “These safety documents specify the safety limits that the Marines and Army Soldiers must adhere to,” according to his citation. The National Defense Industrial Association presented Brewer with its Army Tester of the Year Award for 2008. He also earned plaudits from the highest levels within the Army for the work he performed for the MRAP program.

Mike Cast is DTC’s Public Affairs Officer. He has a B.A. in journalism from Arizona State University. Cast, a former Army photojournalist, is a Keith L. Ware Award winner.

Contracting Community Highlights



The Army contracting community is expanding, and its members are the most effective recruiters to encourage the best people to consider Army contracting careers. Contracting members share the responsibility to recruit and train the next generation of contracting officers (KOs). They can help this effort by sharing their experiences, challenges, and rewards of federal service with private sector candidates and recent college graduates. Army contracting has a direct positive impact on Soldier morale, readiness, and lethality, offering future KOs opportunities to contribute to the Nation’s strength.

The Assistant Secretary of the Army for Acquisition, Logistics, and Technology (ASAALT) Credo reads, “We must ensure the readiness and sustainment of a professional civilian and military workforce by promoting leadership, professional development, and matching skill sets with relevant work requirements.” One of ASAALT’s strategic directives is, “To grow and enhance the capability of the acquisition workforce.” Two articles in this edition feature how the Army contracting workforce is addressing this mandate.

In the lead article, Program Executive Office Simulation, Training, and Instrumentation describes how its Acquisition Academy quickly trains and places contracting interns in areas where they can be the most productive. In another article, various intern programs are discussed, including the Career Program-14 Intern Program.

TACOM Life Cycle Management Command’s article on Kuwait contract closeouts integrates supporting deployed Soldiers and providing meaningful and productive work for interns. Under the guidance of more experienced staff, contracting interns made an important contribution to our warfighters. Their stateside contract administration allowed deployed contracting staff to concentrate on mission-critical operational needs that must be accomplished in theater.

I appreciate those who have shared their commands’ successes and the great work they are doing. When experiences are shared, others can build on these successes to accomplish even more.

Edward M. Harrington

Deputy Assistant Secretary of the Army
(Procurement)

PEO STRI Paves the Way for New Contracting Professionals

Kristen A. Dooley

The Army Program Executive Office Simulation, Training, and Instrumentation's (PEO STRI's) newly established Acquisition Academy (A2) graduated its first class Oct. 2, 2008. The academy's interns completed coursework that covered everything from a PEO STRI organizational overview and project manager-specific briefings to detailed presentations on the many facets of Army contracting.

The first class, "Army Contracting Intern Bootcamp," began in late July 2008. The 3-month introductory course hosted 21 contract specialist interns. After successfully completing the program, all 21 interns earned a position in the PEO STRI Acquisition Center (AC) in October.

The academy was established as a result of DOD's shortage of contracting personnel. "Dr. Jim Blake, Program Executive Officer STRI, stood up A2 to introduce the productive and effective contracting interns into the PEO STRI workforce," said Jean Burmester, the A2 Dean.

As noted in the Federal Acquisition Institute's annual report issued May 5, 2008, the contracting career field grew only 2 percent in 2007 while the retirement eligibility increased 14 percent. The retirement rate is projected to rise to 34 percent in 2012 and 55 percent in 2017.

PEO STRI also experienced the effects of this DOD-wide shortage since establishing its own AC last year. "Our main objective was to put these people in the workforce so that

they can contribute," said Rob Reyenga, Business Operations Executive, who assisted in establishing A2.

So that the interns could effectively contribute to the PEO STRI mission, they spent the bulk of their time focusing on PEO STRI's primary contractual issues, including source selection, service contracts, and indefinite delivery indefinite quantity contracts.

"Success was defined as all of the Army contracting interns entering our AC were prepared and ready to effectively support their division chiefs and team leads," Burmester asserted. "They have read the contract vehicles they are assigned to and they know the various contracting systems needed to complete their jobs."

In addition to becoming familiar with government contracting, the curriculum included topics like Army 101, getting around PEO STRI, getting to know the organization's products and services, and visiting various contractors.

"I believe A2 provided an opportunity for new federal employees to become acclimated with civil service, discover what the Army is all about, and gain an understanding of PEO STRI's mission," Burmester said. "The interns learned not only from the instructors, but also from each other."

Although the coursework was quite rigorous, the interns said that it has been a rewarding experience because they have learned a lot about civil service and Army contracting. "My time here has been amazing. I cannot imagine a better place to start my career," said A2 Intern Adam Baldwin.

Kristen A. Dooley is a PEO STRI Public Affairs Specialist. She can be reached at (407) 384-5224/DSN 970-5224 or kristen.dooley@us.army.mil.



Program Executive Officer STRI Dr. Jim Blake and A2 Dean Jean Burmester (front row left) are pictured with the graduates and participants at the first A2 graduation ceremony, Oct. 2, 2008. (PEO STRI photo by Doug F. Schaub, U.S. Navy civilian.)

Contracting and Acquisition Career Program (CP-14) Intern Program

Anthony Foster

With nearly two-thirds of the Army's contracting workforce eligible for retirement over the next 5 years, there is a critical need to recruit, develop, and retain highly motivated college graduates for the acquisition workforce. There are attractive programs to accomplish this requirement including the local Intern Program; Department of the Army CP-14 Army Civilian Training, Education, and Development System (ACTEDS) Intern Program; Army Fellows Programs; and the Future Acquisition Student Training (FAST) Track Program. For these programs to be more effective, the Army acquisition workforce and qualified intern applicants must be aware of these opportunities.

The Army has local and ACTEDS interns. The Army Career Intern Program is the Army's component of the Federal Career Intern Program. All interns follow the same training plan and must meet the same hiring and educational requirements. The regulations pertaining to interns can be found in *Army Regulation 690-950, Civilian Personnel Career Management* at http://www.usapa.army.mil/pdffiles/r690_950.pdf.

Most CP-14 interns are ACTEDS interns. Local interns are recruited typically at the GS-5 level with a GS-9 target grade after completing their internship. Where economic conditions require, some organizations hire local interns at the GS-7 level with a GS-11 target grade. Organizations that have converted to the National Security Personnel System may hire local interns and set their pay between the step one rate of the former GS-grade equivalent plus 30 percent (up to the pay band maximum rate). ACTEDS interns who are centrally funded are recruited and hired by the North Central Civilian Personnel Operations Center (NC/CPOC) at the GS-7 level with a GS-11 target grade. Local commands work with NC/CPOC to recruit locally and coordinate hiring. All ACTEDS interns must sign a mobility agreement as a condition of employment, and they may be reassigned after their internship to an organization other than their training command based on Army needs. Interns declining relocation to duty where they are first offered employment will be removed from consideration for any other locations covered by that specific announcement. Failure to relocate after appointment can be the basis for the intern's removal from federal service. In addition to meeting the

statutory requirements for the 1102 occupational series (a bachelor's degree with at least 24 semester hours in business-related disciplines), a secret security clearance is required for all interns.

The Contracting and Acquisition Intern Program is a structured 24-month program that trains individuals for Army contracting and acquisition careers. Successful completion of the intern program includes completing the *Defense Acquisition Workforce Improvement Act* contracting Level I and Level II certification, Foundation Course, Action Officer Development Course, and work at full-performance level. As full-time employees, interns are eligible for all benefits available to the Army's contracting workforce, including health care, life insurance, retirement savings plans, generous annual and sick leave, and paid federal holidays. Interns receive everything they need to lay the foundation for a successful career as Army contracting professionals. Generally, local intern positions may open at any time. Organizations independently establish the number of local intern positions, conduct recruitment efforts, and issue job announcements. However, not all contracting organizations participate in the intern program.

ACTEDS interns are hired between May and September. Usually, contracting organizations hire local interns at the same time as ACTEDS interns; however, they can hire at any time. Positions and their locations vary from year to year. There is no magic formula to finding an intern position. The intern hiring window is often short and applicants must be vigilant in using the automated systems to search for job announcements. ACTEDS intern positions can be found at the Army's Civilian Personnel Online (CPOL) employment site at <http://acpol.army.mil/employment/>. Search for the 1102 series at the GS-5 or GS-7 level. The Contracting Career Program Office is not involved in hiring ACTEDS or local interns. Finding job announcements is the applicant's responsibility and visiting CPOL regularly is a must. Applicants may also qualify for non-intern program entry-level positions by using the same search criteria, and applicants with prior civilian or military service may qualify for positions above the GS-5 or GS-7 entry level.

One tool used to attract interns is the FAST Track Program, CP-14's application of the Office of Personnel Management Student Educational Employment Program. The program has two components: the Student Temporary Employment Program (STEP) and the Student Career Experience Program (SCEP). STEP provides maximum flexibility to students and managers because the work does not have to be related to the student's academic or career goals. SCEP,

however, provides work experience that is directly related to the student's academic program and career goals. The FAST Track Program targets rising full-time college juniors pursuing undergraduate business-related studies. Initial entry level begins at the GS-4 level with promotion during the second year to GS-5. FAST Track students work with mentors on designated projects that target contracting and acquisition issues and challenges. To complete FAST Track, the student must successfully obtain all collegiate degree requirements from an accredited academic institution, and, at a minimum, complete 640 FAST Track Program work hours. SCEP students may be noncompetitively converted to intern appointments following successful completion of their academic and work experience requirements.

Newly hired interns are guided by local command intern coordinators whose responsibilities are assigned as additional duties. Interns are required to develop an Individual Development Plan (IDP) using the Master Intern Training Plan (MITP) in the CP-14 ACTEDS plan. MITP details the needed training from the Army's Civilian Education System, the Defense Acquisition University, to meet DOD certification requirements and tailored on-the-job training requirements/rotational assignments within the organization to accrue functional competency. The IDP must be approved by the Activity Career Program Manager, which, in most cases, is the Principal Assistant Responsible for Contracting. Performance reviews are required after 6, 12, and 24 months, and the IDP should be reviewed during the performance appraisal to ensure appropriate training is scheduled. MITP details are on the CP-14 ACTEDS Web site at http://cpol.army.mil/library/train/acteds/CP_14/.

As a result of the *Gansler Commission Report*, concept plans call for increasing the Army civilian 1102 workforce by 1,000 over 5 years. The majority of growth is projected for the intern program. An intern program accession initiative has been incorporated into the Defense Acquisition Workforce Development Fund Section 852 of the *National Defense Authorization Act of 2008*. This Army initiative is designed to fill a gap between the projected ACTEDS and local intern accessions and aid in growing the contracting workforce.

The Army's spend plan initiative under Section 852 has been revised to include labor costs for hiring interns and the non-labor costs for training, travel, and conference fees/expenses. Other non-labor costs, identified as a stand-alone initiative, include the Student Loan Repayment Program, a recruitment incentive or hiring bonus, and program

management costs. Over the next 5 years, under Section 852, the Army is projecting to hire new interns as follows:

- FY09 — 347
- FY10 — 625
- FY11 — 850
- FY12 — 745
- FY13 — 610

Anthony Foster is the Accession Program Manager for the Intern and FAST Track programs. He holds a B.S. in business finance from Morehouse College and is working toward an M.A. in procurement and management and an M.B.A from the University of Maryland University College. Foster is Level II certified in contracting. He can be reached at (703) 692-9477/IDSN 9477 or cory.foster2@us.army.mil.

Kuwait Contract File Review Project

Mary-Louise McCarroll

The Government Accountability Office, DOD Inspector General, U.S. Army Audit Agency, and U.S. Army Criminal Investigation Command documented shortfalls in the Army's ability to provide contracting and contract management support to deployed forces. Based on these critical findings, the Secretary of the Army established an internal Army Contracting Task Force (ACTF) to assess the Army's ability to provide contracting support to theater. The ACTF was co-led by LTG N. Ross Thompson III, Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology, and Kathryn A. Condon, Executive Deputy to the U.S. Army Materiel Command (AMC) Commanding General (CG).

The Kuwait Contracting Office had experienced significant turmoil because of the increased workload during FYs 03-06. Jeffrey Parsons, then-AMC Contracting Director (now U.S. Army Contracting Command (ACC) Executive Director) asked then-TACOM Life Cycle Management Command (LCMC) Acquisition Center Director Harry Hallock to provide additional assistance. The Kuwait team's focus was on its primary contracting mission. While contract closeout is part of that mission, it usually takes a lower priority below contract awards. The U.S. Army Tank-automotive and Armaments Command (TACOM) Contracting Center's (TCC's) assistance in completing the contract closeout

part of the mission helped the Kuwait team use its limited resources for contract awards, thereby allowing the Kuwait office to reestablish its contracting credibility.

Hallock, now TCC Executive Director, decided to staff the project with new contract specialist interns under the oversight and direction of more experienced contracting personnel. While some were skeptical of this decision, it turned out to be a recipe for success. A team of 10 recent TCC Buyer Boot Camp interns was selected and sequestered in a room that could barely hold them. With desks and computers pushed against the wall and little room to maneuver, they began their intensive project.

Phase II TCC team project leads Dan O'Day and Frank Mioni brought the knowledge and experience gained as leaders of the project's Phase I at the TACOM LCMC. Fran Dolata, Joyce Slaten, and Heather Keller provided oversight and on-the-job contract file closeout training. During Phase II, Dolata and Slaten selected intern Pam Taiariol to lead the project.

The Phase II goal was to complete contract closeout documentation for 1,712 Kuwait contracts awarded from 2003 to 2006. The time for project completion was a minimum of 90 days, with no specific maximum time.

There were obstacles. During the initial weeks of the project, the contract closeout team did not have access to the contracting computer system necessary to prepare closeout documentation, and project goals and priorities changed frequently. The estimated number of contract actions the team prepared for closeout increased from 1,712 to more than 3,452.

The nature of the work was challenging. It can be difficult to close out contracts awarded at your own command with common processes, a supportive infrastructure, and consistent seasoned leadership to provide advice and oversight. This work involved closing out contracts that had little documentation to support receipt of materials, services, or payments. There was little or no consistency in the contracting process because of the environment.

The Phase II team completed 3,452 contract action reviews within 89 calendar days, from March 17, 2008, to June 11,



Jeffrey Parsons, ACC Executive Director, co-presented awards to the TCC's Kuwait Contract Closeout Team with the TACOM LCMC CG. Front (from left): Frank Mioni, Fran Dolata, Keri Skrobot, and Carolyn DiMinno. Rear (from left): Harry Hallock, Ryan Rogan, Raena Swanson, Heather Keller, Daniel Orlando, Laura Holley, Brianna Glasscox, Joyce Slaten, Pam Taiariol, Katrina Jarvis, Michael Young, and Parsons. (TCC photo by Joseph Slivatz, Information Technology Specialist.)

2008. Of the 3,452 contract review actions, the team prepared and sent supporting documents for 3,070 contract actions to Kuwait for closeout. The remaining 382 contract actions did not have complete payment data. The team forwarded this contract information to the project leads and the Defense Finance and Accounting Service for follow up.

The team also prepared and briefed management weekly on the closeout project status. The Phase II team created and maintained spreadsheets for management briefings to summarize the status of actions. At the end of the project, the Phase II team identified an estimated \$45 million in unliquidated obligations. All questionable contracts were referred to the project leads for review.

While mission accomplishment was the critical objective of this project, the command and the TCC reaped substantial benefits. The experience the TCC interns gained on this project, in such a challenging environment, was invaluable. The close physical proximity, shared focus, management oversight, and intern leadership provided a rare opportunity for intensive contracting, teaming, and leadership skills development. These are the type and quality of contracting skills that are greatly needed in the global U.S. Army Acquisition Corps. We applaud the extraordinary dedication and hard work of this team and honor their service to our country.

Mary-Louise McCarroll is a Procurement Analyst in the TCC Acquisition Process Management Division. She has a B.A. in philosophy from Wayne State University and an M.A. in fine arts from Southern Illinois University at Edwardsville. McCarroll is Level III certified in contracting.

Forward Operating Base (FOB) Sharana — Building Hope in Afghanistan

MAJ Thomas C. Hoot, U.S. Air Force

Hope — it's what makes the world go 'round. Sometimes hope is the only thing that makes us get out of bed in the morning thinking that today we will make a difference at work, with our family, or on a mission. At FOB Sharana, Afghanistan, we are engaged in building hope for the Afghan people. Our primary mission is a key stepping stone toward our ultimate goal — to see Afghans living in a free society where individuals have the right to make their own decisions.

One of the first elements of a free society is an educated workforce that can provide support to their families and country. On Aug. 24, 2008, FOB Sharana hosted the first-ever Engineer Skills Development Workshop (ESDW). During the 2-week ESDW, 30 Afghans from the Paktika province learned critical technical skills that they will use to perform numerous tasks, not only to support the U.S. military mission here, but also to lay the foundation of an educated and skilled workforce — a key factor in any free society.

Five more ESDWs were planned for the remainder of 2008 and a full schedule is set for 2009. Workshop themes will include carpentry, masonry, plumbing, foreman duties, and subcontracting. After ESDW graduations, the Sharana Regional Contracting Center (RCC), along with contractor Kellogg, Brown, and Root, will host a job fair so that local contractors supporting FOB Sharana and other FOBs in the Paktika and Ghazni provinces can gain access to a trained workforce. It's a win-win for everyone; the U.S. military gets a better product or service, the contractors are better able to meet project schedules, and most importantly, the local population benefits from having a skilled group of individuals providing for their families.

Another good news story involves Sharana RCC employees Parwez Naikyar and Eshmatulla Hamidi, who have played a key role in the center's success. Naikyar and Hamidi showed such dedication and commitment to learning about contracting, that the Sharana RCC decided to help them become certified as contracting specialists. After some research, they were registered for online Defense Acquisition University (DAU) courses, making them the first Afghan citizens to be enrolled at DAU. This is truly an incredible feat and provides an extraordinary opportunity for both men.

Naikyar has completed the Contracting Officer's Representative Course (CON106) with a final grade of 100 percent and is enrolled in the Mission Planning Support Course. Hamidi is enrolled in CON106.

These young men's accomplishments are a shining example of the Afghan people's potential. Their motivation, eagerness to learn, and fluency in multiple languages are the epitome of hope for Afghanistan.

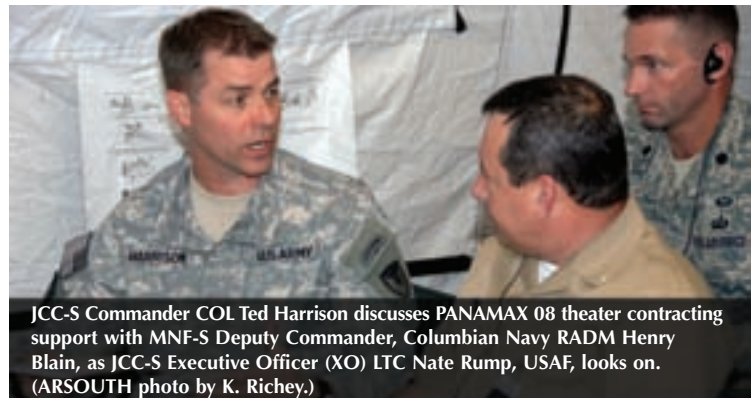
MAJ Thomas C. Hoot is the Chief, Advanced Systems Contracting for the Secretary of the Air Force Rapid Capabilities Office and is deployed as the Chief of RCC Sharana. Hoot holds a B.S. in liberal studies from the University of Central Florida and an M.B.A., with a minor in military studies, from Touro University. He is certified Level III in contracting and Level I in program management.

410th Contracting Support Brigade (CSB) Forms Joint Contracting Command-South (JCC-S) for PANAMAX 08

LTC Bob Brinkmann

PANAMAX 08 was one of the largest multinational training exercises ever conducted, involving more than 30 ships, 12 aircraft, and 7,000 personnel from 20 nations. This U.S. Southern Command (SOUTHCOM)-sponsored exercise focused on defense of the Panama Canal, one of the most strategically and economically crucial pieces of infrastructure in the world. PANAMAX 08 took place off the coasts of Panama and in El Salvador, Honduras, Guatemala, and the Dominican Republic, Aug. 11-22, 2008.

Most of the support to the deployed force was provided by local contractors and managed by the JCC-S. The command nucleus (see figure on next page) was provided by the Army's



JCC-S Commander COL Ted Harrison discusses PANAMAX 08 theater contracting support with MNF-S Deputy Commander, Columbian Navy RADM Henry Blain, as JCC-S Executive Officer (XO) LTC Nate Rump, USAF, looks on. (ARSOUTH photo by K. Richey.)

410th CSB, Fort Sam Houston, TX, with augmentation from the U.S. Air Force (USAF) and U.S. Navy. The theater aligned to SOUTHCOM's area of responsibility with the 410th CSB providing command and control of all theater contracting support from its forward headquarters (HQ) at the Multi-National Force-South (MNF-S) HQ in El Salvador. SOUTHCOM directed the 410th CSB to establish a JCC in coordination with U.S. Army South (ARSOUTH) that also served as the MNF-S command. PANAMAX 08 marked the first time that a JCC was activated and deployed into the region.

Subordinate to the JCC-S was the 1936th Contingency Contracting Battalion (CCBn) from the Texas U.S. Army National Guard. From the Combined Forces Land Component Command at Soto Cano Air Base, Honduras, the 1936th CCBn provided command and control of the deployed regional contracting offices in El Salvador, Honduras, Panama, Guatemala, and the Dominican Republic. These offices provided real contracting support for requirements such as lodging, meals, land transportation, leased vehicles, and fuel.

The 410th CSB's basic mission was to deploy and establish a JCC. In keeping with the commander's intent to fully integrate into the operational functions of the supported elements, JCC-S partnered with MNF-S and other component commands to provide proactive acquisition planning and assistance to the exercise for both real and notional requirements. This partnership was critical in helping the 410th

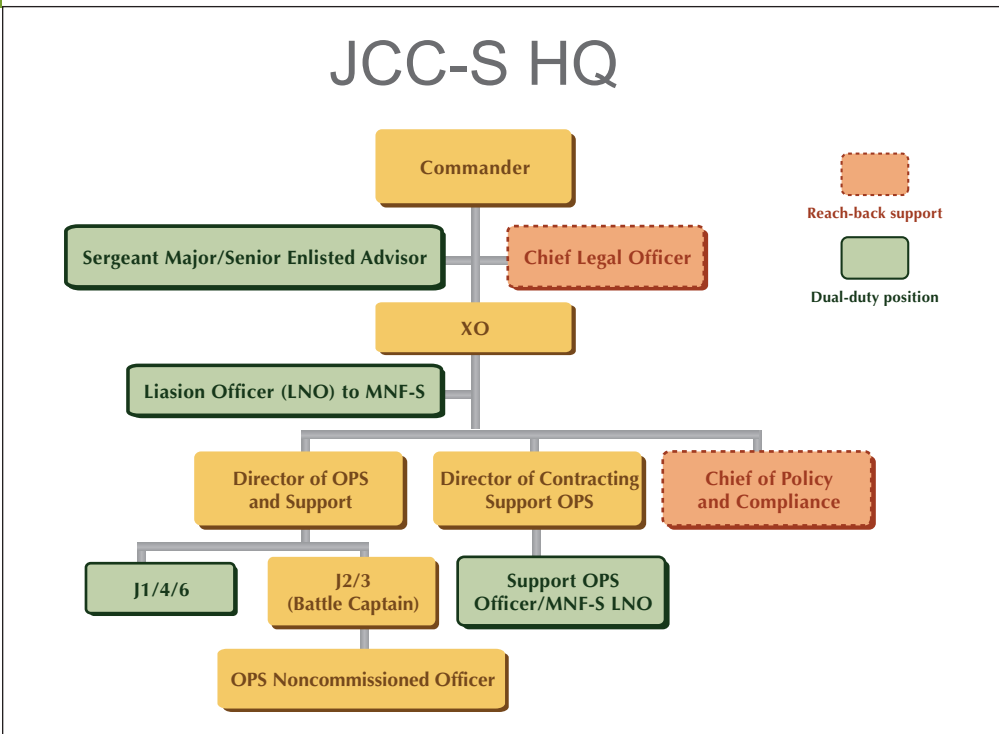
CSB meet its training objectives for the exercise and for assessing critical mission-essential tasks such as deploy/redeploy the brigade (Bde.) HQ and establish a JCC.

The 410th CSB's partnership with MNF-S, SOUTHCOM, and the other components was developed well before the start of the exercise. Plans and operations personnel from the 410th CSB participated in every conference and planning event leading up to the exercise. Events included a concept development conference followed by initial, mid-, and final planning conferences in Panama and Miami, FL. Further planning and mission analysis was conducted at home station in coordination with ARSOUTH. The Contract Support Plan and the JCC operational order were developed by the 410th CSB during the planning process.

While the Bde. staff was busy planning and establishing a JCC, the 607th Senior Contingency Contracting Team, augmented with civilian contracting officers, was processing purchase requests from ARSOUTH and SOUTHCOM for various supplies and services to support. The contracting officers deployed to theater numerous times to conduct market research, issue purchase orders, and conduct vendor pay and contract closeout. They also established contracting offices collocated with their supported units during the operation's exercise phase. There were 47 awards made for PANAMAX 08 worth more than \$965,000.

U.S. forces rely on contracting support now more than any other time in our history. Operational commanders and staffs who understand requesting and employing contract support are clearly more effective at achieving their mission. Indeed, comments made after the exercise from the MNF-S staff, component commanders, and JCC-S personnel at all levels indicated that the 410th CSB's training objectives were met and the contracting mission greatly contributed to PANAMAX 08's success.

LTC Bob Brinkmann is the 410th CSB Contracting Operations (OPS) Chief. He is Level III certified in contracting and is a U.S. Army Acquisition Corps member.



AMCOM LCMC Black Hawk Multiyear VII Contracting Team Wins Award

The U.S. Army Aviation and Missile Command Life Cycle Management Command (AMCOM LCMC) Acquisition Center Black Hawk Multiyear VII Contracting Team won the Contract Professional of the Quarter Award. The team was recognized for outstanding performance in planning, evaluating, negotiating, and awarding a complex multiyear contract with a potential value of approximately \$12 billion. This contract covered aircraft requirements, associated mission kits, and related support for production years 2007-2011 for the U.S. Army, U.S. Navy, and a foreign military sales customer. This was a grueling assignment with initial planning for the Request for Proposal beginning 3 years earlier and the proposal submission, evaluation, and negotiation spanning 2 years.

The team faced numerous challenges. One very difficult issue was the prime contractor's reluctance to provide an adequate proposal. Previously, the prime contractor relied on providing estimates and quotes to the government for subcontracting, not requiring its subcontractors to submit complete proposals or cost or pricing data before the prime's negotiation with the government. The contracting officer refused to accept the initial proposal, which did not conform to the requirements in *Federal Acquisition Regulation, Part 15*, particularly regarding subcontract proposals. However, the contracts and cost team members insisted that the prime contractor obtain valid proposals and submit both the proposals and the results of their evaluations to the government team. Material dollars were a significant part of the total. The team's insistence on accurate bills of material, complete data, and a detailed review saved several \$100 million over the total procurement.

In addition to the aircraft production requirements, the team was responsible for evaluating and negotiating various support requirements, including new and refurbished tooling and 5 years of project systems management services for the Black Hawk program. The team focused on developing a definitive Statement of Work for these services that would support the program for the next 5 years.

The negotiated contract includes key special provisions that will benefit the government throughout the life of the contract and will establish a precedent for follow-on contracts. Recognizing that previously the contractor had changed its processes and manufacturing locations to maximize profits even at the expense of schedule, the new contract includes a negotiated Make or Buy Plan. This plan requires the contractor to notify the government of item status changes and submit annual proposals for a downward-only equitable adjustment if a make or buy decision results in cost savings that would be shared with the government. The contract also includes a negotiated amount that the government will recoup each time an option is exercised, allowing the fixed production costs to be shared equitably by each customer who uses the contract.

For more information, contact Valeta Crandall, Director, Program Executive Office Aviation Utility Helicopters Directorate, AMCOM Contracting Center, U.S. Army Contracting Command, at (256) 955-8277/DSN 645-8277 or valeta.crandall@us.army.mil.

2008 Readership Survey Results

As many of you know, we recently conducted a readership survey to gauge the ongoing value of *Army AL&T Magazine*, to solicit feedback on how to improve the publication, and to identify topics that readers would like to see covered in 2009 and 2010.

First, I would like to thank the 1,341 readers who responded to the survey. It took some time and effort to do so, and we sincerely appreciate the feedback, especially to our appeal for suggestions on how to improve *Army AL&T Magazine* and ideas regarding future articles. Second, I want to express my gratitude for the insight, creativity, and fresh perspective that each respondent brought to the table.



The AMCOM LCMC Black Hawk Multiyear VII Contracting Team was responsible for evaluating and negotiating various support requirements including 5 years of project management services for the Black Hawk program. Here, Soldiers from the 542nd Medical Co. (Air Ambulance) fly their UH-60A Black Hawk helicopter on a medical mission to Tal Afar, Iraq. (Photo by SSgt Jacob Bailey, U.S. Air Force.)

Of the 1,294 respondents who stated that they regularly read *Army AL&T Magazine*, 93 percent rated the overall quality of the publication between good and excellent. While proud of that response, we did not overlook the fact that another five percent rated the content as merely fair, and that almost two percent rated the content as poor. Nor did we fail to recognize that even the most congratulatory respondents made substantive recommendations for how to improve the publication going forward.

To keep *Army AL&T Magazine* informative, relevant, and compelling, we are committed to meeting as many reader concerns and recommendations as possible. Given the scope of the publication's mandate, the direction we receive from our Editorial Advisory Board, and the wide variety of professionals who read *Army AL&T Magazine*, we realize that we will never meet all requirements in a single issue. Over the course of a year, however, we intend to cover major topics of interest to our readers. Some of the more frequently recommended topics include the Future Combat Systems program and any changes that may be forthcoming; anything on new and emerging technologies; and updates on Base Realignment and Closure decisions and implementations.

We also received several editorial recommendations, from ways to better distribute the magazine to perspectives we might more frequently consider. Some of the more common include:

- Ensure that as many readers as possible have access not only to the online version, but also to printed copies of the magazine. Twenty-four percent of our readers stated that they did not have ready access to hard copies of the publication. Others stated that, while they preferred the online version, they had experienced some difficulty at one time or another with navigating through or downloading content from the site.
- Include more forward-looking articles that allow readers to anticipate new developments. In short, as one reader put it, include fewer articles "about things that have happened" and more "about what should happen in the future based on current and past events."
- Remember that members of the U.S. Army Research, Engineering, and Development Command; U.S. Army Training and Doctrine Command; and program executive office and program manager communities are critical players in the Acquisition, Logistics, and Technology (AL&T) Workforce, and that they often look to *Army AL&T Magazine* to remain informed of trends, new developments, and changes in organization, processes, and procedures.

- Don't forget the role played by the Reserve and the National Guard in supporting the AL&T community. These organizations are a source of expertise in filling positions vacated by deployed personnel. Moreover, the experience and lessons learned that they bring to the Army from positions within the business community are often invaluable.

In addition, even with overall high scores, we noted several areas where we still have room to improve. These include our reporting on organizational, regulatory, and strategic changes within the AL&T community; coverage of training, educational, and professional development opportunities for both military *and* civilian professionals; and writing about lessons learned. To this last point, as one reader put it, "it's frustrating to see us reinvent the wheel." With more detailed articles that explain what has worked and what has failed to work, and by explaining why, we can play an even greater role in sharing best practices across the board.

Reader responses also reflected two important balancing acts that we must regularly perform. First are the roughly equal numbers of respondents who encouraged us, on the one hand, to "cut through the fluff" while emphasizing, on the other, the importance of the AL&T community to the Army, DOD, other federal agencies, Congress, and the general public. Not to mention *ourselves*. Going forward, we will continue to balance as objectively as possible these conjoined needs for detailed, instructive reporting and for demonstrating the value of our work to our constituents.

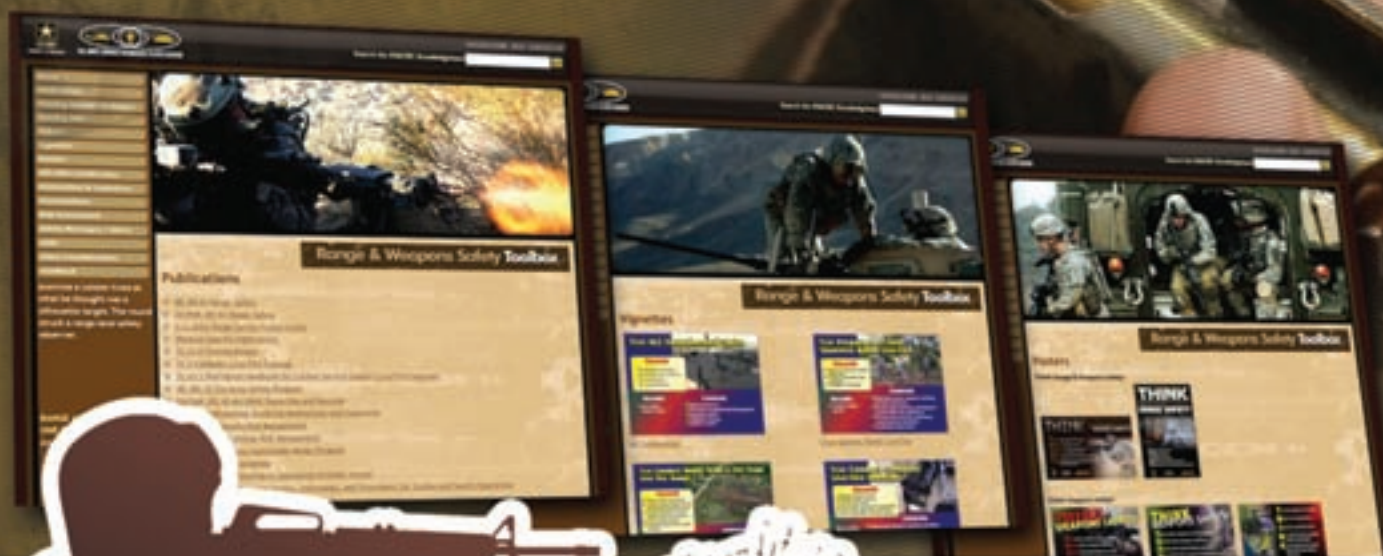
A second dichotomy in responses: the need to understand the vision of our leadership and the simultaneous desire for articles written from a "trench-level" perspective. One reader stated that, "it's good to see what management wants and thinks; the support we provide the warfighter is very challenging and anything that helps us do it better is worthwhile." Conversely, many readers encouraged us to "bring it down to the local level," to conduct "more interviews with folks down in the trenches," and to "interview more of the day-to-day workers and how they contribute to the acquisition process (not just executives or directors)." Here again, we will strive to present each of these perspectives as thoroughly as possible.

To all of our readers, then, and with a heartfelt "thank you" to those who participated in this survey, we pledge in the coming months to renew and redouble our efforts to remain your principal connection to all things Army AL&T.

Cynthia D. Hermes
Editor-in-Chief

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