

SEPTEMBER–OCTOBER 2014

ARMY SUSTAINMENT

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Game Changers

Technologies to Sustain
the Army of 2025
and Beyond



Plus:

***MK Passenger Transit
Center Planning at the
Operational Level***

**CASCOM CG:
Training and
Education Must
Leverage
Technology and
Innovation**

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Two M1075A1 palletized load systems with mounted Mobility Appliqué Systems operate without drivers as part of a convoy. (Photo by Bruce Huffman)

“Our Army has benefited greatly from the increased use of technology throughout the force. In the same way, our training and education systems must leverage the advantages these new technologies and innovations provide.”

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Training and Education Must Leverage Technology and Innovation

■ By Maj. Gen. Larry D. Wyche



As we “build-down” our armed forces, and transform from an Army at war to an Army of preparation, military trainers and educators face a sweeping paradigm shift. The traditional learning environment is transitioning from that of solely instructor-delivered content to content available at the push of a button.

Our Army has benefited greatly from the increased use of technology throughout the force. In the same way, our training and education systems must leverage the advantages these new technologies and innovations provide. This will enable faster and more detailed training and allow instruction to occur anywhere, not just inside the classroom. Technology will allow us to update our training while maintaining the consistently high standards our force deserves.

Today’s Soldier is fluent in multiple forms of technology from an early age. Well-versed in social media, video games, and devices ranging from computers to smartphones, Soldiers have integrated these resources into their lives for everyday tasks. This fluency gives us both an opportunity and a requirement to modify training. We must employ these same technologies to approach this new generation, enhance training, and more efficiently use resources. Developing training products that use interactive games, e-books, and robust simulations is essential to relating to this new generation of Soldiers.

Virtual Training

Interactive training using gaming consoles allows instructors and facilitators to replicate elaborate collective exercises within a classroom environment. Two examples of in-

teractive training used by the Ordnance School are “Cave Ops” and “Ammunition Operations.” Cave Ops is an e-learning product used to teach explosive ordnance disposal (EOD) Soldiers about flyrock and cave demolition. Users can practice both doctrinal and innovative courses of action within multiple scenarios using videos and interactive gaming.

Ammunition Operations is a compilation of short scenarios that simulate real-world missions. Soldiers learn the importance of following ammunition regulations using lessons that cannot be replicated in live training.

Virtual simulations serve as extremely useful training aids, providing high levels of training in a short period of time. Also, simulations are extremely flexible and can be tailored to the learner’s knowledge level. Virtual simulations allow for multiple repetitions, which aid in building competence, and as the Soldier gains proficiency, the training level can be elevated in complexity.

Apps

Mobile applications, or “apps,” provide several advantages for both units and individual users. Accessibility is greatly enhanced because materials are available on individual Soldier’s phones and other smart devices. Instead of relying on fixed computer stations, training materials can be accessed anywhere. Also, units can customize and update content.

A wide range of mobile apps are already available to the sustainment community. Mobile apps can be found by searching for the Sustainment Center of Excellence (SCoE) app developer, “SCoE Mobile” on

“Developing training products that use interactive games, e-books, and robust simulations is essential to relating to this new generation of Soldiers.”

Google Play, iTunes, or Mac App store. These apps range from publication and document apps to games and even full-fledged simulations of operations. Each application is formatted for various operating systems and built to function without connectivity.

In addition, the Combined Arms Support Command's Training and Technology Division has the capability to develop resources for both the operational and institutional communities to address any training or learning gaps. I encourage you to take advantage of this in-house capability to enhance your own unit's training and development.

E-books

E-books are another valuable training and education media available to Soldiers through their smartphones and tablets. The Ordnance School developed a tool to help new advanced individual training Soldiers visually identify various munitions. The handbook displays 3-D models of individual pieces of ordnance in a safe and controlled environment. The application leverages each student's iPad, allowing them to study in and out of the classroom.

Another e-book project chronicles the operational experiences of warfighter logisticians gathered over the past 12 years of war. Contributors from the Soldier Support Institute and the Army Logistics University have shared invaluable individual and unit operational experiences. These stories are enhanced using videos and game simulations in order to pass these real-life experiences on to a new generation of Soldiers.

The Transportation and Quartermaster Corps are also using e-books to add value to activities and training within their organizations. The U.S. Army Quartermaster Museum commissioned an e-book to give readers a preview of the museum's content. Available for free on the iTunes store, the e-book gives users a look at various treasures the museum has gathered since its creation

in 1957. The book is part of an ongoing effort to preserve the history and heritage of the Quartermaster Corps.

The Transportation Corps uses e-book technology to distribute les-

ed for the Ordnance Basic Officer Leader Course is written and illustrated like a comic book and used to teach young officers how to recognize warning signs and take proper actions.

We must aggressively pursue new technologies to enhance the experiences of our Soldiers and better relate to a more tech-savvy generation.

sons learned and best practices to the force. Several notable lessons learned books are located in the history section of the Army Transportation School website, www.transportation.army.mil/history.

The most recent addition, "Convoy Ambush Case Studies," offers readers a look at transportation engagements from the Korean and Vietnam Wars. Because the books are available in PDF format, readers have access to the latest versions and the flexibility to view them on numerous devices.

Enhancing Classroom Training

Not all learning can be mobile or offered through simulation. We must also use technology to enhance our institutional classroom capabilities. Instructional videos can supplement current classroom instruction and be used as study aids or refreshers for Soldiers in operational units.

A notable example is a video detailing the proper procedure for packing the T-11 Advanced Tactical Parachute System. Used by the Quartermaster School, this study aid improves a Soldier's knowledge of the rigging process and their understanding of what can cause malfunctions in the system.

Other commercially available tools can help to overcome the staleness of slideshow briefings and transform them into engaging presentations, quizzes, surveys, and courses. For example, the sexual harassment prevention training creat-

Other products, such as podcasts, allow operational units to augment home station training. Training and readiness can be greatly enhanced by allowing Soldiers to access training materials at home, in the schoolhouse, or in the field.

Our nation needs Soldiers and leaders who can think critically, solve problems, and rapidly adapt to change. We must use current technologies to continue to train our Soldiers to fight and win our nation's wars. We must aggressively pursue new technologies to enhance the experiences of our Soldiers and better relate to a more tech-savvy generation. Leveraging technology is critical to maintaining the high standards of training our Army demands.

We also must operate within a more fiscally constrained environment and prudently spend our allocated resources. By leveraging skilled in-house personnel and commercial off-the-shelf technology, we can provide the highest level of training and leader development at an affordable cost whenever and wherever it is required.

Maj. Gen. Larry D. Wyche served as the commanding general of the Combined Arms Support Command and Sustainment Center of Excellence at Fort Lee, Virginia, from June 26, 2012, to Aug. 22, 2014.

Mission Command: Lies, Damned Lies, and Metrics

■ By Dr. Christopher R. Paparone and George L. Topic Jr.

In our past few columns, we discussed various aspects of mission command, particularly in the context of logistics. In this article we will discuss the issue of overreliance on metrics as a core tool for assessing readiness and overall effectiveness during operations.

Although we understand the importance of performance measurement, we believe logisticians need to recognize that metrics are essentially control measures that may conflict with key tenets of mission command—particularly the need to encourage disciplined initiative. The complexities of shaping military operations coupled with the tenets of mission command will continue to make the quantitative management style challenging.

The Rise and Fall of Strategic Planning, written by Henry Mintzberg in 1994, offers an extensive discussion of the challenges of metrics, strategic plans, and control in general. Here we present a small sampling of his ideas on the use of hard data. The content below is paraphrased from the book and some context is added.

Limited scope. Metrics are limited in scope, lacking the qualitative richness of understanding that a leader can gain by visiting operations and talking to those who work in the processes. Monitoring large-scale and complex supply chains through metrics may be akin to knowing what is happening in a soccer game by looking only at the scoreboard.

Missing complexities. In a military context, one of the most famous examples from history of the effect of missing complexities was when, in the 1960s, Defense Secretary Robert McNamara tried to measure victory

in the Vietnam War, missing important complexities, ambiguities, and interpretations of what was happening.

Over-aggregated data. Strategic control using macrolevel metrics is a theory worth criticizing. From a high-level headquarters perspective, data is often so aggregated that it becomes ineffective in helping to make strategic decisions. Small innovative changes in logistics processes can have amplified effects that cannot clearly register with macrolevel metrics.

Data timeliness. Data timeliness is a universal challenge; untimely data constitutes historical information that confounds decision-making and future requirements and capabilities projection. Even if data is accurate, which is not always a safe assumption, is it safe to assume a trend line will continue? One cannot forecast discontinuities, yet in complex environments, discontinuities may be the norm, not the exception.

False impressions. Like a doctor views blood pressure and the results of lab tests, we tend to think that our measures actually indicate the wellness of our purpose and mission, but this belief is arguably fallible. Significant amounts of quantitative data are unreliable, at worst giving the false impression of precision. This is illustrated by the old saying, “garbage in, garbage out,” when reporting activities and systems distort or invalidate the purpose of measurement.

Our principal concern is that using overly stratified or inappropriate metrics may actually over-control subordinate activities and stifle innovation and creativity. We recall a story from a senior officer who commanded a large distribution activity.

She complained that the metrics she was reporting to her higher headquarters no longer had meaning. She had redesigned receiving and shipping processes to the point that the old metrics made no sense and became an administrative burden.

The bureaucracy of the larger organization and its processes were so entrenched that she was powerless to alter the requirement to report the old metrics. Such red tape prohibits innovation and rather promotes mindless rule following.

We do not suggest doing away with metrics, as there is clearly a crucial role for well-designed data processing to monitor and assess performance. The challenge is to develop metrics and, perhaps more importantly, qualitative ways that convey intent and encourage innovation.

We leave you with this question in light of the mission command philosophy: How can we design performance assessments that empower and promote disciplined initiative central to the mission command philosophy? This is a daunting task to be sure, but the pursuit is essential to effective logistics readiness and support operations.

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George L. Topic Jr. is a retired Army colonel and the vice director for the Center for Joint and Strategic Logistics at the National Defense University at Fort McNair, District of Columbia.

Validating the Operations Officer in the BSB

The 601st Aviation Support Battalion used troop reductions in Afghanistan as an opportunity to validate a concept proposed in an *Army Sustainment* article.

■ By 1st Lt. Joshua R. Scott

While deployed to Operation Enduring Freedom, the 601st Aviation Support Battalion (ASB), 1st Combat Aviation Brigade, 1st Infantry Division, Task Force Guardian, faced a problem that provided the opportunity to validate recommendations made in the article “The Operations Officer in the BSB [brigade support battalion],” which was published in the March–April 2013 issue of *Army Sustainment*.

The Premise

In “The Operations Officer in the BSB,” Lt. Col. Michael McCulley, Maj. Will Arnold, and Maj. Tony Stoeger explain two operational struggles that BSBs typically face at the National Training Center. These issues stem from the BSB modified table of organization and equipment (MTOE), which authorizes a major as the support operations officer (SPO) and a captain as the battalion S-3.

The first problem is that the SPO and S-3 sections typically establish separate common operational pictures (COPs), forcing the battalion commander to draw information from two different sources in order to build situational understanding. The second issue is that the BSB S-3 could be the rater of two other captains, with all three being in the same year group.

McCulley, Arnold, and Stoeger recommend that by “combining the two sections into one operations section, the commander could cre-

ate a one-stop COP and achieve greater synergy in mission command. By reorganizing the BSB operations under one section with one major in charge, ... the BSB can achieve this unity of effort.” (See figure 1.)

Validating the Idea

Theaterwide troop reductions forced the 601st ASB to make tough decisions on how to meet manning requirements in the theater of operations. Each section in the ASB redeployed Soldiers to meet requirements while trying to maintain the battalion’s support capability.

Companies, platoons, and staff sections were combined as the task organization was restructured. By the end of the reductions, over 40 percent of the battalion’s personnel redeployed to home station and were reassigned to the rear detachment.

In order to maintain control of such a large formation, the ASB S-3 redeployed to assume command of the rear detachment and the SPO assumed responsibility of both the SPO section and the S-3 section. This position, referred to as the “operations officer,” was created to provide synchronous oversight of both the S-3 and SPO sections.

With ad hoc restructuring, the operations officer empowered the deputy SPO to make decisions in his absence, granting him a large amount of autonomy. This trusting relationship allowed support operations to continue without slowing in the absence of that section’s pri-

mary officer.

Overseeing the SPO section is a significant responsibility and generally requires substantial logistics experience, which poses a challenge for many organizations. One asset unique to the ASB that made this structure possible is the operations sergeant major.

Because of its immense geographical footprint and technical expertise required for aviation support operations, the ASB is the only type of sustainment support battalion that is authorized a sergeant major. The sergeant major’s experience, knowledge, and leadership were crucial to the smooth operation of the SPO section during the restructuring.

In overseeing both the S-3 section and the SPO section, the operations officer was able to stay ahead of the battalion commander on brigade-level support issues. This, in turn, allowed him to direct the S-3 section to address issues before being told to do so. This foresight streamlined the entire brigade support process and had a huge impact on the ASB’s efficiency.

The other benefit was that as sustainment issues were called in to the tactical operations center, the operations officer addressed concerns on the spot or directed the issue to the SPO section without working through an intermediary. This process prevented the confusion that arises when commanders outside the sustainment battalion are unsure of which section is

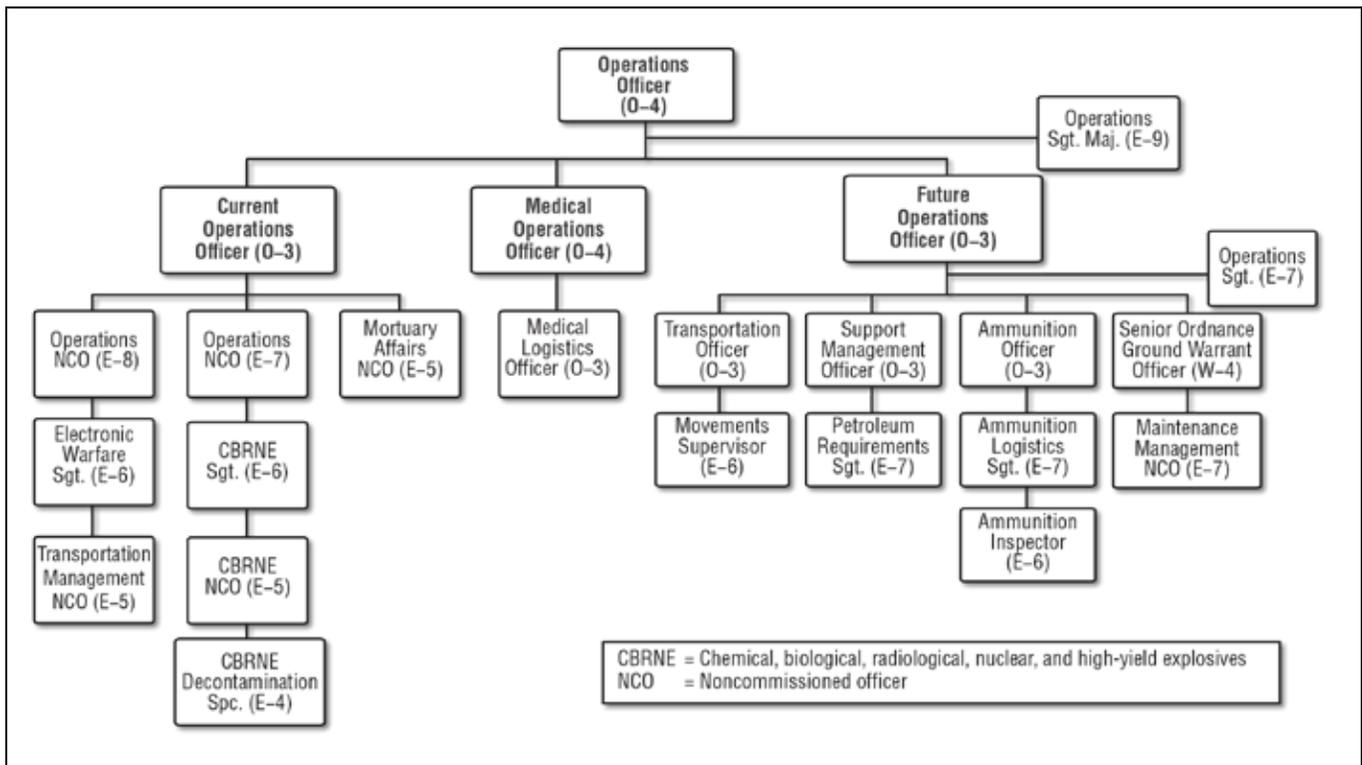


Figure 1. This chart depicts the combined brigade support battalion S-3 and support operations section recommended by Lt. Col. Michael McCulley, Maj. Will Arnold, and Maj. Tony Stoeger in "The Operations Officer in the BSB," published in the March–April 2013 issue of Army Sustainment.

better suited to support them on a given issue. Having one point of contact also prevented the S-3 and SPO sections from being unaware that they were both working the same issue.

The operations officer's ability to manage both sections created a synergy that lasted throughout the deployment and provided a model that the battalion plans to use in garrison.

Recommendations

Since the operations officer of the proposed combined sections would be responsible for typical battalion operations along with all brigade-level sustainment, the volume of information directed toward that officer could be overwhelming.

The operations officer must be able to multitask and must be comfortable delegating responsibilities to both sections. This position should be given only to the most capable officers.

Both the deputy SPO and the S-3 operations officer should be post-command captains since they will be expected to operate independently and exercise sound judgment.

The operations sergeant major is critical to the SPO section and should be authorized by MTOE for all BSBs. Additionally, depending on existing configurations, it may prove difficult to create a footprint that houses both sections. While not essential to the success of the organization, co-locating the sections would improve the synchronization of the COP.

Ultimately, the battalion found that the proposed restructuring of the BSB was an improvement over the current MTOE. Having a single person in charge of both sections established a more synchronous COP and streamlined planning efforts between the S-3 and SPO sections.

Previously, line commanders have had trouble discerning whether their issues were best addressed by the SPO or the ASB S-3 section. Often this caused both sections to begin planning support or to spend time determining which section was best suited to address the problem.

With a single point of contact for both organizations, issues can be worked simultaneously and responsibility can be clearly delineated. Overall the new organization provides a more streamlined and effective method of responding to sustainment issues.

1st Lt. Joshua R. Scott is the logistics planner for the 601st Aviation Support Battalion, 1st Combat Aviation Brigade, at Fort Riley, Kansas. He is a 2011 graduate of the United States Military Academy and was commissioned as a Quartermaster officer.



Wounded, ill, and injured Soldiers participate in the annual Wounded Warrior Project Soldier Ride at Hambachtal, Germany. (Photo by Linda Steil)

Dignity and Respect: The Mission of the Warrior Transition Battalion—Europe

■ By Lt. Col. Douglas H. Galuszka, Maj. David K. Spencer, and Command Sgt. Maj. Eugene B. Chance

The debt owed to service members who have risked their lives, bodies, and minds in defense of our country truly can never be paid in full. This is especially true for service members who were wounded, became ill, or were injured while serving. The obligation to help them heal and rehabilitate is one that

the Army has embraced.

The 2014 Quadrennial Defense Review states that part of the nation's "sacred contract" is to care for our service members and that "for those returning from combat ill or wounded, and for those who require hospitalization or rehabilitation, we will continue to provide the best

possible care."

In 2007, reports of substandard living conditions, poor leadership, and an unresponsive and inflexible bureaucracy at Walter Reed Army Medical Center in the District of Columbia led the Army to overhaul its wounded warrior care programs.

The problem was not the actu-



A WTB-E Soldier in transition runs on a track in Germany. (Photo by Ed Drohan)

al health care; instead, the service members were not being provided with proper support after receiving medical treatment, which affected their ability to rehabilitate.

In response, the Department of the Army directed the Army Medical Department (AMEDD) to build an action plan, which led to the development of the Warrior Transition Command (WTC) and warrior transition units (WTUs).

The term for a Soldier in such a unit is “Soldier in transition,” which indicates that the Soldier is healing, rehabilitating, and preparing to successfully transition back to duty or into veteran status.

WTUs

The term WTU is a generic term that includes brigades, battalions, companies, and community-based units that support National Guard and Reserve Soldiers who return to their hometowns to receive care and support in their own communities. The size and type of each WTU is driven by the number of Soldiers in transition at that location.

WTUs are part of a regional medical command and normally directly assigned to a local medical treatment facility (MTF). Most regions also have a warrior transition office. The primary responsibilities of these offices include standardizing practices across their regions and finding National Guard and Reserve cadre, who make up a large percentage of the cadre assigned in continental United States (CONUS) WTUs.

The criteria for a patient’s admission into a WTU are standard across the Army. A Soldier must require six months or more of complex medical care management or have a behavioral health condition that presents a danger.

A combat injury is not a requirement. Any wound, illness, or injury that meets the criteria is sufficient. Although the acceptance process itself varies across the Army, it always involves the leadership triad: a senior commander, MTF commander, and

WTU commander.

Once a Soldier in Transition is accepted into the unit, the WTU cadre and staff help the Soldier in-process and develop a personalized comprehensive transition plan that drives healing and rehabilitation through education, training, and personal and professional goals.

The cadre-to-Soldier ratio in WTUs is low in order to provide the optimal healing environment for Soldiers in Transition. WTUs also have no platoon leaders, only platoon sergeants and squad leaders, who receive special duty pay in recognition of the importance and challenges of their jobs.

Squad leaders are key members of WTUs. They have the extremely challenging job of helping Soldiers and their families through a healing and rehabilitation process that can be agonizing and frustrating. WTU squad leaders must be in contact with every Soldier each morning and evening, 365 days a year, either in person or by phone.

WTUs tend to have a large civilian presence because of the clinical staff required. A WTU’s robust clinical operations section (at the battalion level) is led by the battalion surgeon, who provides oversight and supervision of the WTU’s medical personnel while acting as the medical provider for up to 100 Soldiers in transition. The surgeon supervises the nurse case managers who each manage the health care of up to 20 Soldiers.

WTUs also have social workers who each assist in the behavioral health of up to 30 Soldiers. Occupational therapists and certified occupational therapy technicians are integral to the goal-setting process of the comprehensive transition plan. They provide functional assessment work considerations and assist in adaptive reconditioning.

WTUs also have physical therapists who manage the unit’s adaptive reconditioning program. Adaptive reconditioning challenges Soldiers with exercises that they can perform within their medical limitations.

The WTB-E

The Warrior Transition Battalion-Europe (WTB-E) has the same task as other WTUs: to provide complex medical care management for qualifying Soldiers. But the WTB-E is not a typical WTU.

WTUs in CONUS usually handle the warrior care mission at just one installation. The WTB-E, however, manages warrior care for all U.S. Army Soldiers in Europe. Since its inception in 2008, the WTB-E has been successful in accomplishing this mission through determination and innovation in spite of its geographically dispersed footprint.

The WTB-E's operational environment is very different from other WTUs. It supports the active duty members of U.S. Army Europe (USAREUR) and the Reserve members of the 7th Civil Support Command, including U.S. Army Soldiers located across Europe, from the United Kingdom to Turkey. Currently the battalion operates on 14 separate bases.

As of July 2014, the battalion had 193 Soldiers in transition out of 306 total personnel. This is a low cadre-to-patient ratio, but the geographic separation requires nonstandard support solutions compared to WTUs in CONUS, which typically serve Soldiers on one installation.

Another difference is that the WTB-E manages Soldiers in the Integrated Disability Evaluation System (IDES) in Europe who have a permanent profile and are undergoing medical evaluation boards. CONUS WTUs do not. The WTB-E created a cell in 2012 to manage this process across USAREUR for IDES Soldiers assigned to parent units and to the WTB-E as an exception to policy.

The WTB-E's mission, manning, and locations have evolved over time. USAREUR created four geographically separate companies in June 2007 for the major U.S. Army population concentrations in Europe. They reported directly to the European Regional Medical Command

(ERMC), a one-star headquarters.

But coordination and standardization challenges that soon developed required a change, so USAREUR stood up the WTB-E headquarters in Heidelberg, Germany (and later moved it to Kaiserslautern, Germany). The headquarters was modeled after the table of distribution and allowances for a WTU headquarters company—about 30 military and civilian personnel.

The initial rationale for creating WTU facilities in various locations throughout USAREUR instead of one or two centralized locations (or returning Soldiers to CONUS) was to allow Soldiers and their families

to recover in the communities where they reside. This mitigated the potential of effectively punishing Soldiers for becoming wounded, ill, or injured by requiring them to uproot their families from a familiar, stable environment and potentially damaging their rehabilitation process.

The geographic dispersion of the Soldiers the battalion supports requires a capable and experienced cadre and staff. The challenges in coordinating health care and local garrison support are significantly more difficult than in CONUS since the battalion has more than just one MTF, Red Cross office, United Service Organization office, depart-



Soldiers play wheelchair basketball, an adaptive sport. (Photo by Linda Steil)



Soldiers participate in water polo, an adaptive sports event. (Photo by Linda Steil)

ment of public works, and morale, welfare, and recreation office. This situation requires independent coordination by the cadre and staff with their supporting garrison organizations.

Adaptive Sports and Conditioning

The WTB-E strives to find opportunities in Europe to provide for diverse and challenging adaptive sports and conditioning opportunities—games and exercises tailored to our Soldiers. These activities include wheelchair basketball, seated volleyball, and inner tube water polo. The benefits of these activities for our Soldiers cannot be overstated; they are critical to their rehabilitation.

The WTB-E holds a “Commander’s Cup” event twice per year to encourage competition, provide

goals, and build pride and esprit de corps. The battalion has also qualified two or three Soldiers annually for the Army’s Warrior Games team in Colorado Springs, Colorado, and WTB-E competitors have earned medals in several events.

CONUS WTUs have many organizations that support these types of activities. The same is not true in Europe. The WTB-E relies on a small number of organizations that regularly offer to support events. These include the American Red Cross, the United Service Organization, and the Wounded Warrior Project (WWP).

The WWP is the only nongovernmental service member charity to open an office in Europe. Its contributions to adaptive sports and conditioning as well as computer training and other career

development opportunities for our Soldiers are invaluable.

One notable event is the annual WWP Soldier Ride, a weeklong event normally held in Hambachtal, Germany, in the summer. The WWP fits participating Soldiers with bicycles, including recumbent and hand crank bikes for those unable to ride standard bicycles, and conducts progressively longer daily rides culminating in a community ride with the Soldiers. More than 600 people joined the Soldiers for the 2013 community ride.

WWP makes the event available to wounded Soldiers from all the NATO countries. In 2013, 40 soldiers from Estonia, Germany, Georgia, Latvia, Norway, Poland, Romania, and Spain participated in the event with the 100 Soldiers from the WTB-E.

Innovation

The WTB-E's clinicians have found various ways, such as using video teleconferences, to support treatment requirements for a geographically dispersed Soldier population.

The battalion headquarters also regularly investigates ways to improve processes. In 2012 and 2013, the battalion completed three Lean Six Sigma projects that digitized the nomination packet approval process (for Soldiers entering the WTB-E), integrated an improved reporting process for nomination packets, and created a database for managing permanent profiles and new IDES cases.

The surgeon general of the Army recognized these projects—the first of their kind in the WTC and AMEDD—by awarding the battalion the Army Medical Command's Maintain, Restore, and Improve Award for Major Subordinate Commands in 2013.

One of the most important innovations was identifying the past challenges in the USAREUR nomination process and creating a proposal for a streamlined process in 2013 and 2014. WTU nominations must have the oversight of senior commanders, MTF commanders, and the WTU commander.

At a single installation with these three individuals in CONUS, this is manageable. But because of the WTB-E's dispersion in Europe, it had four senior commanders and three MTF commanders across multiple countries, which generated an excessively complicated process with an average of 13 people and 23 separate "touch points." The battalion worked with ERMC and USAREUR to streamline the process in order to reduce the complexity and time needed for completion.

The Way Ahead

The WTB-E has transformed with USAREUR in recent years and will have only two companies under the battalion headquarters in the summer of 2014, one each at the Landstuhl Regional Medical Cen-

ter and the Bavarian Medical Department Activity catchment area. This will allow the companies to fall under these MTFs in the future if it eventually becomes necessary to transfer the WTB-E's functions to the ERMC headquarters.

Most importantly, the Army will have to determine the future of warrior care, which will affect how it is accomplished in Europe. Major factors include the end of major operations in Iraq and Afghanistan as well as budget constraints.

Certainly, the end of major operations in Iraq and Afghanistan will not preclude the requirement for warrior care because combat injuries are not a requirement to qualify for a WTU. Nonetheless, this and other contextual drivers will likely determine the emphasis the Army can apply to warrior care within the future fiscal environment.

The Army has much to balance, including enabling WTU clinicians to maintain credentials, retaining top-quality cadre by ensuring promotion boards view these assignments favorably, securing funding for career and education training, monitoring rebasing initiatives that may affect the availability of medical care, and deciding if the geographically dispersed warrior care currently implemented in Europe is fiscally viable. These issues must be considered carefully since they affect our ability to fulfill the obligation to provide high-quality care for Soldiers in transition.

By standing up the WTUs, the Army created organizations to help Soldiers and families heal, rehabilitate, and successfully transition back to the force or to civilian life. Despite the geographic challenges presented by operating in Europe, the WTB-E has succeeded in providing high-quality warrior care through excellence and innovation.

The WTB-E has successfully transitioned more than 900 Soldiers in the last five years, providing each with a superior environment

in which to rehabilitate, overcome challenges, and succeed.

Soldiers must be given the chance to properly heal and rehabilitate, and their care and support must not be forgotten or marginalized the moment the fighting ends. Finally, we must remember this model and, if WTUs are discontinued in the future, be willing and able to reestablish these critical rehabilitation units early in our next conflict. Our service members deserve nothing less.

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Game Technologies to Change Army



Additive manufacturing employs computer-aided design and manufacturing capabilities to create objects through layer-by-layer printing. (Photo by Amanda Dunford)

Sustain the of 2025 and Beyond

ers

■ By Capt. MuShawn D. Smith

New sustainment technologies will help the Army retain overmatch with a more capable, leaner expeditionary force.

Imagine the Army having unmanned air and ground distribution platforms, the capability to manufacture replacement parts on the battlefield, and the ability to produce water from air. Think of how current technologies can potentially advance tomorrow's Army capabilities in order for the Army to remain the best equipped and most efficient military force in the world.

To maintain an operational advantage over potential adversaries, the Army must prioritize science and technology investments and fully leverage game-changing capabilities. The Army of the future requires technologies that increase expeditionary capabilities, reduce sustainment requirements, and optimize Soldier performance.

Tomorrow's technologies are available today and will be instrumental as the Army transforms to be globally responsive and regionally engaged. This article describes the Combined Arms Support Command (CASCOM) Sustainment Battle Lab's top five game-changing technologies to sustain the Army of 2025.

What the Army Needs

The Army of the future requires the implementation of various technologies to facilitate Chief of Staff of the Army (CSA) Gen. Raymond T. Odierno's vision and strategic priorities.

The CSA's vision is for the Army to remain the world's most highly trained and professional land force, uniquely organized with the capability and capacity to provide expeditionary, decisive landpower to the joint force. The Army of the future must remain ready to perform missions across the full range of military operations to prevent, shape, and win and to defend the nation from both current and emerging threats.

The CSA's strategic priorities for a globally responsive and regionally engaged modern Army are driving capabilities developers to assess technologies against the following core characteristics:

- **Overmatch:** Have capabilities that counter those of a potential adversary.
- **Leaner:** Reduce force structure and enable a scalable, modular force.
- **Expeditionary:** Be able to rapidly deploy and operate in austere theaters.

CASCOM is taking vigorous steps to explore how technologies can support expeditionary warfare. It identified reducing demand as one of the Army's toughest challenges and the key to realizing success.

Demand determines sustainment requirements, and by reducing demand, U.S. forces will be more capable of increasing expeditionary capabilities. CASCOM capability developers identified five technologies that will yield significant game-changing benefits by the year 2025.

Autonomous Ground Resupply

The near-term technology driving autonomous ground resupply is the Autonomous Mobility Appliqué System (AMAS). AMAS is an add-on kit that converts existing manned vehicles to be optionally manned. AMAS does not change the vehicle's cabin configuration, so the vehicle can be converted from being manned to unmanned at the convoy commander's discretion.

AMAS is a technology that is currently being evaluated in a joint capability technology demonstration. AMAS is a bridging technology to the initial autonomous ground resupply series of vehicles, branded as automated convoy operations (ACO) vehicles. ACO vehicles incorporate automated capabilities into existing tactical wheeled-vehicle platforms to enable the vehicles to operate with minimal human input to accomplish assigned missions.

These vehicles will use sensors and vehicle actuators to determine and navigate the most appropriate routes. With this technology, vehicles can then operate independently or in manned/unmanned teams in which several vehicles can be controlled and



An M1075 palletized load system truck and an M915 line-haul tractor are equipped with add-on kits that transform the vehicles to be fully autonomous. (Photo by Bruce Huffman)

assigned missions remotely using one operator control unit.

Autonomous ground resupply technologies have several potential benefits:

- Reduce constraints related to Soldier endurance.
- Reduce Soldiers' exposure to vehicle accidents.
- Increase logistics efficiencies and throughput capabilities.
- Reduce vehicle fuel consumption through resupply efficiencies.
- Expand options for delivery frequency.

Imagine a 12-vehicle convoy comprising three gun trucks, eight sustainment vehicles, and one recovery vehicle. This convoy currently requires at least 27 Soldiers. The implementation of AMAS will potentially

reduce this requirement to as few as nine Soldiers.

Additive Manufacturing

Additive manufacturing (AM), also known as 3-D printing, employs computer-aided design and computer-aided manufacturing capabilities to create objects through deposition, or layer-by-layer printing. Although currently being used in a small commercial sector, AM is being proposed as a near-term solution throughout the Department of Defense for producing certain replacement parts at the point of need.

AM allows organizations to produce spare parts, supplies, and other required fabrications to improve logistics metrics and operational readiness to support requirements at the strategic, operational, and tactical levels. The objective of AM is to

rapidly produce materiel to meet requirements at the point of need, thus reducing the flow of demand back through the entire supply chain.

AM machines that produce plastics are already available at Army depots, and the Rapid Equipping Force has already developed a mobile capability that is in use in Afghanistan. AM systems for plastics and polymers are relatively well-developed compared to metal systems and can be further employed throughout the Army sustainment system today, provided the right technical data is available for parts, user controls, and materials.

Advanced AM capabilities for metallic components are relatively new but progressing rapidly. Large AM systems (for example, the Renishaw AM250 laser melting machine) have already been proven to have the capability to produce limited metallic



A 3rd Cavalry Regiment motor transport operator configures the route for an autonomous convoy using a ruggedized tablet while a Combined Arms Support Command officer reviews the plan. (Photo by Bruce Huffman)

components. Michigan Technological University has even developed a desktop 3-D printer and welder that produces steel components. AM capability is a near-term technology that will contribute significantly to the expeditionary capabilities of the Army.

AM technology may achieve these sustainment benefits:

- Meet demands at the point of consumption.
- Improve customer wait time and other supply performance metrics.
- Reduce authorized stockage list lines.
- Ensure the operational readiness of combat systems.
- Reduce supply chain demand.
- Reduce the logistics footprint.

Suppose a critical combat system on the battlefield is deadlined because it needs a particular part. The part is back ordered, and the estimated ship date is two months away. AM will allow that supply support activity to produce the part in one day, reducing the wait time by at least 60 days and increasing operational readiness.

Automated Aerial Resupply

The delivery of cargo as far forward as possible is the ideal situation for reducing the supply chain. Cargo unmanned aerial systems can deliver cargo farther forward on the battlefield without endangering the lives of Soldiers. Autonomous aerial delivery provides point-to-point delivery routes (air corridors) that increase throughput and allow for the remote delivery of materiel in most environments.

One such platform, the Kaman K-MAX helicopter, is a near-term technology currently being employed by Marines operating in Afghanistan. K-MAX provides cargo delivery when weather, terrain, and enemy actions pose unreasonable risk to air and ground assets.

The use of this unmanned aerial resupply platform has increased throughput while reducing the operational and maintenance costs typically associated with rotary wing support. Most importantly, autonomous delivery reduces risk to Soldiers and offers a speedy distribution capability.

Several benefits can potentially be

achieved through autonomous aerial resupply technologies:

- Reduce delivery times.
- Increase responsiveness through on-demand delivery.
- Remove risk to Soldiers while offering delivery to remote locations.
- Ensure operational readiness of combat systems.
- Reduce the demand for ground convoys and their security escorts.
- Support expeditionary maneuver.

Envision a combined arms battalion in need of emergency resupply during intense combat operations and inclement weather while all ground supply routes are restricted. Imagine an unmanned aerial platform bypassing these constraints and expediting the emergency resupply operation to provide critical materiel.

Water From Air System

Water produced at the point of need will reduce, if not eliminate, the requirement to transport water the length of the logistics tail. The water from air system (WFAS) extends freedom of maneuver for command-

ers by granting expeditionary support through potable water production at the forward edge of the battle area. WFAS provides warfighters the means to continuously generate potable water during all phases of operations without increasing the distribution footprint.

WFAS is a unit-level water generation system that extracts potable water from the atmospheric humidity. The system is mounted on a 7.5-ton trailer and is projected to generate 500 gallons of water per day. There are also smaller capabilities that can be mounted to existing platforms.

The average output capability of today's system is five gallons of water for every one gallon of fuel. Although there is a trade-off between water and fuel, the system still offers an 80-percent overall reduction in transportation requirements related to water support.

WFAS forward on the battlefield has the potential to significantly reduce or eliminate the distribution of bulk water within modular brigades and dramatically reduce bottled water requirements.

WFAS may yield the following benefits:

- Allow production and storage at the point of consumption.
- Reduce water distribution.
- Reduce force structure.
- Reduce the logistics tail.
- Counter potential enemy water threats.

Visualize enemy forces targeting resupply convoys with the intent of depriving friendly forces of water. WFAS counters that threat and enables forces to conduct continuous operations to generate their own water, prolong endurance, and extend operational reach.

IPMDS

The Intelligent Power Management and Distribution System (IPMDS) is a far-term technology that comprises a combination of hard-

ware and software that optimizes the production, distribution, and use of electrical power. IPMDS incorporates automatic phase balancing, ground fault protection, and enhanced 24/7 power distribution reliability to reduce Soldier support, intervention, and training.

IPMDS reduces the requirements for energy during expeditionary operations and the amount of power generation equipment needed during initial entry. Without degrading capabilities, this system increases unit endurance and freedom of action, while reducing man hours related to maintenance and transportation. Recent studies have projected a 30- to 40-percent reduction in the amount of fuel used for power generation.

The following benefits can potentially be achieved by IPMDS:

- Counter the enemy's potential threats to U.S. Army energy.
- Reduce energy requirements.
- Reduce maintenance and transportation requirements.
- Reduce force structure.
- Reduce fuel demand.

Picture a remote brigade combat team operating autonomously and relying on host-nation support for power generation. The tactical operations center receives orders to relocate the site and reestablish operations at an area outside of the power grid.

The IPMDS can expedite the move while maintaining functionality and make the reestablishment of operations more seamless. IPMDS eliminates host-nation power generation support requirements, allowing for a leaner, more self-sufficient, and more expeditionary force.

CASCOM conducts globally responsive sustainment rehearsal of concept drills to validate sustainment roles and responsibilities and recommend restructuring options. One of the drills' major objectives is to use each emerging technology

in a simulated operational environment to determine which emerging technologies will enable expeditionary sustainment support of strategic landpower.

CASCOM has coordinated with a host of organizations and science and technology stakeholders to establish a forum for greater integration, synchronization, and collaboration. As the Army moves forward to a more capable, leaner expeditionary force, more experiments, evaluations, exercises, wargaming, and other efforts focused on determining the force design of 2025 are necessary.

Soldiers at all levels must share in the effort of making the Army of 2025 the most highly trained and professional land force in the world. This will take the support and continuous effort of the entire Army team over the next 10 years.

Moving forward, capability developers will continue to leverage science and technology to meet the CSA's intent. Capability developers will conduct activities along three primary lines of effort: force employment, science and technology and human performance optimization, and force design.

The science and technology line of effort will continue to focus on identifying game-changing technologies to optimize the force. Science and technology communities will remain deliberate and continue to coordinate and provide senior leaders with capabilities that retain overmatch, increase capability, and foster a leaner expeditionary force.

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Passenger Train at the Op

Combat engineers of the 902nd Engineer Company (Vertical), 15th Engineer Battalion, 18th Engineer Brigade, 21st Theater Sustainment Command, build the skeleton of a pole barn baggage storage area at Mibail Kogalniceanu Air Base, Romania. (Photo by 1st Sgt. Clifton Morehouse)

Transit Center Planning Operational Level

■ By Maj. David L. Thompson

U.S. Army Europe prepared for the closure of the transit center at Manas Air Base in Kyrgyzstan by establishing a new transit center in Romania.

As operations ended at the passenger transit center at Manas, Kyrgyzstan, U.S. Army Europe (USAREUR) planners had an opportunity to shape the fight in Afghanistan and prepare for future force projection contingencies while working through resourcing constraints.

In August 2013, the U.S. European Command (EUCOM) directed USAREUR to establish a passenger transit center at Mihail Kogalniceanu (MK), a small community with an international airport near Constanta, Romania, along the eastern coast of the Black Sea.

The location in Romania already had a remote forward operating site adjacent to the MK International Airport. A small U.S. Army presence kept the site minimally operational in anticipation of a contingency operation, for which it could increase base operations if necessary.

The Army used the site to exercise several small-scale proofs of principle that tested the Army's ability to transload deploying and redeploying personnel. Those exercises, however, did not increase the infrastructure or establish a permanent mission command for a larger, enduring transload mission. Planning, establishing, and executing a passenger transit center proved to be an extremely significant effort.

Intermediate Staging Base

Current Army doctrine defines an intermediate staging base (ISB) as a secure staging base established near, but not in, an area of operations. An ISB is task-organized to perform staging, support, and distribution functions as specified or implied by the service support plan or annex in support of the combatant commander's war plan or operation order.

Although joint doctrine discusses the concept of the ISB, it lacks a framework for planning. Once an ISB is established, the theater logistics headquarters continues to assess the ISB's mission and adjusts its organization in view of sustainment

requirements and available resources.

For operations at MK, the only requirement was for passenger transload from commercial-to-military and military-to-commercial aircraft. This significantly reduced the requirements for materials-handling equipment and staging areas needed for vehicles and containers at a typical staging base. The scope of personnel required to manage and operate the site also could be scaled down.

Predeployment activities typically performed at the transit center at Manas would not be transferred to MK. By eliminating all equipping and training activities, the transient time on the ground was reduced to no more than 48 hours. The existing MK infrastructure allowed for flexibility, but the ISB needed to expand or its limits would create serious congestion.

Initial Planning

With fewer than 150 days until the initial operating capability milestone, the USAREUR operational planning team (OPT) established a rigid planning timeline. The timeline focused efforts on site visits, engineering efforts, and course of action (COA) decisions linked to mission command, manning, and equipping to meet the minimum initial operating capability (IOC) requirements. The planning timeline also included a rehearsal of concept drill and a key leader terrain walk.

The October 2013 government shutdown created a planning gap of more than two weeks. As planning transitioned into COA development, fiscal realities created a forcing function to look for the most responsible solutions that met requirements within the time constraints to IOC.

Within 30 days of the warning order, action officers from EUCOM, the U.S. Central Command (CENTCOM), the U.S. Transportation Command (TRANSCOM), and USAREUR met at MK for a site visit and initial planning conference. Representatives from the Romanian



Soldiers with the 902nd Engineer Company (Vertical), 15th Engineer Battalion, 18th Engineer Brigade, 21st Theater Sustainment Command, build a roof during a construction project at the MK Air Base Passenger Transit Center on Jan. 14, 2014. (Photo by Staff Sgt. Warren W. Wright Jr.)

Ministry of Defense and MK airport also participated, providing their perspectives on current and emerging planning factors. The site visit allowed planners to facilitate shared understanding across the supported and supporting commands.

One month later, senior USA-REUR staff officers conducted a site visit focused on processes and capabilities. The visiting USAREUR engineer and logistician analyzed the existing capability and the processes required to receive, integrate, and process passengers for movement. After returning to USAREUR headquarters, they issued detailed guidance to the OPT during COA development.

Deploying personnel would arrive

on commercial aircraft at a transit center, where their baggage would be downloaded, separated, and palletized based on their final location in theater.

Redeploying personnel, who made up the bulk of personnel transitioning through MK, would arrive with baggage requiring customs clearance before it could be loaded onto commercial aircraft. All personnel, deploying and redeploying, would require clearance through Romanian immigration.

Course of Action Development

As planners developed the operational approach to attaining IOC, four lines of effort became clear. To meet its lead agent responsibil-

ities, USAREUR must house, feed, care for, and move all inbound and outbound personnel. However, the problem set existed in an environment with fiscal constraints, sequestration, competing global missions, and a focus on an expeditionary footprint.

The commanding general of USA-REUR provided guidance directing planners to ensure MK did not mirror the transit center at Manas in terms of large numbers of personnel and extensive infrastructure. This refined the planning effort and eliminated any dialogue on capabilities beyond the four lines of effort. (See Figure 1.)

House. Existing facilities at MK would house about 70 percent of the transient population. Planners

worked through limiting factors, including square-footage issues, bringing preventive medicine measures up to standard, identifying facility engineers to expand public works capacity, and integrating contracting personnel into the OPT.

Feed. Half of MK's existing dining facility was used as a passenger terminal during previous proof of principle exercises. A much higher transient population would require a stand-alone passenger terminal and increased serving and seating capacity at the dining facility. Expanded hours and a fourth meal period were added to the services contract in order to accommodate 24-hour passenger transload operations during the full operating capability period.

Care for. As a remote and somewhat austere forward operating site, MK had no responsive emergency management capability. USAREUR planners conducted a comprehensive emergency management working group to identify medical treatment and evacuation requirements,

fire response capabilities for the base camp and airfield, and available law enforcement support.

The emerging issues generated substantial human resources requirements that exceeded USAREUR's organic capability because of competing missions. Separate working groups generated equipping requirements and solutions for the medical, fire response, and law enforcement shortfalls.

Move. The fourth line of effort, move, was based on the requirement to establish a joint movement coordination center. Serving as the heartbeat of all passenger transit center operations, the joint movement coordination center would integrate all inbound and outbound activities with base operations capabilities while coordinating with CENTCOM for requirements and TRANSCOM for strategic capabilities.

establishing the customs facility, passenger terminal, and joint movement coordination center at MK. MK as a forward operating site consists of three distinct areas: the permanent forward operating site, the temporary forward operating site, and MK International Airport. Romanian immigration requirements created a mandatory stop for all personnel at the temporary forward operating site.

To centralize reception and departure activities, planners developed options using existing infrastructure, new temporary facilities, or a combination of both. In all cases, the logical flow of inbound and outbound transient personnel served as the driver for facility locations.

As rapid COA development continued, the key decisions were the physical location of essential reception and departure activities and the mission command construct. USAREUR moved forward with both decisions the week it received the joint staff and EUCOM execute

Passenger Movement Facilities

Numerous options existed for

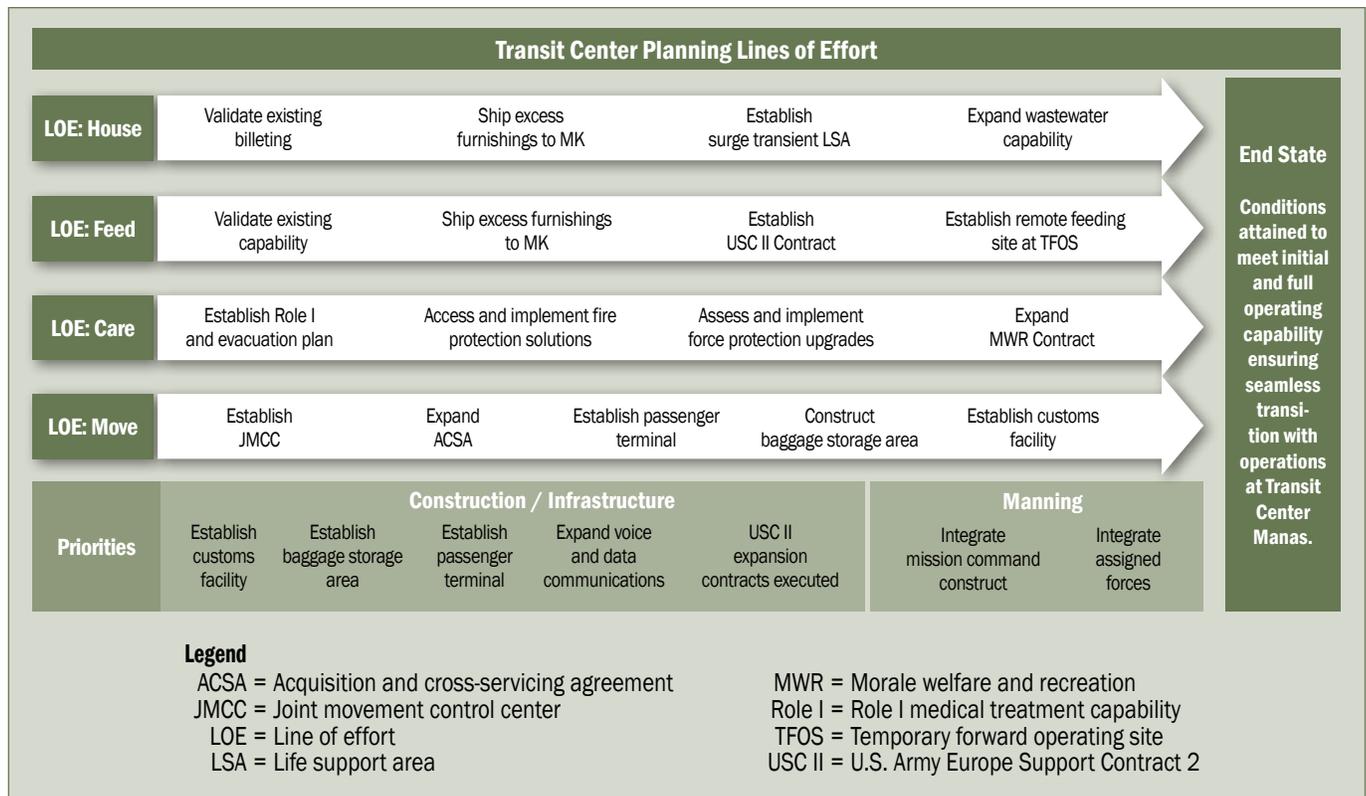


Figure 1. This chart compiles the actions taken to establish the transit center at MK Air Base in Romania.

orders, about 90 days before IOC.

USAREUR published its operation order three weeks later, directing the 21st Theater Sustainment Command (TSC) to provide overall mission command for passenger transit center operations. The order also directed contracting and engineering activities to establish the passenger terminal, customs facilities, and baggage storage areas on the temporary forward operating site. Once the COA was established and the infrastructure designed to facilitate the logical flow of transit center operations, manning and resourcing capabilities became the key concerns for the success of the operation.

Human Resources

All operational planners should apply the global force management (GFM) process. Understanding the flow and timeline of the GFM and Secretary of Defense Orders Book process is crucial for all planners in an operational headquarters.

For operations at MK, USAREUR's available force pool did not have all the capabilities needed to meet the mission requirements identified during mission analysis and COA development. For example, all movement control teams assigned to USAREUR were either deployed or in the Army Force Generation reset phase.

In conjunction with the USAREUR G-3/5 GFM branch, planners created requests for forces (RFFs) to meet movement control, law enforcement, customs, human resources, postal, facility engineering, religious support, and firefighting requirements. Before receiving the joint staff and EUCOM execute orders to conduct the passenger transit center mission, USAREUR provided EUCOM with the draft RFF.

For MK, the shortfalls identified and submitted using the RFF would eventually be validated and filled through joint staff sourcing directives. However, USAREUR worked with all subordinate organizations to generate short-term solutions to avoid mission failure at IOC. The bridging

solutions allowed for a scaled-back capability that would meet the IOC requirement directed by EUCOM and the joint staff until the RFF-sourced organizations arrived.

Indirectly linked to the human resources planning effort is the overarching protection requirement for a passenger transit center. Within the USAREUR G-3 is the G-3/4 Protection Branch, consisting of theater-level antiterrorism, force protection, law enforcement, and emergency management planners.

As the situation and requirements at MK developed, the G-3/4 planners further codified the numerous protection gaps. In many cases, the gaps could be mitigated by having personnel conduct the necessary protective measures. However, the GFM process was used heavily to requisition the appropriate forces for fire response and law enforcement.

The USAREUR team, in conjunction with the U.S. Air Forces in Europe, sent emergency management planners to MK early in order to adequately assess requirements and existing capabilities and then develop COAs.

Mission Command

Although the OPT developed several options for mission command, the only logical COA was to use the TSC. The TSC is best suited because it links strategic-to-tactical support organizations. In execution, it would serve two fundamental purposes: to develop the detailed plans and processes required to support the USAREUR mission and to execute the common user logistics responsibilities.

Developing and refining the mission command construct as early as possible proved challenging for the OPT. Continuous horizontal and vertical dialogue on mission command ensured shared understanding across the formation, but a formal decision on the mission command construct was not attained until 90 days before IOC.

The USAREUR Black Sea Area

Support Team provided mission command at MK during steady-state operations before the assumption of the passenger transit center mission. This team consisted of a small element with one military director and a civilian staff to coordinate life support for exercises and potential contingency staging. The team managed base operations similar to those of a garrison command, with the TSC-led mission command element that integrated movement control, aerial port, and base operations into a holistic, unified effort.

Equipping and Engineering

Because of MK's austere footprint, it lacked the equipment and facilities required to establish IOC. Specifically, USAREUR identified requirements in a number of core areas, including customs, a passenger terminal, communications, non-tactical vehicles, surge transient billeting, and wastewater management.

Through coordination with U.S. Army Central, USAREUR G-4 planners resourced baggage and body scanners from the CENTCOM area of responsibility. Both organizations verified the serviceability of the existing equipment and coordinated movement from the point of origin to its destination in Romania. USAREUR also established a service contract for the equipment.

Communications equipment across Germany was located, centralized, and shipped to Romania. The closure of dozens of U.S. bases in recent years helped this effort. For automation, however, the USAREUR G-6 worked closely with CENTCOM, TRANSCOM, EUCOM, and other components to ensure automation requirements would be met.

Communications planners worked closely with engineers to stay abreast of construction timelines because of the shortened timeline between construction and IOC. USAREUR established a team to baseline all automation on site in Romania and

establish the expanded and redundant network.

From the first OPT session, USAREUR engineer planners began efforts to capitalize existing MK infrastructure while looking at potential troop construction requirements. Three areas made up the bulk of the engineering concept: the customs facility, the passenger terminal, and the baggage storage area. Although the existing facilities on the temporary forward operating site would handle a small transient population, they were inadequate for surge requirements

and created potential traffic management problems.

Engineer planners from the 21st TSC conducted site visits and assessments to begin developing construction requirements, resulting in a detailed plan that covered materiel, personnel, materials-handling equipment, and the overall timeline. Less than 30 days after receiving the mission and approximately 30 days before IOC, engineers deployed to MK and began building the customs facility, passenger terminal, and baggage storage area.

From Plans to Operations

Following publication of the USAREUR operation order, the OPT continued weekly meetings to work through emerging issues. Within three weeks of the order being published, the lead G-3/5 planner provided the USAREUR G-3/3 current operations branch with a comprehensive handover brief to formally put the plan in operation. A USAREUR G-3/3 current operations action officer, who had spent a month at MK, attended the recurring OPT meetings and effectively took over responsibility for moni-



Soldiers from the 2nd Brigade Combat Team (BCT), 101st Airborne Division (Air Assault), depart a bus and walk toward a C-17 transport plane at the MK Air Base Passenger Transit Center, Feb. 3, 2014. Soldiers with the 2nd BCT were the first group of Soldiers to use the passenger transit center as a transition point on their way into and out of the U.S. Central Command area of operations. (Photo by Staff Sgt. Warren W. Wright Jr)

toring MK operations on behalf of the command.

Army Doctrine Reference Publication 5-0, The Operations Process, lays out the plans-to-operations transition concept. However, this concept is rarely applied correctly. The MK planning effort at USAREUR ensured those who would be managing execution were involved in planning from the start.

The deliberate transition briefing included all planners from across the staff. Additionally, the subordinate organizations directly involved in execution were either present or received the briefing via Defense Connect Online.

During the weeks after the transition and before IOC, the USAREUR G-3/3 office provided the command with continuous situation updates. Further, it participated in coordination meetings with the 21st TSC and facilitated support for the TSC-led rehearsal of concept drill conducted before IOC.

Lessons Learned

After nearly 90 days of planning and coordination before the publication of the USAREUR operation order, the OPT identified several lessons learned that can be applied to future ISB or passenger transit center planning:

- The planning effort should identify the mission command construct as early as possible.
- The entire OPT should have an understanding of the GFM process and the implications of time in that process in terms of resourcing to meet a requirement.
- Equipping efforts must be worked early during planning to link movement of existing materiel with its destination and to establish contracts for equipment not in the inventory.
- Antiterrorism, force protection, and emergency management assessments must be coordinated and completed quickly in order



Sgt. James Curtis, a computer information technology specialist with the 21st Theater Sustainment Command's Sustainment Task Force 16, troubleshoots a satellite transmission terminal, Jan. 27, 2014, at MK Air Base. (Photo by Sgt. Maj. Michael Pintagro)

to rapidly implement infrastructure improvements and commit resources to mitigate force protection shortfalls.

- The OPT must continuously ask, "Who else needs to know?"

The OPT is a powerful planning mechanism, but if the right players are not at the table with the right questions being asked and answered, it will prove ineffective. Communication between combatant commands and component commands via Defense Connect Online and video teleconferences is critical to enabling shared understanding and a unified vision.

The operational planning effort to establish the passenger transit center began in August 2013 with Feb. 1, 2014, established as the IOC date. Over that six-month pe-

riod, planners from tactical through strategic levels coordinated and synchronized the continuously emerging requirements.

By February 2014, the passenger transit center opened with all facilities functioning, the staff trained and assembled, and a mission command element established. Within weeks, it quickly became the principal transit node for the theater because of the drawdown and eventual closure of the transit center in Manas, Kyrgyzstan.

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Ironhorse Brigade Soldiers work through basic issue item hand receipts during equipment draw operations at Camp Arifjan, Kuwait, Jan. 17, 2012. (Photo by David Ruderman)

The Role of Contracting Officer's Representatives

■ By Rodney M. Palmer

COOR

Contracting officer's representatives are essential in managing contracts in garrison and in theater and must be well trained and knowledgeable.

During military operations in support of recent contingencies, the Army increased its use of contractors because of force capacity restrictions, troop rotation policies, and certain military occupational specialty shortfalls.

The Army's increased reliance on contractors to support operations in Iraq and Afghanistan caused a parallel increase in the responsibilities of the requiring activities and operational commands to administer the operational contract support (OCS) functions of integrating, planning, and managing commercial support. The increased use of OCS resulted in increased reliance on unit-level contracting officer's representatives (CORs) to assist the requiring activities and contracting officer in providing contract oversight.

About the COR

After deciding to use contract support to meet or mitigate an identified and validated requirement, the requiring or supported unit leader must nominate a qualified person to serve as a COR. This is part of the requirements package development and submission process. The

requiring activity must ensure that the COR is trained and prepared to provide government oversight of contract execution.

The COR is a servicemember or Department of Defense (DOD) civilian appointed in writing by a contracting officer. The COR normally serves in this position as an additional duty, depending upon the circumstances. However, it is a key duty that cannot be ignored without creating risk to the requiring activity, operational command or U.S. government.

A COR's responsibilities include monitoring contractor's performance and performing other duties specified in the appointment letter. During the early phases of Operations Iraqi Freedom and Enduring Freedom, many requiring activities and supported units did not have enough CORs nominated, appointed, and adequately trained to meet contract support requirements. Ultimately, the assignment shortfall affected the ability of units to conduct contractor quality assurance surveillance and contractor performance evaluation and reporting.

CORs play a key role in repre-

Observations, Insights, and Lessons

■ By Chief Warrant Officer 4 Dane A. Patterson

While I was assigned to the Army Field Support Battalion–Kuwait, I served as a lead contracting officer's representative (COR) and provided contract oversight for a multimillion-dollar maintenance contract in support of Army Pre-positioned Stocks 5. My knowledge of contract management and oversight was fairly limited before I assumed my position.

As a senior automotive maintenance warrant officer, I had experience managing traditional Army maintenance operations in Army units, but other aspects of the job were uncharted territory for me. For one thing, the entire maintenance workforce consisted of contractors working for three separate contracting vendors.

Before assuming the duties as a

COR, I completed several online COR-related courses through the Defense Acquisition University.

I also attended a three-day COR course in theater. However, the bulk of my learning occurred once I received my COR appointment orders and began working. At that point, I realized that I had a lot to learn about being a COR.

Contract authority requires strict

senting the requiring activity and the contracting officer, providing contract oversight, and influencing the contractor to meet the terms and conditions of the contract.

Observations, Insights, and Lessons

The Combined Arms Support Command (CASCOM) Acquisition, Logistics, Technology-Integration Office collects observations, insights, and lessons (OILs) from many sources. Collection sources include CASCOM's command post exercise-functional, Division West culminating training events, CASCOM Reverse Collection and Analysis Team (R-CAAT) forums, OCS surveys, key leader interviews, after action reviews, and news articles.

OCS OILs are analyzed, shared, and integrated across the DOD OCS community of interest. The following are some of the key OILs regarding CORs with specific emphasis on doctrine and policy, organization, training, materiel, and leadership and education.

Doctrine and Policy

The DOD and Department of the Army (DA) published several orders, directives, and guidelines re-

garding COR selection and training, beginning in 2009. The guidance helped to shape the predeployment COR selection and training process.

The guidance also helped influence requiring activities to meet COR assignment challenges and correct shortfalls from the early phases of Operations Iraqi and Enduring Freedom.

In addition to DOD and DA COR guidance, the Forces Command published COR training and certification guidelines in its predeployment training message. The message provided great insight and guidelines regarding COR training; however, a key observation noted that the message was not effectively distributed to operational commands. During R-CAAT forums, many commanders indicated they were unaware of the Forces Command's predeployment training messages.

Organization

CORs are normally additional duty assignments. However, in many cases, because of the complexity and magnitude of a contract, CORs may be required to execute COR duties full time.

During several R-CAAT inter-

views conducted between 2011 and 2013 with unit commanders and their staffs, leaders indicated that, given their assigned operational missions and loads, they were not fully prepared to resource full-time COR requirements with organic personnel. Unit leaders must acknowledge and embrace contract oversight responsibilities early on during the predeployment process and carefully plan to use organic resources to provide appropriate contract oversight.

Institutional Training

The Army Logistics University and the Defense Acquisition University are primarily responsible for providing COR training and certification through various resident, online, and mobile team training venues. The COR may enroll and attend courses offered by the Army Logistics University and the Defense Acquisition University.

The courses are tailored to the complexity and magnitude of the performance work statement or contract. Based on mission analysis and contract oversight requirements, requiring activity leaders determine the level of training CORs will attend.

From a COR

adherence to the provisions of the performance work statement (PWS). However, the guidance outlined in the PWS did not always meet the real-time requirements. As a result, the commander on the ground had to make decisions and give guidance beyond what was spelled out in the PWS.

Letter of Technical Direction

Using a letter of technical direction (LOTD), a COR can address issues on the ground and make minor

changes that are within the scope of the PWS or contract without violating the contractual agreements. The LOTD process gave us (the other CORs in my unit and me) the capability to make expedient administrative changes without accruing additional contract-related costs.

The LOTDs were vetted with the contracting officer or administrative contracting officer (ACO) and contractor. The contracting officer or ACO had to approve each LOTD prior to implementation. These ad-

ministrative changes allowed us to modify the PWS quickly to fit the situation on the ground.

Corrective Action Request

CORs can use the corrective action request (CAR) process to influence contractor performance. A CAR is a formal request for a plan of action to correct deficient contractor performance based on the performance standards in the PWS.

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There are three types of COR certification standards:

- Type A: fixed price, low performance risk requirements.
- Type B: other than fixed price, low performance risk requirements.

Army leaders must embrace OCS and ensure that the COR puts forth the appropriate energy and effort to the mission.

- Type C: unique requirements that necessitate a professional license, higher education, or specialized training.

Each COR level requires a different menu of courses (online and resident) to meet certification standards. The COR certification standards identify technical competencies, experience, and minimum training needed for successful performance as a COR.

During R-CAAT leader interview sessions, most unit leaders indicated they were not fully aware of the DOD and DA stan-

dards for COR certification and the different types of COR (A, B, and C) courses. This subsequently resulted in many CORs attending courses that did not fully certify and prepare them to monitor and provide contract oversight of com-

plex contracts.

In addition to observations and insights regarding the levels of COR training, there are a few more institutional COR training-related OILs. All leaders need COR familiarization or awareness training. It should be integrated into professional military education for officers, warrant officers, and non-commissioned officers.

COR training must focus on the Quality Assurance and Surveillance Program, performance work statement development, COR audit, corrective action reporting, and corrective action plan development.

Operational Training

The Army Contracting Command, through the Expeditionary Contracting Command and its contracting support brigades, established additional COR courses in theater to provide training to meet theater-specific contract support oversight requirements. One of the key lessons is that to be effective and theater specific, COR training must be geared to operations and tailored to meet the anticipated duty description of the COR within a particular theater—not conducted using a cookie-cutter approach.

Customized Army Contracting Command contingency contracting training, conducted by a contracting support brigade mobile training team, was instrumental in certifying CORs and preparing a unit to assume significant host-nation trucking contract management missions.

Materiel

The DOD and DA developed and implemented several tools to aid requiring activities and CORs in performing duties and responsibilities. In March 2011, the DOD directed the

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During my tenure as a COR, I recommended level I and level II CARs. A level I CAR was issued for infractions or violations that could be corrected on the spot, and level II CARs were recommended for infractions that required a more detailed and extensive corrective action plan from the contractor. Although I did not recommend one during my tenure, a level III CAR can be issued for the most egregious violations of the PWS.

The CAR is an administrative action initiated by the COR and vetted by the contracting officer or ACO, the Defense Contract Management Agency representative for the con-

tract, and the contractor. If the infraction cited in the CAR is validated, the CAR is officially issued to the contractor. The contractor then develops a corrective action plan to correct the deficiency and mitigate future infractions.

Remediation and Audits

The other CORs and I addressed minor issues with contractor performance through the contractors' management team for immediate remediation. Knowing and using the contractors' management team afforded us a less punitive tool to deal with minor contractor performance issues. Over time, the process worked well and fostered a partnership with the mutual understanding that pre-

serving government resources and accomplishing the assigned mission were the top priorities.

We used regular COR audits as a key formal process to systematically verify contractor performance. In addition, we conducted continuous informal contract surveillance, which provided additional opportunities to verify that the performance metrics outlined in the PWS were being met.

Army War Reserve Deployment System

I had to learn and understand the functionalities of the information systems that the contractors used to execute their contractual requirements to effectively perform my COR duties. The Army War Reserve Deployment System (AWRDS) was

use of the Contracting Officer Representative Tracking (CORT) Tool.

The CORT Tool is designed for use by military departments and defense agencies for all contracts with CORs assigned. The tool is a web management capability for appointing CORs. It allows a prospective COR, COR supervisor, or contracting officer to electronically nominate CORs for one or more contracts. It provides built-in workflows for the nomination process, including email alerts and status reminders for monthly status report deadlines and delinquencies.

The CORT Tool provides contracting personnel and requiring activities with the means to track and manage COR assignments across multiple contracts throughout the DOD. Although the CORT Tool offers a great benefit for managing the COR program, operational units rarely use it because they are unaware of the DOD directive mandating its use.

Leadership and Education

In September 2010, the International Security Assistance Force commander issued contracting guidance articulating the impor-

tance of contracting in the overall mission. It stated that contracting is the “commander’s business.” Army leaders must embrace OCS and ensure that the COR puts forth the appropriate energy and effort to the mission.

From a leadership perspective, collected OILs indicate that commanders need additional tools and guidance to assist them in selecting the right person to act as a COR. R-CAAT feedback indicates that although CORs receive training, many are not experienced enough to deal with highly experienced contractors and to properly monitor contractor performance.

A remedy for this issue is to develop a list of considerations and recommendations for screening and selecting CORs and reemphasize the commander’s direct role in nominating CORs in precommand courses and during the predeployment training phase.

Commanders also must be aware of the major difference between command authority and contract authority and understand the available tools and resources to influence conformance and prevent nonperformance.

OCS continues to evolve. A key to effective contract support is consistent contract oversight. While the Army continues to leverage OCS capabilities to augment organic capabilities, requiring activities must embrace the role of CORs in providing effective contract management oversight.

As a representative for both the operational commander and the contracting officer, a COR acts as the eyes and ears to ensure contractors perform within established standards of the contract and that U.S. tax dollars are well spent. Unit commanders must ensure CORs are carefully selected, properly trained, and have the appropriate time to perform COR functions.

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the information system used to manage the maintenance operation for Army Pre-positioned Stocks 5.

I had no previous experience with the system, so I had to learn to use it quickly in order to provide the meticulous surveillance required to adequately oversee such a large contract. I used AWRDS to add another layer to our contract surveillance plan once I learned the capabilities of the system.

Command Oversight

The command team was actively involved in contract oversight. The CORs assigned to the organization conducted monthly performance feedback briefings at the battalion and brigade levels to keep the com-

mand team informed of contractor performance. This gave the command team the opportunity to assess contractor performance at the executive level.

The command team’s presence at the recurring meetings and interest in contractor performance were clear indicators of its dedication to the process. The command emphasis also stressed to the CORs the importance of their duties.

Because of the scope of responsibility associated with COR duties (especially on contracts of this magnitude) COR selection should be a deliberate process. Training should be tailored to ensure selected CORs possess the comprehensive knowl-

edge to effectively perform their duties for their respective contracts.

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A quality assurance noncommissioned officer conducts a maintenance spot check on Army Pre-positioned Stocks 5 equipment. (Photo by Annette McDonald)

The Role of Administrative Contracting Officers

■ By Maj. Robert J. Yates III, USAF

ACCO

Being the administrative contracting officer for the largest Army pre-positioned stocks contracts requires more than just contracting knowledge.

Between January and June 2013, the administrative contracting officer (ACO) for Army Pre-positioned Stocks 5 (APS-5) was responsible for administering three contracts involving over 1,800 contractor personnel. To successfully accomplish this, the ACO was required to serve as an integrator for the 402nd Army Field Support Brigade (the requirements owner), the contractor, the Army Sustainment Command (ASC), and the Army Contracting Command-Rock Island. This article captures the observations, insights, and lessons of the ACO of the largest APS contracts administered during the first half of 2013.

Initial Requirements

Prior to arriving in theater and assuming their duties, ACOs attend a four-day course called Basic Contingency Operations Training (BCOT). The purpose of BCOT is to familiarize deploying Defense Contract Management Agency (DCMA) civilians and military members with the roles and responsibilities of an ACO. During BCOT, DCMA provides the students with in-class instruction, scenarios, and practical exercises to prepare the ACOs for their deployments.

Individual augmentees assigned to DCMA-Kuwait, are selected for their assignments by the DCMA-Kuwait commander and theater ACO. Contracting officers typically are selected for positions based on their backgrounds and experiences. In most cases, contracting officers assigned to ACO duties must be Defense Acquisition Workforce Improvement Act (DAWIA) level II certified.

Contracting Authority

The ACO receives contracting authority from the DCMA headquarters or a designated official through the issuance of a Standard Form 1402, Certificate of Appointment, also known as a warrant. The warrant is set at a specific dollar limit and for a specific purpose.

In the case of individual augmentees supporting DCMA, ACOs are

granted the authority to administer contracts in a contingency environment. Most people dealing with U.S. government contracts know that only contracting officers can legally bind the government. However, contracting officers may only legally bind the government to the extent of the authority delegated to them (in accordance with Federal Acquisition Regulation 1.602-1). In addition, the procuring contracting officer (PCO) must delegate the authority to administer a specific contract to the ACO.

Ensuring Effective Oversight

The ACO for the APS-5 contracts is responsible for ensuring they are executed in accordance with the performance work statements (PWSs) and applicable contract clauses. The APS-5 contracts are primarily for maintenance and supply and require an ACO with extensive knowledge and the ability to monitor the performance of 1,800 contractors.

To accomplish effective oversight, the ACO relies on personnel more qualified in supply and maintenance activities to assist in managing the contracts. Contracting officers routinely appoint contracting officer's representatives (CORs), nominated by the requiring activity commander, to assist in contract administration.

The CORs and the extent of their authority to act on the behalf for the contracting officer are designated in writing. A service contract as large as the one for APS-5 requires many eyes to ensure that the government receives what it pays for. For this reason, over 30 CORs helped to support the contract. Because of the number of CORs, lead CORs were used to structure the flow of communication.

With CORs spread throughout multiple locations, the ACO primarily communicated through meetings with the lead CORs who, in turn, distributed the information down to the CORs. If an urgent matter required direct communication to all CORs, the ACO contacted them directly.

For the APS-5 contracts, CORs provided oversight of the contrac-

tor's daily performance. The CORs also performed audits and submitted reports to DCMA quality assurance representatives (QARs).

Ensuring Compliance

Although CORs were appointed by the contracting officer, their daily interactions were typically with QARs. The QARs mentored and guided CORs to help ensure contractor compliance with the PWS and applicable contract clauses. CORs also submitted their reports to the DCMA QARs for noncompliance matters.

The DCMA QARs then determined whether a corrective action request should be issued by them (level I or II) or if they needed to elevate the matter to the contracting officer (level III or IV). A corrective action request could be issued for contract noncompliance, deficiencies, or matters requiring immediate corrective action.

Together, the QAR and COR could then monitor the contractor's corrective action response, which included determining the root cause of the noncompliance and a plan to prevent the noncompliance from occurring again.

Preparing CORs for the Mission

Successfully administering a program of this magnitude requires trained CORs who know what they are doing. Although many CORs are functional experts, they may not be thoroughly familiar with the requirements to provide oversight of contracts and contractors. CORs receive a lot of computer-based training before deploying and then local, contract-specific training when they arrive in theater.

For the APS support contract, the ACO took on the major task of ensuring the CORs had the tools needed to succeed. The ACO teamed up with the brigade contract management support office to offer biweekly training to CORs. This training built upon the required predeployment COR training and focused on deficiencies identified during daily interactions with CORs. Tailored training provided lessons learned and highlighted specific tools to help CORs administer contracts.



Soldiers from the receiving unit conduct a joint basic issue item inventory with personnel assigned to Army Pre-positioned Stocks 5. (Photo by Master Sgt. Betheny Jones)

Additional ACO Requirements

The APS-5 ACO had many responsibilities not typical for DCMA Contingency Contract Administration Services positions in Kuwait. Since the APS-5 program was based out of the ASC, the daily management of this contract required constant communication with the battalion, brigade, ASC, and Army Contracting Command—Rock Island.

The ACO attended multiple weekly meetings with the contractor, the CORs, and the battalion commander to assist in the flow of communication between the on-the-ground user and the contractor and to mitigate issues on the spot. This eliminated delays and problems that could have transpired because of misinterpretation of PWS language or inconsistencies in government communication.

When issues could not be resolved immediately, the ACO communicated them back to the PCO or program management team at ASC. Sometimes unresolved questions required a formal response or change to the PWS or the contract. PCOs made the contract modifications. However, the ACO's task was to assess the contract to determine if a contract modification was warranted. If the correct wording was already contained in the PWS and only required clarification, a letter of techni-

cal direction (LOTD) was issued.

Because of the broad scope of the APS-5 contracts, many actions required further definition during performance. This is where the LOTD process assisted in effectively administering the contracts. Once the LOTD was drafted, it was coordinated with the PCO and program management team for release. The clarification language from the LOTD was later included in a contract modification.

Working as the ACO for the APS-5 contracts provided many lessons learned for future contracting operations. Above all, large, technical contracts especially need additional expertise from sustainers to ensure they are being administered correctly.

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R4D: Uniting the Logistics Enterprise in Afghanistan

The retrograde, reset, redeployment, redistribution, and disposal mission in Afghanistan requires the collaboration of every partner within the joint logistics enterprise.

■ By Lt. Col. Jason J. Hanifin

The U.S. military will spend the next several years focused on planning and managing the retrograde, reset, redeployment, redistribution, and disposal (R4D) of materiel in Afghanistan. This mission will be daunting, considering the scope and scale of the retrograde and the simultaneous wide-area security operations.

This logistics challenge has created an environment in which every agency in the logistics enterprise must participate in order to establish a global supply chain. The shift from Operation Enduring Freedom (OEF) priorities to R4D operations has unified logisticians across the enterprise to execute this mission in a landlocked combat zone.

The level of success required can be achieved only by using a common operational picture of the combined joint operations area, which the U.S. Forces-Afghanistan (USFOR-A) J-4 fusion cell provides.

Retrograde in Afghanistan

Retrograde is defined in Joint Publication 4-09, Distribution Operations, as “the process of moving non-unit equipment and materiel from a forward location to a reset (replenishment, repair, or recapitalization) program or to another directed area of operations to replenish unit stocks, or to satisfy stock requirements.”

The publication states that “retrograde materiel consists of serviceable, unserviceable, economically repairable items and weapons

systems destined to a source of repair, refurbishment program, or DLA [Defense Logistics Agency] Disposition Services.”

Within the R4D system in Afghanistan, retrograde materiel also includes unit and nonunit equipment, government-owned, contractor-operated equipment, and other Department of Defense materiel across the country.

The R4D system involves not only moving equipment destined for reset actions but also intratheater redistribution and redeployment of all equipment needing disposition.

As equipment in Afghanistan is identified and accounted for by service, departmental, and DLA systems of record, more than a decade’s worth of materiel buildup is being accounted for.

The process requires intense management of disposition instructions and a reverse supply chain network designed to redistribute, retrograde, redeploy, and dispose of materiel.

The massive amount of materiel being processed represents all classes of supply and includes base support materiel and facilities. This volume of equipment is too much for any single-service logistics system and requires the collaboration of partners across the joint logistics enterprise (JLEnt).

The Joint Logistics Enterprise

Because the OEF drawdown is so extensive, it requires almost every

logistics partner within the JLEnt to contribute expertise and business practices to build efficient and unified action.

This network, bound by a common goal, has established a multifaceted supply chain that can quickly handle a high volume of materiel flowing out of the battlefield while replenishment materiel is still effectively flowing in.

The partners bring different skill sets to the supply chain, which involves lines of communication throughout the globe.

The unified action partners include the U.S. Joint Staff J-4, service departmental logistics staff officers, the U.S. Transportation Command, the Army Materiel Command (AMC), other comparable service materiel commands, DLA, the U.S. Central Command (CENTCOM) J-4, service component logistics staffs, USFOR-A, the International Security Assistance Force (ISAF), NATO and coalition logisticians, the 1st Theater Sustainment Command (1st TSC), other governments (such as Kuwait), and a plethora of commercial activities.

Many of these partners are embedded with operational units throughout the combined joint operations area.

This fosters an ability to capture requirements, provide in-transit visibility, and redistribute materiel identified by the USFOR-A J-4’s and other ISAF commanders’ priorities while continuing to provide

effective sustainment to current and planned operations.

Each partner within the global team brings a unique specialty, pooling organizational capabilities, management control mechanisms, and contracts ranging from the U.S. industrial base to foreign partners.

The benefits of having a complex web of agencies involved in the R4D OEF operation are many. The most noteworthy are the shared financial burden, the efficiencies gained in economies of scale, the synergies attained in mutual support, and the shared expertise to manage ongoing process improvements in a difficult operational environment.

Overcoming Challenges

The challenges are not overwhelming for such an adaptive, conglomerated system held together not by command but through unified action that capitalizes on instant communications and shared understanding.

The regulated velocity (speed and direction) of materiel from which R4D is derived is from the ISAF commander's priorities and his declared end state.

The USFOR-A J-4 fusion cell links the JLEnt to NATO, which connects to a support network and establishes a total systems approach to sustainment. The materiel reduction is a massive undertaking, but the JLEnt can provide clarity through shared metrics that represent system performance.

The R4D mission being accomplished through the unified action of the JLEnt partners requires a complementary mission to provide support to more than 100,000 coalition Soldiers, Sailors, Airmen, Marines, multinational civilians, and contractors in theater.

This mission requires an intense effort to regulate multiple materiel flows and ensure that the supply chain can meet both the demands of the numerous customers on the

ground and the specified time line for withdrawal of forces.

Results

The JLEnt's success over the last year was confirmed by R4D performance metrics. The JLEnt pro-

Each partner within the global team brings a unique specialty, pooling organizational capabilities, management control mechanisms, and contracts ranging from the U.S. industrial base to foreign partners.

cessed and established velocity for more than 12,000 pieces of rolling stock, 1,400 20-foot equivalent unit containers, and 690,000 pieces of other equipment.

It also disposed of more than 40 million pounds of materiel, reduced the number of shipping containers by more than 20,000, and reduced the number of operating bases in the combined joint operations area by more than 14. Through careful management, the effort saved more than 14 billion dollars.

This integrated network was not without flaws, and there were some missteps along the way. The R4D process was cumbersome when it came to the multiple inputs of data from various sources, which led to different operational pictures.

This, in turn, led to decisions that shifted priorities and delayed the flow of materiel until the data points were properly vetted. The J-4 fusion cell adjudicated the information and fostered the crosstalk within the JLEnt to adjust the sustainment to fit the circumstances.

The key for the JLEnt is for the network to adapt to the complexity of multiple mission sets along with the missteps and to reorient efforts to learn from them. This was properly accomplished in Afghanistan and fostered continuous improvement along with an effective supply chain.

As ISAF nears the final stages of R4D operations in Afghanistan, it is imperative that the Army document the highly successful logistics practices that were implemented as well as learn from the missteps.

In reviewing these practices and

mistakes, we also need to address the issue of educating logisticians on this JLEnt model in support of future globally integrated operations described in the Capstone Concept for Joint Operations: Joint Force 2020.

In this fiscally challenged era, the JLEnt can be synchronized and applied to home station training, training centers, and predeployment training as well as to the unpredictable future operations.

The complex and adaptive system that worked so brilliantly in Afghanistan R4D operations must become the new norm. The goal of every potential partner should be to contribute to a globally responsive logistics system.

The logistics community should work to institutionalize the JLEnt model so that our future logistics leaders can provide the freedom of action needed in operations that will require simultaneous R4D and theater sustainment missions similar to the drawdown in Afghanistan.

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Coalition soldiers inventory an initial shipment of supplies, called “Warlord,” for the 205th Corps, Afghan National Army, Jan. 13, 2014, at Camp Hero, Kandahar, Afghanistan. (Photo by Cpl. Mariah Best)

Warlord Tiger Team

Regional Command South in Afghanistan established a team to assist the Afghan National Army in preparing to provide its own logistics.

■ By Chief Warrant Officer 2 Courtney S. Townes

The old English proverb, “For want of a nail, the kingdom was lost,” neatly summarizes the challenge faced by the Afghan National Army (ANA). The ANA has significantly improved its capabilities in the past five to six years. But, although the ANA seems to be doing well operationally, it is still challenged by logistics—specifically class IX (repair parts) management. To address this shortcoming, the Regional Command (RC) South Afghan National Security Forces

(ANSF) development cell formed a “tiger team” to address its class IX management issues.

The Problem

The 201st Brigade Support Battalion’s supply team identified three specific challenges. The first was that the ANA logisticians had no understanding of bin labeling concepts, the minimum/maximum theory, or how to optimize use of space.

Second, the ANA used an analog supply chain management system

that did not capture demand history or provide a common operational picture. With no common operational picture, leaders at the corps and division levels had no way to make sound logistics decisions.

Third, ANA leaders were overwhelmed by the number of Ministry of Defense (MoD) Form 14s, which are used to requisition and issue parts. As a result, the MoD Form 14s were not processed and the ANA just pushed whatever parts they had available.

These problems were compounded by a lack of fundamental understanding of class IX management that resulted in stockpiles of unused and unwanted parts while critical parts remained in a short supply across the ANA.

The Tiger Team

RC South learned that a major foreign military sales push of class IX parts was scheduled for the ANA in December 2013—a push called “Warlord.” The ANSF development cell was concerned that the push would not benefit the ANA without some consolidated training on spare parts management.

To address these challenges, the ANSF in RC South assembled the Warlord Tiger Team (WTT), of which I was a member, to help the ANA with its logistics issues. The team comprised Soldiers from the 3rd Brigade Combat Team, 1st Infantry Division, and from the 2nd Cavalry Regiment.

The WTT’s goal was to train ANA noncommissioned officers and senior logisticians on how to manage class IX parts. Our training objective was to have the Afghans develop a methodical process for storing and issuing parts.

Under the supervision of the security force assistance teams already assigned to the training brigade, the WTT acted as a mobile training team, directly training Afghan forces. Feedback from each brigade’s assistance team revealed a need to remove some excess parts from the brigade footprint. The hope was that if we could help remove this excess and show results during the Warlord delivery, the ANA forces would develop confidence in their supply system.

CSSK Training

On Oct. 17, 2013, the WTT began training the ANA 205th Corps’ combat service support kandaks (battalions) (CSSKs). We planned to visit all four 205th Corps brigades in RC South. The plan was

to build the ANA’s confidence in the system and prepare the ANA to receive the Warlord push by constructing warehouse bin locations and teaching the concepts of stock control management, including the use of minimum and maximum reorder points.

The WTT taught the CSSKs systematic reorder point processes in order to sustain the ANA fleet. Although it was clear that training was required for this to be successful, training by itself would not work. It took U.S. Soldiers working shoulder to shoulder with the ANA soldiers in order to understand the ANA’s analog methods and create applicable training. Actions spoke volumes, so the WTT, with help from some 3rd Brigade Combat Team engineers, went to work.

The team constructed shelves and bins for repair parts and made cards to mark which parts would go where. We also helped the CSSKs physically move parts from excessive piles onto marked shelves.

The first order of business was to develop the programs of instruction for this mission. To do this, the WTT partnered with the team from Engilty, a contractor who has been teaching the Afghans about logistics for the past 12 years. Each WTT member was taught the prescribed program of instruction before moving to his mission location.

After arriving at a forward operating base, the WTT partnered with logistics security forces assistance team members to resource materiel requirements and identify specific training requirements for the CSSKs. The WTT’s main teaching themes were class IX management, bin label concepts, and class IX management practices.

Class IX Management

The class IX management training focused on the importance of minimum and maximum reorder points. This concept allowed warehouse managers to replenish their class IX repair parts. The U.S. Army has the

benefit of the Standard Army Retail Supply System and other software programs to automate these processes, but we had to teach its Afghan partners to do this manually.

The stock record account was used to account for stock and collect demand data. Students also learned methods for gathering demand data during their warehouse operations in order to compute valid demand rates. This was a new management process for Afghan logisticians. Once this method was applied, it provided the managers with the capability to manage countless stock records and forecast demands.

Bin Label and Stock Locator Concept

The WTT taught the bin label and stock locator concept as a mechanism to ensure parts were where they were needed. Having parts in place prior to inventories allowed the ANA soldiers to understand and have confidence in using the minimum/maximum theory. These methods helped ANA logisticians understand how to order specific items and the importance of replenishing authorized stockage list (ASL) items.

Applying these methods allowed the ANA soldiers to have a sound understanding of what parts needed to go where and why. These methods were implemented to allow the ANA soldiers to determine the optimal order level quantities and to set their safety levels at each stock location so their ASL never reached a zero balance.

Management Practices

The WTT created and implemented management practices known as the issue ledger and the class IX master ledger, which gave ANA leaders visibility of what was on hand and what was on requisition. This allowed the ANA to have a logistics common operational picture for class IX parts for the first time.

The WTT established an efficient way to inventory class IX repair

parts. The class XI master ledger documents all ASL items issued or distributed to customers. It is used daily and reconciled weekly, giving leaders visibility of all supplied class IX and highlighting redundant parts pushed from higher echelons.



Coalition soldiers unload an initial “Warlord” shipment of supplies for the 205th Corps, Afghan National Army, Jan. 13, 2014, at Camp Hero, Kandahar, Afghanistan. (Photo by Cpl. Mariah Best)

Evaluating Success

It is too early to tell if the training was successful. However, the WTT saw some improvements when the ANA soldiers built shelves and bins and then labeled them. We saw them correctly store parts as they came in.

We also realized the training must be reinforced. Hopefully, as our combat forces return home, logisticians will continue to have opportunities to train, teach, and advise our Afghan partners on how to become more efficient in class IX management and other logistics functions.

Star Students

As part of the WTT, we had an opportunity train brigade soldiers at the lowest levels; however, this capability will decrease with time as the number of U.S. forces remaining in Afghanistan decreases. Knowing this, the ANSF development cell tasked the WTT with identifying “star students” to provide the train-

ing in the absence of U.S. forces.

Following the guidance from the ANSF development cell, we identified as star students those who were engaged and excited about the class. These students took special interest and ensured the WTT understood

not only the U.S. way but also the ANA way. Approximately four soldiers from each brigade were identified as stars; they were the ones who took time to teach our concepts to the other ANA soldiers in the class and ensured that leaders within their organizations were engaged and believed in a common goal.

These students were recognized at the end of class in front of their leaders and peers as stellar soldiers who have ability to train the trainer if needed within their brigade. The WTT also left a leader’s book that had each student’s profile, annotating with two stars if they were stellar. In this way, we trained some trainers who could be called upon to retrain if necessary. The book was left with each brigade’s S-4.

Adopting ANA Ways

The WTT took on this project not only to teach the U.S. way but also to adapt ANA solutions. As part of our

training strategy, we applied their learning methods to our training program.

We learned that the ANA had all their class IX parts in a consolidated area. With this, they were able to maximize their locations, store like items in containers, and use a daily issue log book. They called this book their property book, and it contained all transactions conducted as part of their warehouse operations. This book was very detailed and maintained only at the company level.

The property book was used for class IX items coming from higher headquarters, on hand balances, modifications to inventory, and current issue logs. Even though the ANA soldiers had no automation, they were still able to have visibility of what they maintained at the company level. As the WTT got more involved in their operations, it enhanced their concepts, educated key leaders, and built the ANA soldiers’ confidence.

By having the technical experience, the team was able to facilitate and develop the ANA soldiers’ skills in class IX management. Class IX management skills are vital to improving proper logistics effectiveness and mission readiness. Working with an analog supply system was a humbling experience that provided increased awareness of how important class IX management is within the U.S. Army.

The WTT rectified the ANA’s deficiency in class IX management and established a successful partnership between U.S. and Afghan soldiers through teamwork, self-confidence, trust, and friendship.

Chief Warrant Officer 2 Courtney S. Townes is a supply systems technician. He is a graduate of the Warrant Officer Candidate Course and the Warrant Officer Basic Course.



The Petroleum Quality Analysis System-Enhanced, located at Kandahar, Afghanistan, with the 601st Aviation Support Battalion, provided expedient, qualitative petroleum laboratory testing for all U.S. Army units and contractors in and around Regional Command South. (Photo by Sgt. George W. Slaughter)

Petroleum Quality Analysis System-Enhanced Operations in Afghanistan

The 601st Aviation Support Battalion ran a laboratory to check fuel quality for units operating in and around Regional Command South in Afghanistan.

■ By Sgt. George W. Slaughter

In August 2013, the 601st Aviation Support Battalion deployed its Petroleum Quality Analysis System-Enhanced (PQAS-E) to Kandahar Airfield, Afghanistan, with Task Force Guardian in support of Operation Enduring Freedom.

In garrison, the Task Force Guardian PQAS-E team provided daily qualitative petroleum laboratory testing. To accomplish the mission in theater, the PQAS-E team needed to address and overcome multiple challenges, including the need to conduct 24-hour operations, acquire supplies for those operations, and learn in-theater shipping

and receiving procedures.

About the PQAS-E

The PQAS-E is a self-sufficient, mobile fuel laboratory that uses current fuel analysis technologies to meet Military Standard 3004C, Quality Assurance/Surveillance for Fuels, Lubricants and Related Products.

PQAS-E operations are designed to be carried out by three military occupational specialty 92L (petroleum laboratory specialist) Soldiers. The system includes a 30-day supply of all expendable items, but it does not include the fuel needed to operate the attached generator.

Garrison Operations

Before deploying to Afghanistan with Task Force Guardian, the PQAS-E was located at Marshall Army Airfield at Fort Riley, Kansas. At home station, the PQAS-E processed fuel samples for all of Fort Riley and Fort Sill, Oklahoma, including samples from civilian contractors. From October 1, 2011, to August 2013, the PQAS-E processed 1,440 samples, testing over 8 million gallons of fuel.

Operations in Afghanistan

The mission of Task Force Guardian's PQAS-E at Kandahar Airfield was to provide expedient,

qualitative petroleum laboratory testing for all U.S. Army units and contractors in and around Regional Command South.

The PQAS-E, located in A Company's fuel and water platoon, could perform complete or modified A, B1, B2, C, and filter effectiveness analyses on kerosene-based fuels (JP8, JP5, Jet A, and Jet A-1), diesel, and motor gasoline. Samples were delivered to the PQAS-E from surrounding areas by both civilian and military transport.

Having the PQAS-E in theater minimized equipment downtime during the testing process. When a fuel source (such as a tank or a bag) is tested, the equipment is taken off-line until the test results return and the operators know the quality of the equipment or fuel.

Normally this process takes up to 72 hours because the sample has to be transported to an off-site laboratory. The PQAS-E, however, reduces the process to as few as 3 hours, depending on the distance from the source to the testing facility.

During the final months of the deployment, the PQAS-E also provided qualitative petroleum laboratory testing for the 328th Quartermaster Detachment and tested samples from parts of Regional Commands Southwest and South. During one 30-day period in theater, the PQAS-E tested samples for over 1.24 million gallons of fuel.

Overcoming Challenges

While deployed to Afghanistan, the PQAS-E team had to adapt to overcome challenges never faced in garrison. These included on-call operations, new shipping and receiving procedures, supply acquisition, and personnel shortfalls.

Providing on-call operations. In a garrison environment, the PQAS-E has certain hours of operation, but in theater, the team was required to maintain 24-hour operations and perform its duties at a moment's notice. To accomplish this, all members of the team

trained on all aspects of PQAS-E operations and were required to maintain phone contact so that when emergencies arose they could be dealt with promptly.

Learning new shipping and receiving procedures. A second challenge was learning the in-theater shipping and receiving procedures for processing samples, which are different in Afghanistan than in garrison.

At Fort Riley, units submit samples by sending personnel from their unit with the sample in hand. If the sample is mailed to the PQAS-E from outside of Fort Riley, sampling supplies are not sent back to the unit submitting the sample.

In theater, however, samples from outlying forward operating bases are sent to the PQAS-E on aircraft. Since sampling supplies (such as sample cans and shipping boxes) are not readily available in theater, the PQAS-E must provide each unit with the sampling supplies to assist them in ensuring proper sampling standards and timelines are met each month. Each shipment of supplies contains a copy of the unit's most recent sample results.

Acquiring supplies. Another challenge the team faced in theater was the logistics of acquiring supplies for the PQAS-E, including supplies for testing samples and maintaining the attached environmental control unit and generator.

When the PQAS-E was originally issued to A Company from Rock Island Arsenal, Illinois, supplies were sent directly from Rock Island to the PQAS-E. During the deployment, the ordering process was transitioning from being Rock Island Arsenal's responsibility to a unit-level responsibility.

Some of the supplies required to conduct testing, including Milipore filter paper, are class VIII (medical materiel), which the unit supply clerk was not authorized to order. The PQAS-E's environmental control unit and generator did not use the same components as

other Army equipment, so the unit did not keep them in stock, making maintenance supplies difficult to obtain.

To overcome this gap in the transition process, the PQAS-E team worked with a supply noncommissioned officer at the troop medical clinic to fill class VIII needs. Additionally, maintaining daily communication with personnel in the prescribed load list office allowed the team to fill requests for special maintenance supplies.

Overcoming a personnel shortfall. The PQAS-E system is designed to be operated by three military petroleum laboratory specialists; however, the 601st Aviation Support Battalion's PQAS-E consisted of only two after one of the three redeployed. The two remaining laboratory specialists learned to communicate and function as a team as well as individually. Both learned all facets of PQAS-E operations in order to maintain the same level of PQAS-E support and achieve the mission. Daily meetings kept each 92L up to date on current tasks.

The key to overcoming these challenges was realizing that every potential issue had a resolution as long as team members were willing to learn new skills and maintain communication. By adapting to new conditions, the Task Force Guardian PQAS-E team demonstrated that it was prepared to uphold the standards of fuel testing, maximizing equipment operations time, and allowing units to conduct their missions.

Sgt. George W. Slaughter is the noncommissioned officer in charge of the petroleum laboratory specialists and the Task Force Guardian Petroleum Quality Assurance System-Enhanced, A Company, 601st Aviation Support Battalion, 1st Combat Aviation Brigade, 1st Infantry Division, out of Fort Riley, Kansas.



Soldiers from the fuel and water platoon set up an Advanced Aviation Forward Area Refueling System. They connect the 500-gallon fuel blivets to hoses that are connected to a pump, power unit, and filter/separator. Once set up, the system will provide two refueling points. (Photo by Spc. David Maness)

Jump FARP Operations in Afghanistan

Preparing to provide a jump forward arming and refueling point in Afghanistan required the fuel and water platoon of the 601st Aviation Support Battalion to practice providing that service.

■ By 1st Lt. Daniel Bolon

During the retrograde of personnel and equipment from numerous forward operating bases throughout Afghanistan, the footprint of regularly manned forward arming and refueling points (FARPs) in the area of operations decreased. This created the need for an expeditionary refueling and rearming capability to support coalition force operations across Regional Command South. To address this need, Soldiers of

the fuel and water platoon of the 601st Aviation Support Battalion, Task Force Guardian, prepared for jump forward arming and refueling point (JFARP) operations.

A Unit in Transition

When the fuel and water platoon began its deployment at Kandahar Airfield (KAF), it manned a hard standing FARP to refuel the brigade task force's UH-60 Black Hawk, OH-58 Kiowa Warrior,

AH-64 Apache, and CH-47 Chinook helicopters.

Because of force manning reductions, many of the battalion's Soldiers redeployed to Fort Riley, Kansas. The fuel and water platoon remained to provide a JFARP capability. To free the platoon for this mission, the FARP was turned over to contractors. During the transition, the fuel and water platoon trained more than 20 contractors to assume FARP operations at KAF.



Spc. Rene Torres and Spc. Justin Gerdes connect two 50-foot fuel hoses while setting up a jump forward arming and refueling point using the Advanced Aviation Forward Area Refueling System at Camp Hero, Afghanistan. (Photo by Spc. David Maness)

Focus on JFARP

After handing over the FARP, the platoon turned its focus to JFARP operations. While the platoon was hard at work preparing equipment and personnel to deploy a JFARP team, parallel planning was taking place at the battalion, brigade, and combined joint staff levels to ensure all operations and courses of action were properly analyzed, compared, and understood.

A JFARP can be conducted in numerous ways, all of which are mission dependent. There are three primary methods:

- Sling load 500-gallon fuel blivets from a Chinook, fly to the proposed JFARP location, and establish a FARP using the Advanced Aviation Forward Area Refueling System (AAFARS).
- Ground convoy to the JFARP location in M978 heavy expanded-

mobility tactical trucks (HEMTTs) with 2,500-gallon tankers and set up the HEMTT Tanker Aviation Refueling System (HTARS).

- Employ a “fat cow,” which is a Chinook outfitted with 800-gallon extended-range fuel system tanks and hoses.

During its JFARP training, the fuel and water platoon conducted all three types of operations and validated the associated refuel systems.

Pros and Cons

Each type of JFARP operation and equipment has its pros and cons to consider during planning.

AAFARS. Using the AAFARS system provides suitable aviation refuel capability for 24 to 72 hours. It rapidly employs all necessary personnel and equipment using Chinooks. It also gives units more

options for site selection.

One con to the AAFARS is that it is primarily deployed using Chinooks, which have weight limitations when flying in the mountains of Afghanistan. Multiple trips may be necessary to get all equipment and personnel to the location. Another con is that, depending on the mission and aircraft to be refueled, multiple 500-gallon blivets may be required. Resupply factors must be considered when determining CH-47 requirements and mission synchronization.

When planning a JFARP using the AAFARS, sling-load operations are integral to the process since they are the primary means of deploying the blivets and sometimes the container used to store the AAFARS.

HTARS. Conducting a ground convoy using HEMTT tankers provides high fuel capacity, which

can be increased easily depending on the mission and number of HEMTTs available. The high capacity reduces the number of resupplies required on site after the JFARP is in place and operational.

Ground convoy operations come with added risks, including increased security implications and enemy threat potential before and after refueling operations. Performing preventive maintenance checks and services on HEMTTs and including a security escort are paramount to a successful JFARP when employing HTARS.

Fat cow. Like the AAFARS, a fat cow JFARP provides rapid employment and more site choices while operating under minimal enemy threat potential to and from the site. Since this system requires the use of aircraft, it comes with weight limitations. This primarily affects how much fuel or how many 800-gallon extended-range fuel system tanks can be safely transported.

The fat cow can be used to either refuel aircraft for a short time or resupply another JFARP by refueling blivets that are already in place, for example. Effective synchronization between the flight unit providing the Chinook and the fuel unit providing the personnel to conduct refueling operations is important.

Innovating While Training

While training and preparing to employ a JFARP, the fuel and water platoon experimented with different ways to execute operations, such as using a fat cow to resupply an AAFARS FARP, which is not normally done.

The platoon also experimented with ways to package systems for employment. Using the basic issue item box, the platoon fit a whole HTARS inside the cab of a HEMTT, reducing the need for additional cargo transport vehicles for convoy operations.

Although a tricon container is part of the AAFARS component

item list, the platoon packed all necessary pieces of the system on an Air Force 463L pallet. This allowed the platoon to load the AAFARS into a CH-47, which decreased the need for additional sling loads.

Even though each system is designed to be employed a certain way, it is invaluable to have Soldiers who are capable of referencing doctrine, such as Field Manual 10-67-1, Concepts and Equipment of Petroleum Operations, and leaders who can innovate and execute missions tailored to certain situations in a combat environment.

Validation Exercise

The fuel and water platoon trained with the 142nd Combat Sustainment Support Battalion and learned its tactics, techniques, and procedures for convoy operations. The platoon also trained with the 2nd Cavalry Regiment Support Squadron (RSS/2CR) to learn convoy and site security integration. This training proved valuable to the platoon and prepared it well to execute a validation exercise.

The validation exercise consisted of a ground convoy with two HEMTTs escorted by RSS/2CR Strykers to a location outside KAF. At the chosen JFARP site, RSS/2CR emplaced security at the landing zone and the platoon set up a two-point FARP using the HTARS and refueled one CH-47.

After completing the HTARS validation, the CH-47 flew back to KAF, where the platoon's sling-load team hooked up two blivets. The CH-47 returned to the JFARP site with the blivets and the internally loaded AAFARS. After cutting sling on the blivets and downloading the AAFARS, another FARP was set up. Once the AAFARS was set up and validated, the JFARP team convoyed back to KAF, reset personnel and equipment, and conducted an after-action review.

The platoon trained for fat cow

operations with the 2nd General Support Aviation Battalion, 1st Aviation Regiment, at KAF, which familiarized the unit with the Chinook, extended-range fuel system tanks, and associated hoses and connections necessary to employ the system.

After conducting numerous dry runs, the platoon was able to roll out the system and emplace all safety equipment, such as grounding rods, drip pans, and fire extinguishers, in less than five minutes.

A similar joint training plan to certify all three systems for use is highly encouraged for units that will be responsible for comparable refuel operations. Certain personnel within the platoon should be designated to be responsible for different aspects of the mission, such as landing zone control or air-ground integration.

In garrison, it is easy to become complacent while operating a permanently established, hardstand FARP. It is important that a unit providing refuel operations for aircraft remain trained and prepared to execute a JFARP anywhere and at any time.

Fuel resupply catered to the needs of rotary wing aviation assets is ultimately the lifeblood of the aviation unit's operational capability. The clearly detailed and coordinated training plan that the Soldiers from the fuel and water platoon executed prepared them to support the combat aviation brigade in combat and provided best practices for future JFARP training for other units in the Army.

1st Lt. Daniel Bolon is the fuel and water platoon leader for the 601st Aviation Support Battalion, 1st Combat Aviation Brigade at Fort Riley, Kansas. He holds a bachelor's degree in political science from Wright State University and is a graduate of the Army Ordnance Officer Basic Course.

The Trials of a Forward Support Company at the JRTC

One forward support company learned the hard way how important training and planning are to providing support for a field artillery regiment.

■ By Capt. Vanessa L. Hooperyan and Master Sgt. Neil M. Lamont

During a recent rotation at the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, a forward support company (FSC) supported the 1st Battalion, 319th Airborne Field Artillery Regiment (1-319 AFAR), 3rd Brigade Combat Team, 82nd Airborne Division, solely through reactive logistics and emergency resupply. The company's inability to provide proactive sustainment to its firing batteries was caused by several breakdowns within the system.

The 1-319th AFAR received support for all of its fire missions; however, the costs of the FSC being completely reactive for the 14-day training exercise were significant. These costs included Soldiers having minimal sleep between tactical convoys, the wrong supplies being delivered to firing bases, and the distribution platoon having to execute back-to-back convoys because of an inaccurate logistics common operational picture.

Tactical Convoy Operations

A tactical convoy is a deliberately planned combat operation to move personnel or cargo using ground transportation in a secure manner under the control of a single commander. Tactical convoys must have access to the current common operational picture and maintain an aggressive posture that is both agile and unpredictable.

Despite their danger, tactical convoy operations (TCOs) are necessary to get personnel and supplies

from point A to point B on the battlefield. A distribution platoon with a solid battle rhythm and higher headquarters planning support can provide its own security and ensure that the correct equipment and personnel are delivered with minimal incidents. The FSC executed 17 inefficient resupply TCOs and sometimes delivered no supplies at all.

The failures of these convoys occurred at various friction points in the brigade, battalion, and company logistics operations. These friction points were caused by the inability to come to a consensus on the firing battery's support requirements and what capabilities the FSC needed.

TCO Execution

Proper planning at the company and platoon levels plays a significant role in the success or failure of a TCO. According to Army Doctrine Publication 4-0, Sustainment, "through responsive sustainment, commanders maintain operational focus and pressure, set the tempo of friendly operations to prevent exhaustion, replace ineffective units, and extend operational reach."

The first TCO that the FSC executed put them on the road at night for more than 8 hours, and planning for the mission was nonexistent. Additionally, the convoy commander did not have any grid coordinates for the supported unit locations and only knew of general vicinities he had seen them occupy during the day. The convoy commander and assistant convoy com-

mander split up their TCO twice.

The first split was to get a wrecker because several trucks got stuck en route to the first firing base. In this first split, 360-degree security was never established, 0-5-25-200 meter scan checks for improvised explosive devices were not conducted, and the recovery crew had never conducted rehearsals or an actual TCO with their own distribution platoon.

The second split was to find the brigade support battalion and pick up a class V (ammunition) load to deliver to A Battery. During the second split, the assistant convoy commander had no clear picture of the route and locations of the brigade support battalion or the firing batteries, and the TCO had to reorient itself three times to reunite with the convoy proper.

Before departing for this mission, troop leading procedures were not executed to standard. Rehearsals were not conducted, precombat checks and inspections were glossed over using an ineffective checklist, load plans were not completed, and noncommissioned officer (NCO) supervision was lacking.

Even though the FSC was successful in recovering its stuck vehicles, no supplies were delivered to the firing points.

Several times the distribution platoon delivered to the firing batteries class V packages that did not have compatible projectile-fuse combinations because support requirements were inaccurately pro-

jected and given to the FSC. This caused batteries to receive only partial resupply packages, and the FSC had to execute back-to-back TCOs to deliver proper packages.

Staffing Challenges

The distribution platoon was made up mostly of new Soldiers with limited experience in conducting TCOs. They had never established a battle rhythm, a platoon mission-essential task list, or a standard operating procedure (SOP).

Given that this was a decisive action rotation, the platoon was unable to practice troop leading procedures with observer-coach/trainers before the force-on-force exercise and had not gone through the combat convoy lane of a situational training exercise. This training would have proven instrumental to their success. It also would have given them a chance to consider actions like react to an improvised explosive device, react to contact, and set a battle rhythm. Most importantly, the training would have helped them understand the planning process for conducting a successful TCO.

Learning Through Experience

The distribution platoon was challenged even with simple tasks throughout the rotation. Although the FSC Soldiers experienced many rotational pains, their openness to suggestion and doctrine and their eagerness to learn and grow assisted them in eventually setting battle rhythms and developing their troop leading procedures. TCO planning and NCO involvement became priorities and increased the morale of the FSC.

Many basic TCO questions were asked and answered at JRTC, including the following:

- How is recovery being applied to the TCO? Are the recovery crews embedded with the distribution platoon as they train and rehearse TCOs? Does the recovery SOP

make sense for both platoons?

- How is medical care under fire being conducted? Is the medic being employed correctly?
- What do the TCO primary, alternate, contingency, and emergency plans look like?
- Can the FSC communicate with the units within the area of operations and the batteries to which it is delivering supplies?
- Do the other units (to include

enough supplies were available to make the TCO worthwhile but instead with how to get the supplies on the road immediately.

Many times, the lack of planning led to the distribution platoon arriving back at the brigade support area after completing a resupply run to the three firing batteries only to learn that one of the batteries that they had just supplied needed one additional item delivered. This

Proper planning at the company and platoon levels plays a significant role in the success or failure of a TCO.

the unit being resupplied) know the FSC's location and where it is set up in a defensive posture outside of a firing point?

- Is the FSC familiar with the products that it is delivering? If a certain type of round is needed, does the requesting unit also need fuses or charges?
- Do NCOs and platoon leaders know their roles in planning a TCO with regard to pre-combat checks and inspections, load plans, and checklists? Who is submitting the trip ticket?
- Is the FSC delivering class III (petroleum, oils, and lubricants), class I (subsistence), and water in the most efficient and correct way? Should it deliver fuel to each truck or set up a safe fuel point on each compound? Should it do the same with water?
- Is composite risk management being conducted properly?
- Are leaders documenting failures in conjunction with after-action reviews in order to develop platoon and company SOPs and mission-essential task lists that make the FSC effective?

Lack of Planning

The battalion S-3 did not allow the FSC commander time to assess and get feedback from his leaders in the distribution platoon. The S-3 was not concerned about whether

in turn made most of the TCOs futile and destroyed the morale of the sustainment Soldiers who delivered these supplies.

On one such TCO to deliver class V to C Battery, the distribution platoon arrived at the firing base to find out that the whole battery had jumped locations in the middle of the night without notifying the FSC.

The S-3 should continuously track the location of the battalion's convoys along the routes and specify events that convoys must report to the tactical operations center, such as convoy departure, maintenance halts, and passes through checkpoints.

Staff Shortcomings

The battalion S-3 never got involved with TCO responsibilities. During one resupply TCO, the distribution platoon arrived at B Battery and set up a defensive posture on the north side of the battery's fighting position. (The distribution platoon was never able to get all of its vehicles on a fire position, so it became customary for them to form 360-degree security against the berm of the battery's fire point that they were resupplying.)

On this particular TCO, the mission was conducted at night, and as the platoon was set up in the defen-

sive posture, it received small-arms fire from the opposing force from the northeast. As distribution Soldiers returned fire, Soldiers from B Battery began to shoot their weapons at the FSC.

- level.
- Back brief the convoy reception plan, which must ensure a rapid turnaround so that the convoy can proceed to its next destination. The plan must include an

Not having a point of contact or knowing where the container delivery system bundles were dropped made it impossible for the battalion to know the amount and type of class V that was available for their firing points.

The battalion S-4 struggled to get a clear picture of what was on the ground, what was available for issue, and what firing batteries really needed. The failure to conduct sustainment synchronization meetings and be connected with the support operations section created a complete accountability breakdown. For example, a battery ran out of water, which should have been a wakeup call to the S-4.

Even when the battalion S-4 communicated accurate support requirements to the FSC, it was not always clear if the supplies were available and where they were located. Not having a point of contact or knowing where the container delivery system bundles were dropped made it impossible for the battalion to know the amount and type of class V that was available for their firing points.

The S-4 should have completed the following actions:

- Know and report quantities of supplies on hand in the battalion.
- Know planned maneuver operations 24, 48, and 72 hours in advance.
- Forecast items and quantities on the logistics status report based on expected consumption within 24 to 72 hours of upcoming operations.
- Specify desired delivery time windows for convoys to arrive at their destinations to allow resupply down to the platoon

intelligence update and procedures to be followed by gate security personnel, ground guides, forklift operators, and security escorts.

- Coordinate with the battalion S-3 to identify restricted routes and routes that complement the maneuver plan.

Lessons Learned

Overall, many of the challenges that the FSC faced in supporting 1-319th AFAR were caused by friction points at multiple sustainment levels. These challenges provided valuable lessons learned for the fires battalion logistics planners. The top three lessons learned are all related to each other and can be valuable for any sustainment unit:

- Troop leading procedures must be executed to standard; otherwise, Soldiers can potentially spend hours on the road with no purposeful end state. There is no such thing as an administrative movement in a combat zone, so conducting proper planning in a training environment ensures tactical convoys are trained to standard.
- Combat and sustainment operations must be synchronized for predictive logistics to be executed properly. A lack of synchronization can significantly affect platoon- and company-level sustainment.
- A logistics common operation-

al picture must be established to accurately visualize logistics assets and status of supplies. Without an accurate logistics common operational picture, the second and third order effects on subordinate sustainers can be detrimental.

A valid common operational picture, proper commodity supply reporting, and effective battalion logistics synchronization would enable the FSC to operate proactively rather than reactively. The FSC should continue to rehearse and conduct troop leading procedures with its recovery crews and develop a unit SOP that complements company- and platoon-level mission-essential task lists for TCO operations and supply distribution. This will ensure that the battalion has fluid continuity as new faces assume leadership roles and that responsibilities are clearly defined.

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Master Sgt. Neil M. Lamont III is the first sergeant of E Forward Support Company, 1st Battalion, 509th Infantry Regiment (Airborne), Joint Readiness Training Center (JRTC), at Fort Polk, Louisiana. He was an observer-coach/trainer at JRTC when he wrote this article. He has 20 years of service, including platoon sergeant, maintenance control sergeant, motor sergeant, battalion supply sergeant, and recovery noncommissioned officer, and is a master resiliency trainer.



A 510th Human Resources Company noncommissioned officer gives an inbound briefing to Soldiers from the 7th Transportation Brigade (Expeditionary) acting as role players for the training exercise Resolute Silver Scimitar.

Human Resources Training: Where Do We Go From Here?

In the absence of Silver Scimitar, a special troops battalion developed its own exercise to train its human resources platoons for an upcoming deployment.

■ By Lt. Col. Noah C. Cloud and Shawn C. Neely

For many years, human resources (HR) Soldiers relied on a two-week HR training exercise called Silver Scimitar to learn and improve the skills of their trade. But the annual exercise at Fort Devens, Massachusetts, was not funded, and the Forces Command has transferred deployment training responsibilities back to

sustainment brigades.

In March 2014, the 7th Sustainment Brigade transformed into the 7th Transportation Brigade (Expeditionary) (TBX). By modified table of organization and equipment (MTOE), the new unit has no human resources operations branch, which normally provides HR expertise for sustainment brigades.

To overcome its lack of HR expertise and prepare for the deployment of two HR platoons and a theater gateway personnel accountability team (TG PAT), the special troops battalion (STB) of the 7th TBX conducted an exercise called Resolute Silver Scimitar, modeled after Silver Scimitar. In conducting Resolute Silver Scimitar, the unit

developed a possible method for future sustainment brigade-level HR training.

Planning the Exercise

The STB commander was no stranger to deploying HR units. Having attended two Silver Scim-

iterational issues to incorporate into the MSEL and provide the most effective training possible. A realistic gateway mock-up and SMEs fresh from operations downrange lent a powerful dynamic to the exercise, but equally important was ensuring the physical layout of the gateway

the expertise necessary to mitigate the artificiality of notional roles is nearly impossible without recent operational experience.

These notional roles are significant to training realism because the TG PAT can manage on average more than 300 personnel from different organizations while deployed, including the HR platoons within the gateway.

Because the gateway director is a director and not a commander, the HR company commander reports to the STB commander, and the gateway director reports directly to the sustainment brigade commander. It is important to note that Paragraph 3-39 of Army Techniques Publication 1-0.2, Theater-Level Human Resources Support, completely misconstrues the operational relationships of the HR platoons, the HR company, and the TG PAT in a deployed environment.

The TG PAT is a headquarters element that is expected to assume operational control of whatever it finds when it arrives in theater. The new TG PAT MTOE reduces the director's grade from a lieutenant colonel to a captain. This creates problems when it comes to addressing operational issues with senior leaders and handling challenging field-grade passengers. The captain will have to call the brigade commander to deal with them, and that simply is not realistic.

The director must possess the technical expertise and sufficient rank to open a new theater gateway anywhere in the world and not just be able to fall in on a well-established operation.

Information Technology

One of the STB commander's biggest concerns was the lack of gateway information technology and Single Mobility System integration with higher headquarters. The battalion had to use email to replicate changes to flight schedules and gave out hard copy flight matrices.

We need a force structure at the battalion level that properly retains and uses expertise, provides upward command opportunities for experienced HR leaders, and trains modular units to support the sustainment community.

itar exercises to assess HR training, he knew he needed to build a realistic mock-up of the theater gateway in Kuwait and bring in outside support and resources to ensure success. His vision was to create a theater gateway replica to test all the processes, functions, and systems being used downrange.

In Kuwait, most large flights arrive after midnight and rotator flights come and go over the weekend. Few senior leaders get an accurate feel for the operational and leadership challenges involved with processing hundreds of tired and disgruntled traveling personnel. So for the exercise, having the right subject matter experts (SMEs) on site with relevant master scenario event lists (MSELs) to create realistic training was critical.

To gain the requisite SMEs, the STB reached out to the 138th TG PAT in the Indiana National Guard and brought in the director and his current operations integration cell noncommissioned officer-in-charge. Having just redeployed, their experience was significant as they reviewed the MSELs for relevance and provided pertinent operational feedback, guidance, and lessons learned throughout the exercise.

The 138th TG PAT director reached back to the current theater gateway director for real-time op-

accurately replicated operations.

A shortfall identified at Silver Scimitar at Fort Devens was the lack of separation between the inbound and outbound sections and the director. So, the inbound and outbound sections were built within a motor pool bay separate from the current operations integration cell and the gateway leaders' offices to create operational distance as a forcing mechanism for effective communication.

This separation also ensured the HR platoon leaders resolved MSEL injects on their own then executed appropriate reporting procedures to engage the TG PAT leaders, who helped identify and address communication issues during the exercise.

The distance between the PAT at Ali Al Salem Air Base, Kuwait, and the rest of the gateway necessitated bus transportation that simulated the extensive distances traveled in Kuwait by personnel arriving and departing theater through the aerial port of debarkation and Ali Al Salem.

Making the Exercise Count

Because of the significant number of units and organizations that influence the theater gateway mission, many roles were notional and controlled by the SMEs. Providing

The lack of access to the Single Mobility System was a training constraint, and although information technology was an initial concern, actual systems training was completed prior to the culminating training event to make up for limited Internet access.

The Tactical Personnel System was still used to scan role players into and out of the notional theater during the exercise, and the use of separate role players from the 7th TBX proved to be an excellent addition.

Realistic Scenarios

At Silver Scimitar, the night and day shifts would rotate to play passengers in the scenario. But for Resolute Silver Scimitar, the TBX tasked more than 150 Soldiers to be passengers and execute the MSEL injects. This freed the HR company and the TG PAT to execute true 24-hour operations with day and night shifts and perform the requisite shift change briefs at 0700 and 1900.

MSELs were prepared for both shifts, and role players were carefully controlled by the HR company commander, who escorted them to each applicable training lane. This allowed for realism, exemplified by a staged fist fight between passengers that looked so realistic that the gateway personnel could not tell if it was real or part of the exercise.

The realism was accentuated by prior coordination with the post military police, who reacted to the notional 911 call and hauled the combatants off in handcuffs. The gateway leaders were subsequently evaluated on their response.

To further evaluate the gateway leaders, one of the overarching MSEL injects required the TG PAT to provide a capabilities brief to the brigade commander explaining how it would support an accelerated withdrawal from Afghanistan. The brief included an in-progress review that helped the current operations integration cell learn how to pro-

duce and modify products in a condensed timeline.

The 7th TBX commander observed and evaluated the TG PAT's progress, and the director had the opportunity to practice briefing her higher command. From the battalion commander's perspective, the exercise created the realism necessary to ensure deployment readiness while allowing him to assess areas where the TG PAT could improve during its road to war.

The Future Without Silver Scimitar

The concern moving forward for the adjutant general (AG) community is that the 7th TBX's exercise was based on the Fort Devens Silver Scimitar, which integrated SMEs who just came out of theater. Now that Silver Scimitar has come to an end so too has the means to distribute cumulative AG knowledge for the greater good of the entire corps.

One idea is to integrate standard requirements code (SRC) 12 units into combat training center rotations, but this cannot replace the power of Silver Scimitar. Without SMEs fresh from theater to help train the next generation of AG warriors, the experiential "brain drain" as veterans move back into the S-1 and G-1 lanes will have a devastating impact.

The recommended near-term solution is to continue reaching across the AG community and across service components to make use of the experience available while it still exists.

Force Structure Problems

The new HR company MTOE now includes one postal platoon for every HR company. One postal platoon cannot handle all the postal missions in any given theater of operations, which means HR platoons will continue to deploy separately from their parent companies to support the sustainment mission.

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command opportunities for experienced HR leaders, and trains modular units to support the sustainment community.

Too often we see HR company Soldiers stripped of their Electronic Military Personnel Office access, consequently unable to train to maintain military occupational specialty proficiency, and all the while we hear, "What does an HR company do in garrison? It has no mission."

This is equivalent to asking what an infantry or armor unit does in garrison. HR Soldiers, just like infantry, train in garrison. But in order to do so, the HR structure above the company level must be viable and have enough HR expertise to address and support the appropriate systems access and training needs. At this stage in the personnel services delivery redesign, it is clear that personnel service battalions will not return.

Another option to consider is consolidating all of our SRC 12 and SRC 63 units under three HR battalions (not personnel service battalions) with suggested locations at Fort Bragg, North Carolina; Fort Hood, Texas; and Fort Carson, Colorado. These battalions would focus on universal AG sustainment functions with an emphasis on the deployable modularity required to support the sustainment community.

The structure of these battalions is beyond the scope of this article, but an HR battalion would reenergize the AG Corps and provide units capable of meeting the Army's future sustainment needs while developing young AG leaders to perform at the level required in command billets.

AG Training Problems

One of the major issues AG has as a branch, and the underlying cause for its struggle to train units effectively, stems from its S-1 and G-1 mentality, which causes it not to be command-focused like the rest of the Army. Pluck an AG Soldier from the familiar comfort of his of-

fice and place him in a line company, and his learning curve is steep.

Experience shows a staggering difference in leadership requirements for NCOs and officers at the platoon and company levels when compared to an S-1 or G-1 shop. S-1 shops are not required to run a comprehensive maintenance program, maintain a property book, or understand the nuances of supply discipline, and they are not required to manage more Soldiers than what amounts to a regular squad.

The list of comparisons can go on, but the crux of our current dilemma is that AG Soldiers are not required to build unit-level training plans to support a mission essential task list (METL), and platoon leaders do not understand how to train to support the company METL. If our AG leaders do not fully understand how to train their formations, what can a sustainment brigade do?

This highlights the need for AG leaders not only to read Field Manual 1-0, Human Resources, but also to learn to properly plan, execute, and evaluate HR training in accordance with Army Doctrine Publication 7-0, Training Units and

Developing Leaders.

In that vein, where is our mission training plan for an HR company, and what does an HR platoon or company training and evaluation program look like? Who within the battalion or brigade evaluates them? Is it the human resources operations branches? Perhaps, but have they been properly prepared to train HR leaders? Not likely, given the way they are currently filled and used in garrison.

If we think about what we are asking our Soldiers and the sustainment community to do—certifying units for combat—it is a daunting task not required of any other branch in the Army. The danger is that HR becomes irrelevant in the sustainment community where higher commanders are willing to assume risk. Much like a catcher in baseball, it is not until the ball gets dropped that the position is truly recognized for its importance.

In a protracted war, we overcame our shortcomings by rotating deploying units through Silver Scimitar and through effective, mission-specific training during each unit's relief in place. With

Silver Scimitar no longer occurring, what happens after we withdraw from conflict and have no more reliefs in place?

The 7th STB at Fort Eustis, Virginia, had the benefit of having an experienced group of seasoned veterans who had rotated through Silver Scimitar at Fort Devens before setting up their own culminating training event. Even in this case, outside SMEs were required for success, and this should raise a great concern for the massive training gap in HR operations left in the wake of Silver Scimitar's demise.

There are many creative solutions to the current HR situation, and Resolute Silver Scimitar is just one example of how an STB trained its theater gateway and HR platoons for an upcoming deployment.

It also points out training and leadership development issues that will require significant shifts within the AG Corps. We recognize changes will not happen overnight, but perhaps this article will act as a catalyst to generate the discussions needed within the greater AG community.



A 510th Human Resources Company Soldier briefs inbound personnel at the 7th Special Troops Battalion's Resolute Silver Scimitar exercise at Fort Eustis, Virginia, in February 2014.

Lt. Col. Noah C. Cloud was the commander of the Special Troops Battalion, 7th Transportation Brigade (Expeditionary) when he wrote this article. He has a bachelor's degree in civil engineering from the U.S. Military Academy and an MBA from the University of Rochester's Simon School of Business. He is a graduate of the Engineer Officer Basic Course, the Air Defense Artillery Advanced Course, and Intermediate Level Education.

Shawn C. Neely is a retired Army major and former human resources company commander. He has a bachelor's degree in business administration from Regis University and a master's degree in English from North Carolina State University. He is a graduate of the Armor Officer Basic Course and the Adjutant General Captains Career Course.

Changing the System to Optimize Throughput

■ By Chief Warrant Officer 2 Keith T. Graham

Early in my 2013 deployment to Afghanistan with the 201st Brigade Support Battalion, I had a late night conversation with my platoon leader, 2nd Lt. Sheldon Seaborn, a systems management graduate of West Point. He made the comment, “It is all about the system,” which stuck with me throughout the deployment and became especially relevant as we engaged in a problem related to customer wait time for critical communications parts.

The Mission

The 201st Brigade Support Battalion’s electronic maintenance shop was tasked to provide electronic maintenance support for the 3rd Brigade Combat Team, 1st Infantry Division, Combined Task Force (CTF) Duke, which was located in Zabul province in Regional Command South. Like most units deploying toward the end of Operation Enduring Freedom, the electronic maintenance shop was understaffed; it had only four Soldiers to replace 12 Soldiers from the outgoing unit.

This team consisted of one military occupational specialty (MOS) 94F (special electronic device repairer), one MOS 94E (radio and communications security repairer), and two MOS 94A (land combat electronic missile system repairer) Soldiers. This small staff was responsible for the area’s electronic maintenance of special electronics, communication devices, night-vision devices, commercial off-the-shelf products, and the Blue Force Tracking (BFT) systems.

To improve efficiency with a smaller staff, I had to improve processes and build a cohesive team. What do you do when system improvements are

needed with a reduced staff? I chose to reach out to my mentors and peers in the field to see if they could help me make a positive change.

Improving Outcomes

I immediately noticed a deficiency in the maintenance procedures for providing ongoing maintenance support for BFT systems. Customer units typically had to deadline vehicles for about two to three days when system disk drives required rewriting or when line replaceable units (LRUs) had to be requisitioned through the supply system.

Deadlines of two to three days were simply unacceptable. I instructed the electronic maintenance shop team to begin building an inventory of disk drives with the latest software upgrade and frequently replaced LRUs. We expanded our inventory to include over 75 disk drives, six computers, keyboards, and display units for the BFT system.

The improved system that I implemented was based on a “float” concept similar to that used by major corporations to minimize downtime. (A float is a system or subsystem that is kept in stock to replace a broken item while repairs are being made). Under the new system, efficiency was increased, reducing downtime from three days to less than two hours.

What Was Different?

The old system required a work order through the maintenance shop. After the work order was produced, the wait time to receive the new equipment was seven days or more.

With the improved system, a normal work order was produced and the LRUs were immediately replaced at

the electronic maintenance shop with a float. The vehicle never hit the deadline report. While the unit used the float, the electronic maintenance shop made the needed repairs to the unit’s equipment.

The same float concept was used when disk drives required software upgrades. The result was that the electronic maintenance shop preserved CTF Duke’s combat power throughout Forward Operating Base Apache by improving the combat vehicle deadline rate.

Networking for Greater Change

Sometimes the best way to solve a problem is to tap into your network. As it turned out, one of my peers had a similar problem with deadline rates and BFT transceivers in northern Afghanistan. The transceiver is a main component of the BFT system. Without the transceiver, the system is not operational and the vehicle must be deadlined until it is replaced.

Because of the extreme weather conditions, transceivers on the vehicles were vulnerable and regularly required replacement. At that time, transceivers were classified as class II (clothing and individual equipment) items, which meant new transceivers had to arrive through the supply support activity. Because we were not co-located with the supply support activity, receiving new transceivers to replace nonoperational transceivers posed a great problem.

The supply classification required the owning commander of the transceiver to track it and ensure the exchange was annotated on the unit’s property books, which required an additional trip to the Kandahar Airfield supply support activity with the



Jauss Warren and Spc. Michael Brewer, both assigned to the 201st Brigade Support Battalion's electronic maintenance shop, prepare hard drives for software upgrades. (Photo by Chief Warrant Officer 2 Keith T. Graham)

unit's supply sergeant. This typically involved a four-hour convoy and an overnight stay.

My peer and I recommended changing the classification of the BFT transceivers based on guidance provided by our senior warrant officer. Through email, we presented a convincing analysis to the project manager explaining the restrictions that the current transceiver classification caused and the positive impact that changing the transceiver classification to class IX (repair parts) would provide. Studies from deployed electronic systems maintenance warrant officers provided the data to shape the BFT project manager's decision.

The System Works

The classification of the transceivers within the Federal Logistics Data (Fed Log) was changed to class IX by the project manager in the logistics support activity. By making the trans-

ceiver class IX, the electronic maintenance shop could use the float system to reduce the operational downtime.

The transceivers were added to the float system, thus eliminating the wait time for replacement in southern Afghanistan. Our customers noted an immediate improvement. This clearly demonstrated the flexibility of our logistics system.

Systems are Army processes that can be strengthened by simply networking to gain new, innovative ideas. I am a believer in systems. I have seen systems work to meet the commander's intent to reduce downtime and optimize maintenance productivity.

By using a flexible system, the 201st Brigade Support Battalion's electronic maintenance shop completed over 1,500 man hours, with a team of four, within six months. This was a remarkable outcome. The shop surpassed its predecessor's man hours by 42 percent

with a fraction of the staff.

Logistics systems are made to adapt to meet real-time needs. In order to ensure maximum throughput, managers must consider and account for the ever changing logistics supply process, personnel levels, and number of customer units. Remaining adaptable and flexible will ensure that we can increase throughput regardless of reduced personnel numbers.

Chief Warrant Officer 2 Keith T. Graham is an electronic systems maintenance warrant officer with the 201st Brigade Support Battalion, 3rd Brigade, 1st Infantry Division. He holds a bachelor's degree in information technology from Columbia Southern University and has a Federal Communications Commission license. He is also Network Plus, A Plus, and Communication Technology Technician certified through the Electronics Technicians Association.



Let's Get Social!

It has been a little more than one year since *Army Sustainment* established a presence on Google+ and Twitter. It has also been a year and half since we established our first social media presence on Facebook. Today we are richly engaged with an audience of more than 265 on Google+ and 470 on Twitter, and we have more than 875 followers on Facebook.

Why is this important? It means that we are getting content to our readers whenever, wherever, and however they are connected to the Internet. It also means we are reaching new and potential sustainers who will be a part of the Army 2020 and providing them with information from leaders and units within the sustainment community. So, are you connecting with these Army sustainers and accessing the additional content



Army Sustainment provides through its social media channels? Are you part of the conversation? You should be.

Have something to share? Send us an email with a link to your content to usarmy.lee.tradoc.mbx.leeasm@mail.mil with the subject line "Social." Or tag *Army Sustainment* in your photos and

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Army Sustainment @ArmySustainment · Jun 4
A Soldier-chef competes with @GordonRamsay at a Fort Irwin dining facility. (Photo by Jason. R. Miller) pic.twitter.com/NpKQYkZTZw

Gayle Browning @TeamMomScooter · Jun 4
@ArmySustainment I've always liked @GordonRamsay...even more now. Thanks for supporting our troops, Gordon!!

Gordon Ramsay @GordonRamsay · Jun 4
"@ArmySustainment: A Soldier-chef competes with @GordonRamsay at a Fort Irwin dining facility. Nice one Soldier pic.twitter.com/Fdu8OQsYD9"

QueenBee @QBPatisserie · Jun 4
@GordonRamsay @ArmySustainment Loving the facial expressions!

cara @jeterfan28 · Jun 4
@GordonRamsay @ArmySustainment great pic!

Ryan @s97_ryan · Jun 4
@ArmySustainment @GordonRamsay well..who won??

During June 2014, Army Sustainment reached 3.16 million Twitter users. This tweet drew a particularly large audience.

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The Chief of Staff of the Army (CSA) Deployment Excellence Award (DEA) program was implemented in 2000 by the Headquarters, Department of the Army, G-3 and G-4 to recognize Active, Reserve, and National Guard units and their supporting installations for outstanding deployment accomplishments and to capture and share innovative deployment initiatives.

Since 2000, the Deployment Process Modernization Office at Fort Lee, Virginia, has managed the DEA program for the CSA. This award program is not branch specific; it is open to all Army units and their supporting installations (including joint

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The 2014 competition year runs from Dec. 1, 2013, to Nov. 30, 2014. Units and installations can compete in either the Deploying Unit (company or larger), Supporting Unit (team or larger), or Installation categories. Winners will be recognized by the CSA at the annual Combined Logistics Excellence Awards ceremony, along with the supply and mainte-

nance awards winners.

A new nomination packet format is planned for the 2014 competition year.



For more information and guidelines, call (804) 765-0987/0930, or visit the website at <http://www.transportation.army.mil/dea>.

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We are always looking for quality articles to share with the Army sustainment community. If you are interested in submitting an article to *Army Sustainment*, please follow these guidelines:

- Ensure your article is appropriate to the magazine's subjects, which include Army logistics, human resources, and financial management.
- Ensure that the article's information is technically accurate.
- Do not assume that those reading your article are Soldiers or that they have background knowledge of your subject; *Army Sustainment's* readership is broad.
- Write your article specifically for *Army Sustainment*. If you have

submitted your article to other publications, please let us know at the time of submission.

- Keep your writing simple and straightforward.
- Attribute all quotes to their correct sources.
- Identify all acronyms, technical terms, and publications.
- Review a past issue of the magazine; it will be your best guide as you develop your article.

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Submit your article by email to usarmy.lee.tradoc.mbx.leeasm@mail.mil.

Submit the article as a simple Microsoft Word document—not in layout format. We will determine the layout for publication.

Send photos as .jpg or .tif files at the highest resolution possible. Photos embedded in Word or PowerPoint cannot be used.

Include a description of each photo in your Word document.

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Army Sustainment Departments

Your submission should be geared toward one of *Army Sustainment's* departments, which are described in detail below. If you have an article that does not fit into one of our departments but you think it is appropriate for our audience, feel free to contact us.

Commentary articles contain opinions and informed criticisms. Commentaries are intended to promote independent thoughts and new ideas. Commentary articles typically are 800 to 1,600 words.

Features includes articles that offer broader perspectives on topics that affect a large portion of our readers. These can focus on current hot topics, or the future of the force. These articles can be referenced, but it is not required if the content is within the purview of the author. While these articles can be analytic in nature and can draw conclusions, they should not be opinion pieces. Features typically are 1,600 to 5,000 words.

Spectrum is a department of *Army*

Sustainment intended to present well-researched, referenced articles typical of a scholarly journal. Spectrum articles most often contain footnotes that include bibliographical information or tangential thoughts.

In cooperation with the Army Logistics University, *Army Sustainment* has implemented a double-blind peer review for all articles appearing in its Spectrum section. Peer review is an objective process at the heart of good scholarly publishing and is carried out by most reputable academic journals. Spectrum articles typically are 2,500 to 5,000 words.

Operations includes articles that describe units' recent deployments or operations. These articles should include lessons learned and offer suggestions for other units that will be taking on similar missions. These articles require an official clearance for open publication from the author's unit. Photo submissions are highly encouraged in this section. Please try to include five to 10 high-resolution

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Training and Education is dedicated to sharing new ideas and lessons learned about how Army sustainers are being taught, both on the field and in the classroom. Training and Education articles typically are 600 to 1,100 words.

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Sustainer Spotlight

Staff Sgt. David Townsend, Sgt. Ryan Essenmacher, and Spc. Michael Rooney, from the 706th Explosive Ordnance Disposal (EOD) Company, 303rd Ordnance Battalion (EOD), Schofield Barracks, Hawaii, were named 2014 EOD Team of the Year Aug. 15 at Fort A.P. Hill, Virginia. The team competed in the first ever Ordnance Corps-wide event, beating out four other teams from across the Army. (Photo by Bob McElroy)