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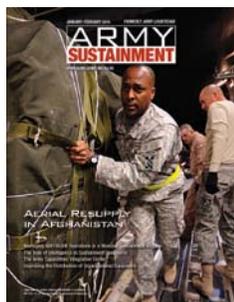
AERIAL RESUPPLY IN AFGHANISTAN

Managing ARFORGEN Operations in a Modular Sustainment Brigade
The Role of Intelligence in Sustainment Operations
The Army Capabilities Integration Center
Improving the Distribution of Organizational Equipment



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Cover: One of the great challenges of military operations in Afghanistan has been supporting U.S. and coalition units based at remote, often hard-to-reach locations dispersed across the country's landscape of rugged mountains and trackless deserts. Yet Afghanistan's lack of modern infrastructure, including its poor or nonexistent roads, and the continual threat of attack by insurgents and terrorists have often made the use of truck convoys—so characteristic of sustainment in Iraq—impractical, if not dangerous. In such a difficult military environment, aerial delivery of supplies has become a major feature of operations. The articles beginning on pages 23, 26, and 29 highlight aerial resupply in Afghanistan. On the cover, a Soldier with one of the logistics units deployed in Afghanistan—the 824th Quartermaster Company (Aerial Delivery)—loads a container delivery system bundle of food onto a C-17 transport. (Photo by SSgt. James L. Harper, Jr., U.S. Air Force.)



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Managing ARFORGEN Operations in a Modular Sustainment Brigade

BY MAJOR CHARLIE WARD

On 16 August 2008, the 3d Sustainment Brigade redeployed from Operation Iraqi Freedom (OIF) 07–09 to its home station at Fort Stewart, Georgia, as the first totally modular sustainment brigade. The concept of modularity had proven successful in allowing the brigade to perform many functions while deployed. However, the redeployed brigade was quickly challenged by the complexities of the Army Force Generation (ARFORGEN) cycle as it began its reset phase.

Most sustainment brigades consist of about 32 deployable units. Each of these units has a separate or derivative unit identification code (UIC) and progresses through ARFORGEN individually. Having such a large number of UICs that are deployed and redeployed in a nonhomogenous manner creates many challenges for the sustainment brigade and combat sustainment support battalion (CSSB) headquarters. This article will examine the complexities of the ARFORGEN process experienced by the modular sustainment brigade and propose possible solutions to problems.

ARFORGEN and the Sustainment Brigade

Under the Army's modular design, all combat battalions and the brigade support battalion within a brigade combat team (BCT) execute the ARFORGEN process together as an entire unit. A sustainment brigade executes ARFORGEN differently. Unlike a BCT, a sustainment brigade has only one organic subordinate unit: the special troops battalion (STB) headquarters. Under modularity, force sustainment units are attached to the sustainment brigade down to the team level and tasked for deployment or operational support directly by the Army Forces Command (FORSCOM). Each force sustainment unit, therefore, must go through the ARFORGEN process separately. It then will face challenges with reset operations, deployment validation training, and rear detachment composition.

Reset Operations

In April 2009, more than 33 individual units of the 3d Sustainment Brigade were in various phases of ARFORGEN, with 13 in the reset phase. For fiscal year 2010, the brigade will have 35 units in the ARFORGEN process, with 19 units scheduled for reset. Since a majority of these units have different latest arrival dates (LADs) and boots on ground dates,

traditional ARFORGEN processes and activities, such as equipment sourcing conferences, tax the capacity of FORSCOM's G-4 Equipment Integration Branch.

Under modularity, a BCT will normally undertake each phase of the ARFORGEN process as a whole with Department of the Army (DA) oversight. In most cases, sustainment brigades and BCTs do not compete for the same equipment, but they do compete for the staff attention of the Army Installation Management Command's Directorate of Logistics and Stationing Management, FORSCOM, and DA. In an effort to facilitate the reset process at Fort Stewart, the 3d Sustainment Brigade put forth an exoteric concept to "bundle" redeploying units by fiscal-year quarter. This reset bundling plan ensures that force sustainment units attached to the brigade in garrison are afforded all the opportunities and functions available within ARFORGEN, especially those concerning reset operations.

A bundled package consists of multiple Active Army UICs. The size and composition of the units vary, with some as small as seven Soldiers. Nonetheless, each organization has to complete the reset process in some manner after redeployment. The degree and depth to which the organization will be involved is determined after it has conducted its property book scrub and loaded data into the Automated Reset Management Tool (ARMT) while still in theater. (The ARMT identifies automatic return items to be repaired at a sustainment-level facility. Other equipment entered into ARMT is repaired at the field level.)

Complementary approaches are available for managing how sustainment brigades transit through the ARFORGEN reset phase. The 3d Sustainment Brigade's approach was to start reset management at R-180 (180 days before redeployment). At R-180, the redeploying unit began its property book evaluation and entered data into the ARMT. Theater staff then determined what equipment would enter reset and stay in theater by using Automatic Reset Induction (ARI). (The ARI list contains items that are automatically inducted into the national-level reset program.) Usually around R-120, the redeploying unit executed the ARMT plan, and by R-90 it processed ARI equipment as instructed. On the unit's arrival in the continental United States (CONUS), the 3d Sustainment Brigade's focus then turned to resetting the unit by R+180 (180 days after redeployment).

UNDER THE ARMY'S MODULAR DESIGN, ALL COMBAT BATTALIONS AND THE BRIGADE SUPPORT BATTALION WITHIN A BRIGADE COMBAT TEAM EXECUTE THE ARFORGEN PROCESS TOGETHER AS AN ENTIRE UNIT. A SUSTAINMENT BRIGADE EXECUTES ARFORGEN DIFFERENTLY.

By focusing on resetting by R+180, the brigade is able to parallel the process that FORSCOM uses to manage the BCTs. The brigade also can provide solidarity for units that are designated with a LAD shortly after redeployment and better prepare units that do not have a LAD. Even for those units that do not have a designated LAD, beginning reset operations at R-180 will allow the brigade to prepare for short-suspense LADs.

This is not a perfect model. For example, the 260th Quartermaster Battalion headquarters will redeploy during the third quarter of fiscal year 2010 and will be the only redeploying unit under the brigade for that quarter. Under the bundling concept, and considering the unit's relatively small size for reset, the battalion will be at approximately R+120 before its equipment sourcing conference. In itself, this is not bad, but if the battalion is tasked for a subsequent deployment during or shortly after redeployment, the remainder of its reset operations would be very time sensitive.

However, starting the reset process while a unit is still in theater does pose a challenge. The deployed unit most likely will not fall under the command and control of its CONUS higher headquarters in theater. This could possibly reduce the emphasis placed on reset while in theater. The 3d Sustainment Brigade has initiated a dialog with the CSSB and sustainment brigade headquarters under which its deployed units fall in theater to ensure that reset is emphasized. This challenge can be easily overcome once sustainment brigades and CSSBs begin to experience the entire ARFORGEN process and conduct reset operations at their home stations.

Other sustainment brigade commanders have approached resetting units once they have an established LAD or LAD minus (L-Day). This approach allows the sustainment brigade headquarters to concentrate its efforts on a smaller number of units.

Training

The train/ready phase of ARFORGEN presents other challenges. Under the modular design, the sustainment brigade trains deploying elements down to the team level. Units are required to conduct validation training within the confines of their skill sets before they deploy. BCTs are normally scheduled for a mission readiness exercise at one of the combat training centers. The BCT commander can train his entire

deploying force during one culminating exercise.

The culminating training event (CTE) is vital for the commander to gauge the competence and capability of his unit before it deploys. In order for units within the sustainment brigade to receive training with the organizational elements they will support in theater, a CTE must be scheduled for each unit separately. For example, casualty liaison teams, R5 (reception, replacement, return-to-duty, rest and recuperation, and redeployment) teams, and human resources platoons are manned with 5 to 12 Soldiers. These smaller units are required to receive deployment training in the form of a CTE just like other, larger deploying elements.

The training challenge lies in scheduling and allocating resources to train multiple team-, platoon-, company-, and battalion-sized elements, none of which have the same LAD for deployment. The brigade remains in a constant state of training support and preparation for its attached units. During fiscal year 2010, the 3d Sustainment Brigade will have as many as 14 CTEs, with a peak of 6 company-sized or larger CTEs in the second quarter. The brigade headquarters itself will also be preparing for its own deployment. And the ARFORGEN training cycle does not stop for the sustainment brigade once its headquarters deploys; it continues while additional attachments prepare to deploy.

A key contribution to assisting with the complex training requirements came from the Combat Service Support (CSS) Stakeholders' Conference hosted by the FORSCOM G-4 in January 2009. FORSCOM G-3 and G-4 representatives agreed to establish a sourcing conference in which expeditionary sustainment command and sustainment brigade commanders and staff planners can share their analyses of requirements and available units and recommend sourcing solutions.

The intent behind this conference is that all parties will be able to better align units for deployment within the sustainment brigade and facilitate continuity of operations. For example, a quartermaster company selected from Fort Stewart will be better suited to fill a requirement that will be synchronized with the deployment of its higher headquarters. In essence, when possible, we can actually build a deployment package with organic or technical review authority command and control that, in turn, will allow the unit to train as a whole, thus reducing the number of CTEs the sustainment brigade headquarters must schedule. Shaping the configuration of sustainment deployments will also

assist in configuring rear detachments and maintaining command and control.

Rear Detachment Command and Control

As any commander can attest, a knowledgeable and solid rear detachment is crucial for a deployed force. The primary duties of the “typical” BCT rear detachment include receiving new Soldiers, preparing new Soldiers for deployment, providing family readiness group support, performing administrative actions on redeployed Soldiers, monitoring the status of medical evacuations, and maintaining unit areas. The rear detachment commander is the deployed commander’s conduit for information and support from the CONUS element of his command. As a modular BCT moves through the ARFORGEN process, the entire brigade of Soldiers and civilians trains, deploys, and redeploys as a unit, leaving a rear detachment commander and staff of approximately 35 permanent cadre responsible for anywhere from 150 to 450 Soldiers and civilians within the BCT.

RESET, TRAINING, AND REAR DETACHMENT COMMAND AND CONTROL ARE THREE OF THE TOP CHALLENGES THE 3D SUSTAINMENT BRIGADE IS WORKING THROUGH.

In comparison, the sustainment brigade’s rear detachment commander is responsible for nearly six times the number of Soldiers and civilians as the BCT’s. For example, in OIF the 3d Sustainment Brigade and STB rear detachment headquarters consisted of approximately 90 permanent cadre to support nearly 2,600 people in garrison. In addition to the typical BCT rear detachment, the sustainment brigade must also receive entire units that are redeploying, begin the reset process for those units, plan unit-level training events for units in the train/ready phase, and continue to provide habitual logistics support to the installation and other customers. So, for all intents and purposes, when the sustainment brigade headquarters and STB deploy, the rear detachment still can have command and control of a brigade’s worth of nonorganic organizations and provide logistics support to the installation.

Currently, force structure and manning constraints will not permit the positioning of senior (field-grade) officers and noncommissioned officers as backfills for a rear detachment, so having adequate numbers and grades of personnel can become problematic. This issue was addressed during the recent CSS Stakeholders’ Conference with the understanding that FORSCOM would get involved as needed to fill key command and control logistics positions within sustainment brigades.

Other options for configuring rear detachments

could include some version of a mission support element, similar to a division headquarters backfill during a division’s deployment. Another possibility the 3d Sustainment Brigade is researching is the use of mobilized Reserve units to backfill the brigade headquarters. However, a more permanent possibility would be the use of a table of distribution and allowances (TDA) organization created specifically as a backfill. The TDA personnel could act as installation assets, assigned to the sustainment brigade, that would be nondeployable.

Reset, training, and rear detachment command and control are three of the top challenges the 3d Sustainment Brigade is working through, but they only touch the surface of the complex relationships and structure of modular sustainment brigades. Yes, modularity has always existed to some extent in the sustainment community. However, with the pace of the current deployment cycle, the challenge lies in our ability to provide needed attention to each unit within the sustainment community during the ARFORGEN process.

By implementing the bundling concept for resetting units, we can easily capture the requirements of subordinate units and posture them properly for future deployments. By managing reset operations using the R+180 model, we feel confident that units will be given the attention needed to maneuver through the ARFORGEN process and move quickly into the train/ready phase. A quick and smooth transition to the train/ready phase is essential to a viable, realistic CTE. Shooting for total reset at R+180 will ensure that the unit has adequate training time and resources.

Participating in the FORSCOM sourcing conference, while not an immediate fix, will afford the expeditionary sustainment command and sustainment brigade commanders an opportunity to posture their units for deployment with the same CONUS command and control. This participation will have a tertiary effect on reset operations as well, specifically at the CSSB level. As the CSSB headquarters deploys as a packaged set with its subordinate companies, the reset process can be facilitated more easily.

This is not an impossible endeavor, but it will require emphasis from leaders at all levels. Lateral coordination among sustainment brigades, local coordination with the host installation, and assistance from the expeditionary sustainment command and FORSCOM are all key components for shaping the ARFORGEN process for the force sustainment community.

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The Role of Intelligence in Sustainment Operations

BY LIEUTENANT COLONEL HEBER S. MEEKS, USAR, AND MAJOR BARTON T. BRUNDIGE, USAR

In 2008, Faiza Elmasry noted on *Voice of America* that for more than 40 years after World War II, the United States and the Soviet Union had the capability to destroy each other. That capability brought with it the threat of a nuclear holocaust, which both nations made their top priority to avoid. Today, avoidance of nuclear devastation continues to be a paramount concern. The number of countries with the capacity to use nuclear weapons has grown, making the security of the world even more complex. Instead of facing a superpower standoff, threats to international security have become linked not only to countries with nuclear capabilities but also to such nonstate players as insurgents and terrorists.

To defeat the increasingly significant terrorist threat to international security, the U.S. military can neither rely on conventional military strategies nor expect the use of nuclear power to put an end to elusive and dispersed terrorist and insurgent forces. To deal with the low-level, highly destabilizing threat of small, covert insurgent or terrorist forces, the U.S. military must develop current, comprehensive antiterrorism and counterinsurgency strategies, including intelligence strategies.

Providing Intelligence Support to Sustainers

The 311th Expeditionary Sustainment Command (ESC) was one of the first Reserve component ESCs to deploy in support of the Global War on Terrorism. Based for a year at Camp Arifjan, Kuwait, the 311th ESC provided theater-level logistics support to the warfighters in Iraq and limited logistics support to forces in Afghanistan. The role of the 311th ESC intelligence (G-2) section was to provide timely and accurate intelligence to the ESC's commanding general and staff in order to assist them in making informed operational decisions. For sustainment operations, the role of intelligence was focused on protecting the convoys that carried critical supplies and equipment to the warfighter daily.

To meet the mission requirement to work at the regional level, the eight-member G-2 section was divided into two parts: a production cell that served on the consolidated intelligence team of Army Central Command (ARCENT) Forward and a cell that supported command intelligence operations. The 311th ESC's production cell worked closely with

intelligence analysts from ARCENT, the 513th Military Intelligence Brigade, the 4th Sustainment Brigade, the 420th Movement Control Battalion, and the 29th Infantry Brigade Combat Team to produce intelligence products to meet the Army theater commander's intelligence requirements and the intelligence needs of all subordinate and supported unit commanders. However, the 311th ESC G-2 section did not have enough analysts to conduct 24-hour operations.

A two-person intelligence operations cell provided G-2 support for the 311th ESC, but a full-time 311th ESC security manager addressed the command's regional security requirements. The importance of the security manager cannot be overstated in theater-level operations. The daily administration and processing of clearances and security rosters was an enormous job that required at least one dedicated, detail-oriented security manager.

Once the G-2 section took over the regional intelligence mission, the battle rhythm required daily and weekly briefings to the commanding general, senior staff, and subordinate unit commanders; weekly meetings with other intelligence professionals in theater; the submission of the daily situation reports; and a weekly in-depth intelligence update to discuss trends and data analyses.

Paradigm Shift

None of the G-2 Soldiers had deployment experience in providing intelligence for counterinsurgency operations. Most of them had started their military careers before 1989 during the Cold War era.

Over the past 8 years, one military intelligence challenge has been to change the Army's perception of the enemy as a Soviet-type military with large conventional forces and heavy nuclear capabilities to the current operational picture of a relatively small insurgent force that has asymmetric, unconventional weapons and capabilities more aligned with guerilla warfare.

Within the U.S. military, the intelligence community also has had to adapt its methods and strategies to better assist U.S. forces in achieving military goals against an insurgent enemy. It has done this by focusing on insurgent operations and activities in Iraq and Afghanistan. Intelligence personnel also have had to expand their scope beyond gathering and analyzing data on the

conventional tactics and strategies of “third generation” military engagements. [See the sidebar below for a discussion of the four generations of warfare.]

Combating Propaganda

The evolved insurgency in Iraq used an information campaign on all available networks to try to persuade U.S. political decisionmakers that the U.S. Government’s strategic goals in Iraq were unachievable. In order to defeat the Iraqi insurgency’s “information war,” military intelligence analysts should be enlisted to help combat insurgency propaganda. Interpreted information is more revealing when the subjects being studied are well understood. Thus, intelligence analysts need to understand the culture, religion, customs, politics, and history of the Iraqi people. Only then can military intelligence personnel play a greater role in the effort to “win the hearts and minds” and gain the support of the Iraqi people.

Assessing the current threats in the operational environment is of paramount importance from an

intelligence standpoint. Basic intelligence techniques are still effective in monitoring enemy insurgents, but with an evolved enemy, intelligence experts need to devise a more effective means of forecasting and assessing enemy activities.

In recent books on military intelligence in counter-insurgencies, authors suggest that military intelligence agents should use law enforcement techniques, such as pattern analysis and geographic profiling, to investigate past criminal behavior and predict future incidents and locations of criminal acts. Because many insurgent activities are similar to the acts of criminal gangs, military intelligence analytical techniques in a counter-insurgency should also include tactics, techniques, and procedures (TTP) more closely aligned with those used in police work. Thus, the 311th ESC G–2 incorporated law enforcement techniques into the process of tracking insurgent attacks against daily supply convoys by using pattern analysis and geographic profiling to look for trends in attacks or incidents on the main supply routes.

Preparing for the Mission

The 311th ESC G–2 section prepared for the theater-level intelligence mission by increasing training on new intelligence systems, including new intelligence software programs, at the Western Army Reserve Intelligence Support Center at Camp Parks, California. The G–2 section of the 1st Theater Sustainment Command, which had oversight of the U.S. Central Command theater logistics operations, shared daily intelligence products, which helped familiarize the 311th ESC G–2 staff with identified insurgent groups, TTP, cultural events, and background information that gave shape to the overall regional intelligence picture.

Knowledge of an enemy’s culture, religion, customs, politics, and history is extremely important. Before deploying, the G–2 staff studied historical, cultural, and religious characteristics of the people of Iraq and Afghanistan—a process that continued throughout the subsequent year-long deployment. The goal was to “understand the cultural, social, political, religious, and moral beliefs and attitudes of allied, host nation (HN), or indigenous forces to assist in accomplishing goals and objectives,” as prescribed in Field Manual 2–0, Intelligence. Knowledge of the culture and background of the indigenous people also provided insight into the basic values and motivations that were likely to affect insurgent activity and behavior.

After arriving in theater, 311th ESC G–2 staff took classes on Arabic culture at the Camp Arifjan education center to gain more background knowledge of the Arab people. The G–2 staff also attended lectures from the Advocates for Western-Arab Relations (AWARE) Center in downtown Kuwait City. [The AWARE Center is a nonprofit, nongovernment, and nonpolitical organization whose goal is to create a positive

THE FOUR GENERATIONS OF WARFARE

In his book *The Sling and the Stone: On War in the 21st Century*, retired Marine Colonel Thomas X. Hammes theorized that modern warfare evolved in four generations. The first began with the invention of gunpowder and the offensive military formations and tactics that used this new invention to their advantage. The second generation was characterized by the telegraph and railroads, or swift lines of communication, which were used in the Franco-Prussian War in 1870 and culminated in World War I. The third generation was characterized as the “age of maneuver,” with fighter aircraft, large tanks, rapid movements of large armies, and quick offensive engagements. This age of warfare included World War II and the first Gulf War and ended with the U.S. invasion of Iraq in March 2003—the start of Operation Iraqi Freedom. In speaking about the enemy forces of the fourth generation of warfare, the “information age,” Hammes said that they use “all available networks—political, economic, social, and military—to convince the enemy’s political decisionmakers that strategic goals are either unachievable or too costly for the perceived benefit. It is an evolved form of insurgency.” If this characterization of warfare is applied to the current U.S. military engagements, the United States is fighting an evolved form of insurgency in Iraq and Afghanistan and must modify its military strategies to effectively deal with this fourth-generation enemy force.

WITHIN THE U.S. MILITARY, THE INTELLIGENCE COMMUNITY ALSO HAS HAD TO ADAPT ITS METHODS AND STRATEGIES TO BETTER ASSIST U.S. FORCES IN ACHIEVING MILITARY GOALS AGAINST AN INSURGENT ENEMY.

relationship between Arabs and westerners through Arab culture education.] These lectures provided a local perspective on how Arab Muslims viewed westerners and how Islamic principles pervade the daily life and thought processes of Arabs. These learning opportunities enhanced the G-2 staff's ability to understand the Iraqi people and the insurgent enemy.

Analyzing Insurgent Attack Data

To help defeat insurgents, military intelligence professionals have to do more than gather intelligence on the enemy; they also have to be aware of the adaptive, asymmetric warfare strategies of insurgents and their capabilities for using a wide array of low-to-high technology means to achieve their goals.

Through a regional database developed by the G-2 section, intelligence analysts tracked attacks that occurred on main and alternate supply routes, including those that were not against supply convoys. The Combined Information Data Network Exchange is the system used to track all insurgent attacks occurring in Iraq. However, because this system also includes other attacks, the G-2 section found that it was not an effective method of determining intelligence trends regarding attacks occurring on supply routes. Analyzing attacks that are directed against convoys is significantly different from analyzing all attacks on or near roads, especially in highly populated urban areas such as Baghdad, Iraq.

One of the G-2 section's intelligence analysts developed a computer database that displayed only attacks along supply convoy routes. This enabled intelligence analysts to focus on loading supply convoy data into the program, including the location, time, and type of each attack and what convoy was attacked. Using this program, a query could be performed to determine the frequency and density of attacks on main and alternate supply routes. Detailed information on convoy attacks was also included in the database, which was extremely useful in understanding historical patterns and analyzing data. The G-2 staff also used the information to predict future insurgent behavior and attacks based on trends observed within the past year. By combining these data with known data on insurgent groups operating in the areas of the attack, intelligence analysts were able to determine the likely insurgent group conducting the attacks.

Sharing historical intelligence data with units scheduled for future rotations in theater is extremely important. Military intelligence analysts rely on the ability

to review and evaluate large quantities of information, such as the data stored in databases, to do their jobs effectively. The G-2 section's database on insurgent activity is a key source for managing and assessing critical data on enemy activity trends and must be updated regularly to keep information in the system current.

The 311th ESC found that the deployed operational environment presented an opportunity for real-world training of intelligence analysts. The 311th ESC G-2 Soldiers cross-trained by performing different intelligence duties during the deployment. This created a more complete operational picture and broader scope of intelligence interpretation through the fresh perspectives that each Soldier provided when taking on the duties of other intelligence section jobs.

The 311th ESC completed a year-long deployment overseeing regional logistics support to U.S. and coalition forces in Iraq without the loss of a single member of one of its convoys to enemy forces. Intelligence provided to commanders and decisions based on this information played a significant role in this accomplishment.

The combined efforts of intelligence analysts at each level collaborating on data collection, sharing information, and interacting and interfacing with systems and each other ultimately helped protect the supply convoys and the lives of hundreds of Soldiers involved in daily transport operations. By diligently monitoring insurgent activities along convoy routes, the G-2 section proved to be a significant enabler to successful sustainment operations in Iraq.

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Logistics Assistance Representatives Keep the Army Rolling Along

BY CHARLES W. FICK, JR.

From Valley Forge to Afghanistan's Korengal Valley, civilian specialists have served shoulder-to-shoulder with Soldiers, pitching in to keep equipment operating and supplies flowing. Today, more than 1,000 logistics assistance representatives (LARs) are working with Army units across the country and around the world, adding their expertise and experience to achieve logistics solutions.

"LARs are the equipment and supply specialists troops turn to when they're looking for solutions," said Carl Cartwright, executive director for Field Support Operations at the Army Sustainment Command (ASC) at Rock Island Arsenal, Illinois. "In my 30-plus years' experience, a LAR is worth his or her weight in gold. Their unique blend of expertise and experience, matched by a strong sense of duty, makes for a formidable force multiplier."

Effective Additional Manpower

Managed by ASC's Logistics Assistance Program (LAP) Directorate, LARs are Department of the Army civilians serving in motor pools, hangars, maintenance shops, and offices around the world, including those within combat zones. Highly trained, they bring 27 different specialty skills to Army equipment readiness requirements. They are all part of ASC's global network of Army field support brigades and battalions and are linked to every echelon of the Army in the field.

As experienced professionals, many LARs are also former Soldiers. "Being a LAR is a way I can bring a lifetime of experience to a new generation of Soldiers," said David Urbi, a retired Army noncommissioned officer and member of the brigade logistics support team serving with the 4th Brigade Combat Team, 101st Airborne Division (Air Assault), at Fort Campbell, Kentucky. "We're the 'go-to guys' when our Soldiers encounter problems. And if we don't have the answer, we know who to reach back to for information and support," said Urbi, who recently returned from Afghanistan, his second combat assignment.

Mike Guster, a former director of the LAP, headed a group of about 20 people at ASC's headquarters. "Our charter is to organize, train, and

support LARs in the field," he said. "The LAP mission is simple and enduring: provide warfighters with hands-on technical expertise to solve logistics problems and improve weapon systems readiness.

"Our LARs represent the full range of Army Materiel Command capabilities, including TACOM, CECOM [Communications and Electronics Command], and Aviation and Missile Life Cycle Management Commands, Joint Munitions Command, and our own ASC specialists. They all have technical lines of communication and responsibility to their parent commands, enabling them to reach back for solutions," Guster said.

Proof of LARs' critical role in field operations was recently highlighted during the delivery of mine-resistant ambush-protected (MRAP) vehicles to fighting forces in Iraq. In the early stages of the fielding, brand-new MRAPs rolling off airplanes and ships were plagued by unforeseen trouble with a serpentine drive belt. Because the vehicles were fielded so rapidly, no stock numbers existed for ordering repair parts.

A logistics problem with far-reaching operational impact was looming. "Our people on the ground were quick to assess the problem and implement a solution by reaching back to our stateside counterparts," said Sue Moynihan, a headquarters LAP staff member who was supervising the Taji, Iraq, MRAP fielding site at the time. "New belts were on their way in a matter of days, and in less than a month, a national stock number was assigned,

A TACOM engineer logistics assistance representative assigned to the 402d Army Field Support Brigade advises Soldiers from the 561st Engineer Company during repairs to a Caterpillar 621B scraper at Joint Base Balad, Iraq. (Photo by Summer Barkley, 402d Army Field Support Brigade)



smoothing the way for troops to order replacements down the line.”

Growing Demand

With their proven record, demand for LARs is growing, accelerated by our Army’s transformation to a modular, expeditionary, brigade-centric force. “Managing our program during transformation is challenging,” said Guster. “Doing so while also supporting forces in overseas contingency operations makes our task both more urgent and more complicated.”

Recent actions by the Department of the Army have increased the number of LARs from about 850 in 2005 to nearly 1,100 today. Plans call for more than 1,500 LARs in the field by 2012. “The increase is driven by the need to grow LAR strength to meet increases in supported forces,” said Cartwright.

“ASC capabilities are delivered through field structures that mirror the forces we support. Our Army field support brigades are linked to regions or operational theaters. Logistics support elements work with corps headquarters while Army field support battalions are matched to division [and] installation activities—and selected battlefield missions. Brigade logistics support teams are our smallest echelon, operating directly with and for brigade combat teams and similar formations.”

Subject-Matter Experts

Combining their lengthy experience with support from their parent commands, LARs can cover a lot of ground. “We’re the ‘old’ pros, part of the team, living and working with and for the troops. Commanders and leaders look to ‘their’ LARs for an incredible range of support, often under intense pressure,” said Guster, who has been in the logistics assistance business for more than 20 years, including four deployments.

The habit of Soldiers referring to the LAR as “their” LAR is born out of respect and camaraderie. “We all know what it means when we volunteer to become LARs: This is a muddy-boots job,” said Urbi, the Fort Campbell LAR. “We go wherever we’re needed. From our main base, we’ll travel to any outpost and stay there until the work is done. Where our Soldiers go, we go; where they live, we live; what they eat, we eat.” All LAP personnel are classified as mandatory mobile/emergency essential, meaning they deploy as AMC’s civilian “troops,” able to meet the needs of the Army’s force structure today and into the future.

In the field, Soldiers and units count on LARs for a wide range of support. Army Regulation 700–4, Logistics Assistance, outlines a LAR’s many tasks and capabilities. LARs, by definition, are subject-matter experts from each of their parent commands (Army Aviation and Missile Command [AMCOM], TACOM, CECOM, Joint Munitions Command, and ASC) who provide assistance to commanders and leaders in analyzing readiness,

identifying problems, determining responsibility for resolution, and when appropriate, assisting with resolution.

LARs provide commanders with the technical guidance necessary to resolve weapon systems, equipment, and systemic logistics problems while coordinating national-level sustainment support for non-standard equipment and contractor support when required. LARs also identify and report all logistics matters that have (or may create) an adverse impact on logistics readiness, including supply, maintenance, transportation, personnel, training, organization, systems, and doctrinal issues.

The demand placed on LARs makes for a highly selective recruitment process. “When we accept a volunteer into the LAP, we have to be confident that person can operate far from home station, think on their feet, and have their Soldiers’ best interest at heart,” said Guster.

Benefits and Responsibilities

Being a LAR has many benefits. “Job satisfaction tops the list,” said Bob Gottfreid, a former ASC staff member with 12 years as a LAR. “The thanks of a reequipped Soldier, grateful for what I bring to the fight, are my highest honors,” he said.

Connecting AMC’s vast resources to battlefield logistics is another benefit. “Expeditionary operations demand that we adapt, invent, and implement sound supply and equipment solutions as we go,” said Gottfreid, a veteran of four deployments. “Our knowledge, capabilities, and responsibilities are expanding as fast as the Army is transforming.”

In the premodular Army, primary logistics assistance functions included—

- Enhancing the operational availability of weapon systems.
 - Providing onsite logistics and technical assistance and reach-back to the industrial base.
 - Providing hands-on training to Soldiers at the unit level.
 - Ensuring cost avoidance through on-site technical logistics assistance.
- Added LAP functions now include—
- Synchronizing and integrating directed missions that support the Army Force Generation process.
 - Integrating field-level acquisition, logistics, and technology.
 - Managing field-level reset.
 - Managing and accounting for left-behind equipment.
 - Repairing and provisioning equipment during reset.
 - Planning work loads for sources of repair.
 - Managing fleets and ensuring Army Training and Doctrine Command equipment readiness.
 - Providing predeployment training equipment.
 - Writing prepare-to-deploy orders for Army pre-positioned stocks.
 - Satisfying nondivisional post, camp, and station requirements.



A TACOM logistics assistance representative specializing in equipment repair works with Soldiers from the 50th Engineer Multi-Role Bridge Company working on a 22-ton all-terrain crane at Joint Base Balad, Iraq. (Photo by Summer Barkley, 402d Army Field Support Brigade)

- ❑ Managing and accounting for theater-provided equipment.
- ❑ Providing command, control, communications, computer, intelligence, surveillance and reconnaissance integration.

“It can be very daunting,” said Guster. “Our numbers are few; our missions are many—and increasingly complex and urgent.”

LAR Management

Keeping an eye on more than 1,000 LARs dispersed in small groups to supported units in the United States and overseas tests management skills. “It’s a challenge,” Guster said. “We have to coordinate and synchronize our effort with our LARs’ parent commands. Four commands [AMCOM, CECOM, JMC, and TACOM] besides ours get a vote in the process.”

Among the shared missions and functions are—

- ❑ Personnel accountability.
- ❑ Training (mandatory, common, technical, and new equipment training).
- ❑ Mission assignment.
- ❑ Reporting metrics.
- ❑ Recruiting.
- ❑ Funding.
- ❑ Assignment processing for permanent changes of station or taskings.

- ❑ Deployment and dwell time.
- ❑ Career progression.
- ❑ Entitlements.
- ❑ Individual equipment.

“Our intent is to leverage the full capabilities of our LARs to provide first-class support to warfighters,” Guster said. “We’re shaping a comprehensive program that tracks and manages our people from recruitment through training and on to service in the field, right up to retirement. Our objective is guiding LAR careers in a logical progression, balancing their professional development and warfighter support.”

Night and day, in garrison, at training centers, and in combat, LARs serve alongside Soldiers. “Logistics assistance representatives are teamed with troops all across the Army. They’re putting life in the ASC motto, On the Line,” said Cartwright. “A thousand times a day, a Soldier somewhere turns to a LAR for help, guidance, or sometimes just assurance. It’s a partnership built on trust and supported by faith. A LAR will never let you down.”

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The Army Capabilities Integration Center: Building a Future Force

BY COMMAND SERGEANT MAJOR PATRICK J. LAIDLAW

As the saying goes, “Give a man a fish, and you feed him for a day. Teach a man to fish, and you feed him for a lifetime.” While I may not have any fish to share, I do have information that can help individual Soldiers do their jobs better. As the command sergeant major of an organization that supports change for the Soldier on a daily basis, I want to share information about the Army Capabilities Integration Center (ARCIC) of the Army Training and Doctrine Command (TRADOC) to help Soldiers become more adaptable and to encourage them to innovate throughout their Army careers.

ARCIC Mission

In 2002, ARCIC was founded at Fort Monroe, Virginia, as an independent directorate under TRADOC with a lieutenant general leading the effort. Today, ARCIC leads the development and integration of force capabilities across the Army. ARCIC is all about capabilities. Capabilities can be defined as anything the military uses to perform its mission, including doctrine; tactics, techniques, and procedures (TTP); and materiel solutions, such as a new weapons, ammunition, and vehicles. As an integrating center, ARCIC ensures the identification, design, development, and synchronization of Army capabilities into the current and future modular forces, bringing together all the Army agencies. ARCIC also supports the TRADOC mission by writing doctrine and TTP and capturing collective training experiences.

ARCIC encourages suggestions and innovations from Soldiers across the Army. For example, a young Soldier serving as a welder in Iraq this past year, Specialist Christiansen, found a problem. He could not wear his Kevlar helmet and welding visor at the same time. Apparently, the night-vision goggle (NVG) mount on the helmet stuck out so far that he could not place the welding shield over the same spot. With this impediment, he lacked adequate protection to perform his mission in a hostile environment. To keep this problem from delaying his work, Specialist Christiansen innovated on the spot by using the existing NVG mount and modifying the attachment points to fit a MIG-IT welding shield, making the Kevlar helmet a dual-purpose welding helmet. (See photos on page 12.)

Specialist Christiansen recognized a problem, adapted to his environment, provided a solution, and

then shared his adaptation with the chain of command. Later, ARCIC was able to assist by approving the “welder head protection” requirement and working to ensure that Specialist Christiansen receives some monetary compensation through the Army Suggestion Program. This is just one of many ARCIC success stories.

ARCIC Organization

ARCIC has seven basic directorates: Concept Development and Experimentation (CDE) Directorate, Capabilities Development and Assessments (CDA) Directorate, Architecture Integration and Management Directorate (AIMD), International Army Programs Directorate (IAPD), Force Design Directorate (FDD), Future Force Integration Directorate (FFID), and Accelerated Capabilities Development (ACD) Directorate.

CDE takes a long-range view to provide capabilities to the Army. This directorate scouts into the far future—20 to 35 years from today—to independently and objectively assess, refine, and generate ideas on operational-level warfighting. It conducts wargames and experiments and writes concepts. CDE’s Wargaming Division designs and operates the Army’s Title 10 wargames and participates in wargames with the National Defense University, the U.S. Joint Forces Command, the U.S. Special Operations Command, the

THE ARMY SUGGESTION PROGRAM

The Army Suggestion Program allows Soldiers to contribute ideas and suggestions that may improve individual assignments, a unit’s mission accomplishment, or the Army as a whole. The program seeks suggestions that improve work methods, materials, processes, equipment, logistics, utilities, or tools. Those who provide suggestions that are implemented and save the Army money are often eligible for a cash award. The more money saved, the larger the potential award. The Army Suggestion Program is currently online. If you are interested in contributing your ideas, please visit this site: <https://armysuggestions.army.mil>. The Army is certainly interested in your contributions and responsive to your ideas.



While welding outside a forward operating base, Specialist Christiansen realized that he could not use his Kevlar helmet and welding helmet at the same time, leaving him unprotected and vulnerable to shrapnel from secondary improvised explosive devices, mortar attacks, and small-arms fire. As demonstrated in these pictures, Specialist Christiansen used his existing night-vision goggle (NVG) hardware to modify his helmet. He left the receiving connector for the NVG on the Kevlar helmet and modified his welding visor by cutting out a U shape on top of it and attaching the NVG bracket to it. This modification allows Soldiers to easily attach a welding visor to a Kevlar helmet or advanced combat helmet, flip the shield up and down, and protect their heads as much as possible.

NONCOMMISSIONED OFFICER EDUCATION

The Army is a learning organization. In this regard, education is very important for Soldiers and NCOs across the force. Many people may not realize that the civilian education level of the NCO Corps has gone up considerably. Over 20 years ago, a high school diploma was the average education level of NCOs. Today, most NCOs have at least an associate's degree, and many have even more education. The Army's own educational opportunities have increased. Distance learning, the College of the American Soldier, Army Career Tracker, the GoArmyEd portal, and the eArmyU online program can provide Soldiers on the ground with the equipment they need to complete their learning requirements for their NCO Education System courses and continue their college educations from wherever they are. For more information on these programs, visit <https://www.goarmyed.com/Login.aspx>.

Army Space and Missile Defense Command, other services, and a host of Federal agencies. The directorate's Concept Division develops, integrates, and coordinates Army operational concepts for future operations, including Army capstone, operating, and functional concepts. The Experimentation Division executes Army and TRADOC experiments (synchronized with other Army, service, joint, and program experiments) to support current and future force developments.

CDA leads the determination of requirements and development of future force capabilities for TRADOC. Keeping a close eye on events in Iraq and Afghanistan, this directorate conducts capability gap assessments for the current force. CDA directs and manages the development of Joint Capabilities Integration and Development System (JCIDS) documents that are provided to the joint community. It also manages the integration of doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) solutions for capability gaps.

AIMD leads the development of operational architectures for warfighting concepts and capabilities. Architectures are needed in today's complex environment to map out the key relationships and key information exchanges needed in the Army force. This important directorate develops, integrates, validates, and maintains operational architectures that provide the underpinnings for land warfare concepts, capabilities, experimentation, analysis, and solutions.

IAPD synchronizes TRADOC's international activities to exchange information with our partners and allies to enhance current and future operational capabilities. The directorate also manages and coordinates

TRADOC international activities to synchronize the exchange of multinational DOTMLPF information. In the near future, ARCIC will be assigning 15 senior noncommissioned officers (NCOs) to serve as liaisons in 15 different allied nations. The NCOs will represent ARCIC and the U.S. Army in those coalition partner countries. (Perhaps you or someone you know will be one of these liaison officers in a future assignment.)

FDD leads TRADOC in developing operational force design and force structure solutions and manages the organization domain of DOTMLPF to support the JCIDS and Army requirements determination processes. FDD serves as the lead for JCIDS-derived organizational solutions and the Total Army Analysis process. The directorate ensures that TRADOC-approved organizational products are introduced into the Army. These products include approved force design updates and approved changes in required force designs and force structure.

FFID is responsible for the synchronized delivery, preparation, and evaluation of all Future Combat System (FCS) products, including complementary systems; the development of doctrine, organization, training, and leadership products pertaining to Army Program Manager FCS (Brigade Combat Team) materiel developments; and the command and control of the Army Evaluation Task Force (AETF). FFID and AETF create and sustain an environment for the successful testing, evaluation, and integration of FCS technologies for the current and future modular forces.

ACD coordinates force developments to ensure rapid delivery of DOTMLPF solutions to the field. It assesses and tracks DOTMLPF capabilities from the current modular force through the future force to provide prioritized recommendations for transforming force capabilities.

ARCIC is the Army's leader in identifying, designing, developing, and synchronizing capabilities into the Army's current and future modular forces. It is responsible for managing the modernization of the Army today and tomorrow across all Army agencies as well as joint, multinational, and other Department of Defense agencies. ARCIC supports TRADOC in providing adaptive Soldiers, leaders, and units by contributing to the development of doctrine, TTP, and the collective training experience. Ultimately, ARCIC's measure of success is a campaign-quality Army with joint and expeditionary capabilities.

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Improving Distribution of Organizational Equipment

BY MAJOR T.J. WRIGHT

Program Executive Office Soldier's Rapid Fielding Initiative uses Lean Six Sigma methods to improve accountability and asset visibility during equipment transfers.

Comments from the field have forced a major shift in the fielding protocol and accountability transfer process for organizational equipment that is distributed by Program Executive Office (PEO) Soldier's Rapid Fielding Initiative (RFI). The need for improvements in RFI processes has been driven by unit training and operational tempos. Unit tempos have become extremely demanding, and units and RFI personnel have little time to deal with the additional logistics workload and administrative work generated by errors in documentation, cataloging, and distribution.

Units generally prefer to receive distribution of organizational equipment configured in a "unit set," which permits packaging of equipment to accommodate distribution to the battalion and company levels. The cornerstone of the Army's ability to make accurate, data-driven decisions on how to procure, sustain, and field materiel for the operating Army is total asset visibility. To significantly improve accountability in equipment transfers and increase asset visibility, the RFI team continually evaluates its scheduling, planning, coordination, and distribution processes for fielding organizational equipment managed under the Property Book Unit Supply Enhanced (PBUSE) system.

To tackle the problem of improving accountability, a cross-section of key representatives involved in the entire process of fielding organizational equipment formed a Lean Six Sigma (LSS) team. RFI personnel established the business need for the LSS team and the path forward using the standard LSS methodology of "define, measure, analyze, improve, and control" (DMAIC).

Defining the Problem

The LSS team initially defined the problem in this way: "Property book officers (PBOs) receiving organizational equipment are experiencing problems posting equipment to their property books."

The scope of this process improvement project encompassed the full spectrum of the distribution process. The LSS DMAIC analysis revealed that the problem actually begins well before equipment is fielded, which led to a revision in the scope of the problem.

The fielding process now is defined as beginning during initial coordination with key stakeholders, both internal and external to the receiving unit, and ending with the acceptance of transfer of accountability by the unit PBO.

The initial project goal was to achieve a combined cost avoidance of \$18 million. The LSS team believed that successful implementation of this project would substantially improve both the RFI accountability process and total asset visibility on gaining commands' property books, thereby reducing the costs associated with refielding and duplicate fielding of equipment.

Measuring the Problem's Impact

The LSS team formulated a plan to collect information on the existing fielding process in order to make sound, data-driven decisions. The data collection plan encompassed 535 property book transfers between 1 October 2007 and 31 March 2008. From this period, 30 random samples from 4 property transfer categories and the compiled results of focus groups, interviews, and online surveys were analyzed.

Of the 535 transfer documents evaluated—

- ❑ 23 percent were accepted within the tolerable parameter of 7 days.
 - ❑ 34 percent were accepted after 7 days (with a mean of 101 days).
 - ❑ 11 percent were rejected and never accepted.
 - ❑ 32 percent were outside of tolerance and still pending.
- So PBUSE did not accept 43 percent of the property book transfers from the 6-month period.

The LSS team took random samples of transfer documents in multiple categories (accepted transfers within 7 days, accepted outside 7 days, rejected, and still pending) in order to measure why PBUSE transfers were not always accepted. However, until the team spoke to the customers, evaluation of the data did not reveal why transfers were not accepted. After conducting 5 focus groups, 11 interviews, and 63 surveys (collected using SurveyMonkey.com), the LSS team captured a very clear picture of the magnitude of the problem: the baseline sigma was 0.77 with a yield of 23 percent. ("Sigma" measures how much a process

varies from perfection. “Yield” is the percentage of a process free of defects.)

The fielding process was obviously not capable, and the sources of the deficiency appeared to be directly related to the combined effects of gaps or errors in communication, documentation, and manual input.

Analyzing the Results

RFI’s LSS team then analyzed the data, studied the process flow, and pinpointed the causes of problems with considerable confidence. The team identified key input and output variables tied to the project goals of reducing re-issue costs for duplicate items by 25 percent and improving the gaining command’s property book asset visibility by 50 percent.

The team found that communication among all key stakeholders—internal and external to the gaining unit—was the cause of the defects in acceptance time. The team discovered that documentation errors, including improper cataloging, serial number tracking, accountability category management, and manual input errors, were the prime contributors to miscommunication among stakeholders.

The team also found that one of the best ways to improve customer satisfaction was by preparing equipment transfers at the lowest unit level requested by the gaining command. Previously, RFI transferred equipment at the brigade level, which created flexibility for the brigade commander. However, this resulted in multiple transfers at the battalion and company levels, which increased time loads and paperwork.

Improving the Process

The LSS team looked at multiple solution sets to address the three root causes of fielding problems: lack of effective communication, documentation errors, and failure to break down equipment into unit sets.

To address the communication issue, the team developed a communication matrix to define the internal and external communication flow and facilitate the transfer process. This review included prefielding contact with the gaining unit, communication between the RFI PBUSE representative assigned to the fielding event and the gaining unit PBO, and continued communication with the PBO in the coordination process before and after the fielding event.

To reduce documentation errors, the team developed an electronic precoordination packet of 12 critical documents, providing the gaining unit with the 5 W’s (who, what, where, when, and why) behind the organizational equipment they are to receive. The documents cover everything needed to walk the PBO through the prefielding, fielding, and accountability transfer processes and ensure proper documentation and understanding of all fielding and accountability requirements and expectations. The packet includes—

- ❑ The coordination brief.
- ❑ The accountability transfer process brief.
- ❑ Department of the Army guidance on items managed on the property book.
- ❑ Organizational and Soldier equipment item descriptions and photos.
- ❑ A detailed list of the property book items, with all of the information needed to create authorizations (such as the line item number or nonstandard line item number).
- ❑ A weapons planner, with weapons densities, modification table of organization and equipment, and onhand data for each item.
- ❑ The basis of issue plan.
- ❑ An automated spreadsheet reflecting the unit set of equipment to be fielded as low as company level. This packet serves as a reference guide for accountability transfer to gaining units.

The LSS team next developed an automated process to eliminate manual input errors. The solution set included barcoding all serialized items, automated uploading of documentation, and prefielding preparation of all fielding documentation.

Lastly, the team discussed unit-set fielding options for gaining units to identify the level at which equipment transfers should take place. The overwhelming result from the pilot units was: Conduct equipment transfers at the company level. The LSS team also realized that it was important to allow units to select the level of equipment transfers in order to increase customer satisfaction and acknowledge the needs of gaining units.

Pilot Program

With the LSS team’s findings supporting the implementation of an improved accountability process, the RFI chose the 1st Brigade Combat Team (BCT) of the 82d Airborne Division to pilot the “future state.” In February 2009, RFI personnel fielded unit equipment in prepackaged unit sets (22,825 items) with documentation down to the company level (30 unit identification codes [UICs]). Companies received their unit sets with completely accurate documentation, with a mean of 28.5 minutes per company needed to complete the process from in-brief to signature. The process also involved uploading PBUSE documentation on the same day as the fielding.

As compared to the previous process, which involved days or weeks of labor-intensive effort at the gaining unit level, the BCT accepted all the equipment within 5 working hours (including the actual confirmation and acceptance of lateral transfers for all UICs). The pilot resulted in an efficient, accurate population of the unit property book for all unit equipment items, valued at \$1,039,775, providing almost immediate total asset visibility of property

book items fielded. All things considered, the program exceeded every expectation.

The LSS team took the lessons learned from the successful pilot and applied them to the next RFI fielding event: the 173d Airborne Brigade Combat Team. The RFI fielded unit equipment to 17 company-level UICs of the BCT in Bamberg, Germany, and 13 company-level UICs in Vincenza, Italy. RFI expanded on the initial LSS pilot to improve the accountability transfer process for organizational property book items. For the 173d, RFI fielded prepackaged unit sets of 25,339 items.

Companies inventoried and signed for their unit sets of equipment with completely accurate, automated documentation. The RFI fielding team pushed documentation almost simultaneously with the equipment, and the 173d accepted the property book entries for all UICs within 8 working hours from the end of fielding. This process resulted in a PBUSE update valued at \$1,343,630 and again provided almost immediate total asset visibility.

Since the initial pilot fielding events, the RFI has fielded equipment to the 3d Infantry Division's Combat Aviation Brigade with similar success. Looking to the future, the RFI team has already coordinated with four additional brigades, including elements from all three Army components, and expects the same results for all units involved.

Controlling the Process

After the highly successful initial fieldings, the LSS team instituted measures to maintain the process improvements in the control phase of the LSS DMAIC process. The team set metrics for monitoring based on the successes of the pilot. It then applied the lessons learned from the pilot and the three subsequent fieldings in order to develop training plans, document and illustrate key process steps, create quality assurance checklists, and establish a standing operating procedure to ensure that all process owners are fully postured for success.

Another critical enabler of the RFI's new accountability transfer process involves a strict adherence to the critical communication processes with all stakeholders during the prefielding, fielding, and accountability transfer phases of the overall process. Following these standards has yielded positive, measurable results: lateral transfers of property on the same or next day following equipment distribution.

Bringing the fielding process from a 0.77 Sigma rating to a 5.2 Sigma rating equates to an improvement of 88 defects per million opportunities on input errors and zero defects per million opportunities in the process capability. Furthermore, to ensure total asset visibility, the property book is updated and reflected globally by means of PBUSE within 7 days.

THE STANDARD LSS
METHODOLOGY IS FUNDAMENTAL
TO ALL PROCESS IMPROVEMENT
INITIATIVES AND DEFINES
PEO SOLDIER'S APPROACH
TO THE WAY RFI DOES BUSINESS.
TAXPAYERS TRUST THE ARMY
TO BRING NEW TECHNOLOGY TO
BEAR IN EVERY ASPECT OF ITS
FIELDING OPERATIONS.

From a customer perspective, PBOs across the Army have been overwhelmingly supportive. Other customers, such as program managers, PEO Soldier, the TACOM Life Cycle Management Command's Organizational Clothing and Individual Equipment Central Management Office, and Headquarters, Department of the Army (HQDA), staffs, are getting what they need: accurate, immediate, total asset availability. This enables decisionmakers at all levels to make confident, data-driven decisions on how best to effectively and efficiently arm, protect, and sustain the Soldier system.

Listening to the voice of the customer—Soldiers, brigades, PEO Soldier, HQDA—is at the forefront of the RFI efforts. It reflects PEO Soldier's commitment to putting the customer first, divorcing itself from any personal attachment to existing organizational processes, and looking for opportunities to eliminate errors, maximize the quality of products and services, and ensure continuous improvement.

The standard LSS methodology is fundamental to all process improvement initiatives and defines PEO Soldier's approach to the way RFI does business. Taxpayers trust the Army to bring new technology to bear in every aspect of its fielding operations. RFI continues to develop processes to meet these expectations while reducing the workload on gaining units. This process is a win for Lean Six Sigma, a win for PEO Soldier, and a win for the Army.

MAJOR T.J. WRIGHT IS A PRODUCT DIRECTOR FOR THE ARMY GROUND APPLICATIONS PROGRAM OFFICE. WHEN HE WROTE THIS ARTICLE, HE WAS THE PROGRAM EXECUTIVE OFFICE SOLDIER ASSISTANT PROJECT DIRECTOR FOR THE CHIEF OF STAFF-DIRECTED RAPID FIELDING INITIATIVE. HE HOLDS A B.S. DEGREE FROM THE UNITED STATES MILITARY ACADEMY AND A MASTER OF EDUCATION DEGREE FROM THE UNIVERSITY OF VIRGINIA AND IS A GRADUATE OF THE ARMY COMMAND AND GENERAL STAFF COLLEGE. HE IS LEVEL III CERTIFIED IN PROGRAM MANAGEMENT AND A CERTIFIED LEAN SIX SIGMA (LSS) BLACK BELT. HE WAS THE LEAD FOR THIS LSS ACCOUNTABILITY TRANSFER IMPROVEMENT PROJECT.

PBUSE Incorporates Automatic Identification Technology

BY JEANNETTE J. JONES AND JEFF W. DAVIS

The Army is improving and simplifying its property accountability processes by incorporating automatic identification technology (AIT) into Property Book Unit Supply Enhanced (PBUSE). AIT increases PBUSE's ability to accurately identify, track, document, and control the movement of deploying equipment and personnel.

Historically, the Army has used a passive barcode system that required much manual input. Since its fielding began in November 2008, PBUSE-AIT has been improving the speed and accuracy of property accountability by fielding with PBUSE hand-held terminals, printers that produce long-term asset labels, and two-dimensional barcode technology.

The hand-held terminal is used to view the inventory, add items to the inventory, scan items not owned by the unit, manually enter or flag items that cannot be scanned, and flag items that need their barcode label reprinted. When performing an inventory using a hand-held terminal, if the item is a bulk item (without a serial number, registration number, lot number, or component hand-receipt number), the user is prompted to enter a quantity.

The client application serves as the "middleware" between the PBUSE enterprise and the hand-held terminals. This middleware can print barcodes and manage a number of hand-held terminals, users, and unit identification codes. The client application also serves to back up data obtained from hand-held terminals and pushes and pulls data to and from the PBUSE server. The application also protects hand-held terminals by automatically installing upgrades and security patches onto the devices.

PBUSE users will be able to view inventory results and discrepancies identified for scanned, unscanned, and manually inventoried items. The system will also identify items needing a new or revised barcode or asset label.

Using AIT, PBUSE users will be able to generate direct inventories by sub-hand receipt, line item number, or national stock number and create trackable ad-hoc inventories and request the status of downloaded or completed inventories. Once the user performs an inventory and marks it complete, the inventory then can be reviewed and discrepancies can be resolved. Once the process is complete, the inventory is archived in the PBUSE database.

PBUSE-AIT enables logisticians to rapidly capture detailed information and send that information to PBUSE using minimal human intervention. The technology captures data faster and more accurately than manual modes and, in doing so, reduces common inventory errors. The use of AIT also simplifies inventory management, archives records indefinitely, and reduces the amount of training required to use PBUSE.

The Army Quartermaster Center and School's Logistics Training Department started training advanced individual training Soldiers on PBUSE-AIT in January 2009, giving Soldiers experience with the equipment before they arrive at their first unit assignments.

After seeing the success of phase I of the PBUSE-AIT project in automating the inventory process and providing commanders and property book officers with the ability to create, administer, and review the results of any directed inventory, Army leaders expressed an interest in adding functions to the system. During PBUSE-AIT phase II, the Army will evaluate the system's ability to read item-unique identification labels, provide an electronic signature capability, initiate and complete lateral transfers, conduct end-item component inventories, and create, receipt, and post MILSTRIP (Military Standard Requisitioning and Issue Procedures) transactions.

More than 12,000 PBUSE-AIT systems are projected to be fielded to units by the end of this fiscal year. Fielding to garrison commands, program managers, and the Army Sustainment Command is under evaluation.

JEANNETTE J. JONES IS THE RESOURCE MANAGEMENT DIVISION CHIEF FOR THE PRODUCT MANAGER, MOVEMENT TRACKING SYSTEMS, AT FORT LEE, VIRGINIA. SHE WAS PREVIOUSLY THE PROJECT MANAGER, LOGISTICS INFORMATION SYSTEMS. SHE IS A RETIRED ARMY LIEUTENANT COLONEL AND HOLDS A B.S. DEGREE IN GENERAL ENGINEERING FROM THE UNITED STATES MILITARY ACADEMY AND AN M.S. DEGREE IN MATERIEL ACQUISITION MANAGEMENT FROM THE FLORIDA INSTITUTE OF TECHNOLOGY, AND SHE IS LEVEL-III CERTIFIED IN PROGRAM MANAGEMENT AND CONTRACTING.

JEFF W. DAVIS, L-3 COMMUNICATIONS, IS THE STRATEGIC COMMUNICATIONS DIRECTOR FOR THE PRODUCT MANAGER, MOVEMENT TRACKING SYSTEMS. HE IS A RETIRED ARMY LIEUTENANT COLONEL AND A GRADUATE OF THE UNITED STATES MILITARY ACADEMY AND THE DEFENSE INFORMATION SCHOOL'S PUBLIC AFFAIRS OFFICER COURSE.

Easing the EPIC Search for Logistics Policy Information

BY DEMETRIUS GLASS

An Army search engine called EPIC allows logisticians to find the policy documents they want without leaving their computers.

Wading through piles of Army policy documents to find the one paragraph you want is a tedious job. But thanks to the work of the Army Logistics Innovation Agency (LIA), the search just became a lot easier. LIA, the field operating agency of the Office of the Deputy Chief of Staff, G-4, Headquarters, Department of the Army (DA), created the Enterprise Policy and Process Interactive Capability (EPIC), an electronic policy search tool that has brought the archaic and cumbersome methods of searching for Army logistics policy guidance into the 21st century.

Similar to Commercial Search Engines

EPIC is designed to have a look and feel similar to the popular commercial search engines that are familiar to users, such as Google or Yahoo. Users can therefore easily transfer their knowledge of these popular search engines to EPIC, making it easy for them to learn and use. The similarities to commercial search engines continue with the two basic ways that EPIC provides for performing searches: a simple word search and a complex phrase search.

EPIC enables users to research and cite official Army regulations and DA pamphlets, as posted and updated by the Army Publishing Directorate, with unprecedented effectiveness. EPIC will return a brief

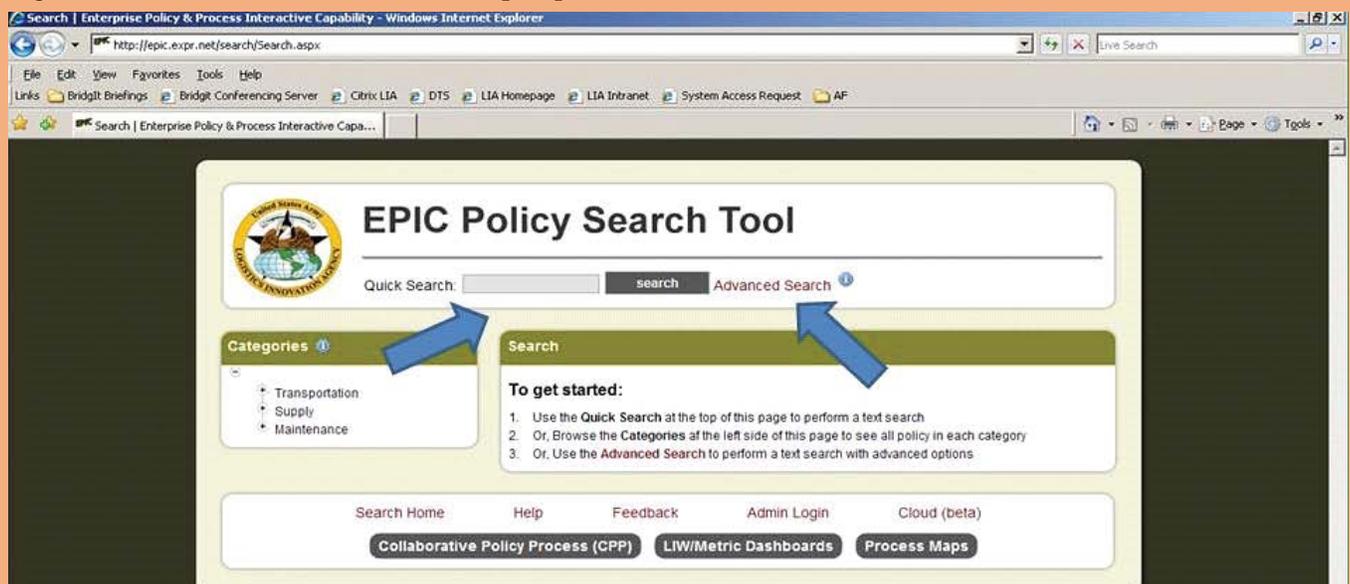
synopsis of results to the user. The user then can click on any part of the synopsis to view the full document of requested information.

EPIC's Advantages for the Army

So, what makes EPIC different from the commercial search engines? The first major difference is that EPIC can provide Army logisticians with precise results in finding Army logistics policy. Because EPIC searches only regulations from the DA G-4 and the Defense Transportation Regulation, search results are timely, up to date, accurate, and precise. EPIC also provides the user with exact data about his searches to help with policy analysis and ensure consistency among publications on the same topic. For instance, a search result will provide the user with the owner of the regulation (supply, maintenance, or transportation), the regulation number and name, the chapter name, and a brief synopsis of the regulation. Using a method called "chunking," EPIC can take an entire regulation and break it down to the paragraph level. By either performing a simple or advanced search, EPIC users can obtain the exact paragraphs associated with their topic search.

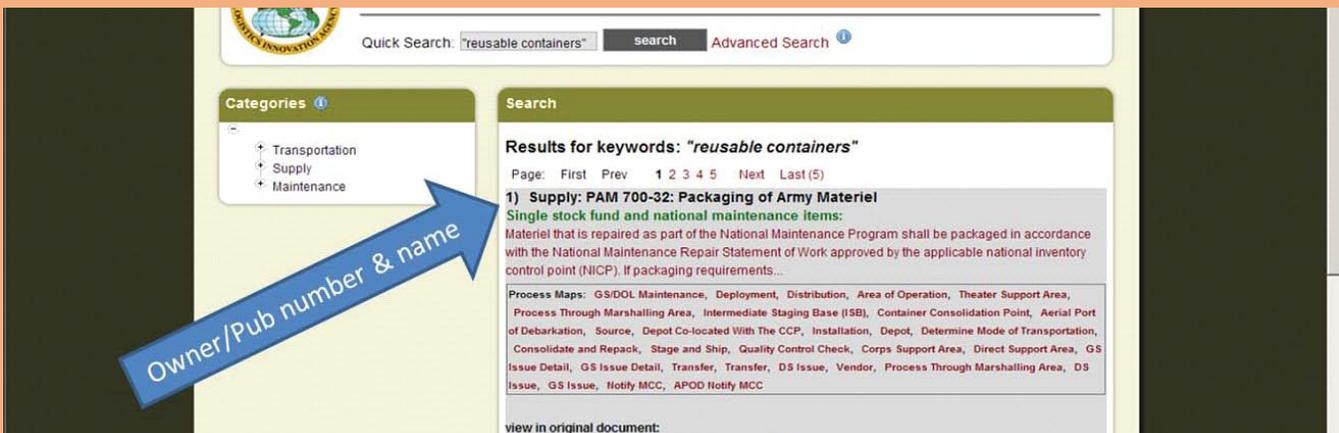
In addition to performing precision searches, EPIC provides logisticians with cross-referenced searches. In other words, when a topic is queried, EPIC brings back all paragraphs related to that topic, no matter which

The Army's Enterprise Policy and Process Interactive Capability (EPIC) looks like the most popular commercial search engines. EPIC allows users to make both simple, quick searches and more advanced searches.





EPIC retrieves the exact paragraph or paragraphs that meet the search criteria. Users also have the option of viewing the entire regulation containing the paragraphs they want.



The search results in EPIC come back with basic information, such as the owning organization, the regulation number, and the regulation title, in black. The paragraph title is highlighted in green, and a brief synopsis of the paragraph is shown in red.

discipline (supply, maintenance, or transportation) is the primary proponent of that topic. This feature enables logisticians to crosscheck policies to ensure that any existing or proposed changes do not contradict existing policies within a particular discipline or the entire Army logistics community.

Accessing ALARACTS Through EPIC

The current version of EPIC provides logisticians with search returns based on published DA G-4 regulations and the Defense Transportation Regulation. However, under the Army's current operating tempo, policy is changing more frequently than in past. Unfortunately, the official process for updating published regulations has been unable to keep up with these frequent policy changes. As an interim solution, policy-makers have started to use an interim message system called All Army Activities (ALARACTS) messages to inform the Army of these fast-paced policy changes. ALARACTS became accessible in EPIC in December 2009. This new feature allows logisticians to search and retrieve ALARACTS, making searching for the latest in logistics policy by means of ALARACTS

as easy as it is to search Army regulations and DA pamphlets. Users can search by regulations and ALARACTS or by ALARACTS alone.

EPIC can be accessed through the EPIC Policy Search Tool at <http://epic.expr.net>. The service is free to all qualified users. The tool is currently undergoing accreditation to be hosted on the Department of Defense network. While EPIC will remain free to users after information certification, in the future EPIC users will need to have either an Army Knowledge Online account or a common access card (CAC) authentication to gain access. Soldiers are encouraged to use EPIC as much and as often as needed and to ask questions or make suggestions through EPIC's "feedback" button.

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Training Logisticians for the Current and Future Operational Environments

BY MAJOR JASON J. F. MURPHY

As they progress in their careers, Army officers receive training and education based on the jobs they will most likely perform at their next levels. For logistics officers, the education is heavily focused on the science of logistics. But is this sufficient? Are we really training our logisticians for the current and future operational environments?

How Logistics Officers Are Trained

Logistics officers begin their careers in one of the basic logistics branches of Ordnance, Quartermaster, or Transportation. What they learn at the Basic Officer Leader Course (BOLC) is branch specific and focused on Army regulations, leadership, and technical and tactical skills.

After completing the Combined Logistics Captains Career Course (CLC3), officers from all three basic branches transition to the Logistics branch. CLC3 prepares officers to command Soldiers at the company level and to serve as staff officers at the battalion and brigade levels. The course curriculum focuses on technical, tactical, and leadership competencies.

After successfully serving as company commanders and staff officers, officers are promoted to the rank of major and attend Intermediate Level Education (ILE). ILE is grounded in warfighting doctrine and designed to prepare new field-grade officers for their next 10 years of service. Graduates are expected

to have acquired the technical, tactical, and leadership skills needed to succeed at higher levels of responsibility and authority.

The education and training of Army logisticians promote the concept that logistics is a science rooted in mathematical calculations. The three institutional education programs for logistics officers—BOLC, CLC3, and ILE—emphasize learning doctrine and the science of logistics. This intense scientific and mathematical approach creates a frame of reference in which a logistician is the equivalent of a cog in a machine. This builds a false expectation that they will operate within a closed system.

For example, the Support Operations Phase II Course (a course mandated for all logisticians at ILE) spends a great deal of time teaching about the nine different Standard Army Management Information Systems, including their functions, locations, maintenance, and management. But, contrary to this systematic emphasis, Logistics branch officers must also be able to deal with matters beyond simple problems of supply. According to Department of the Army Pamphlet 600-3, Commissioned Officer Professional Development and Career Management, “LG [Logistics branch] officers are effective in managing, leading, and changing large organizations. They are skilled in governance, statesmanship, and diplomacy. A logistician understands cultural context and works effectively across it.” Such requirements are outside the scope of doctrine and science. If these are in fact primary goals, then the education of officers must address art as well as science.

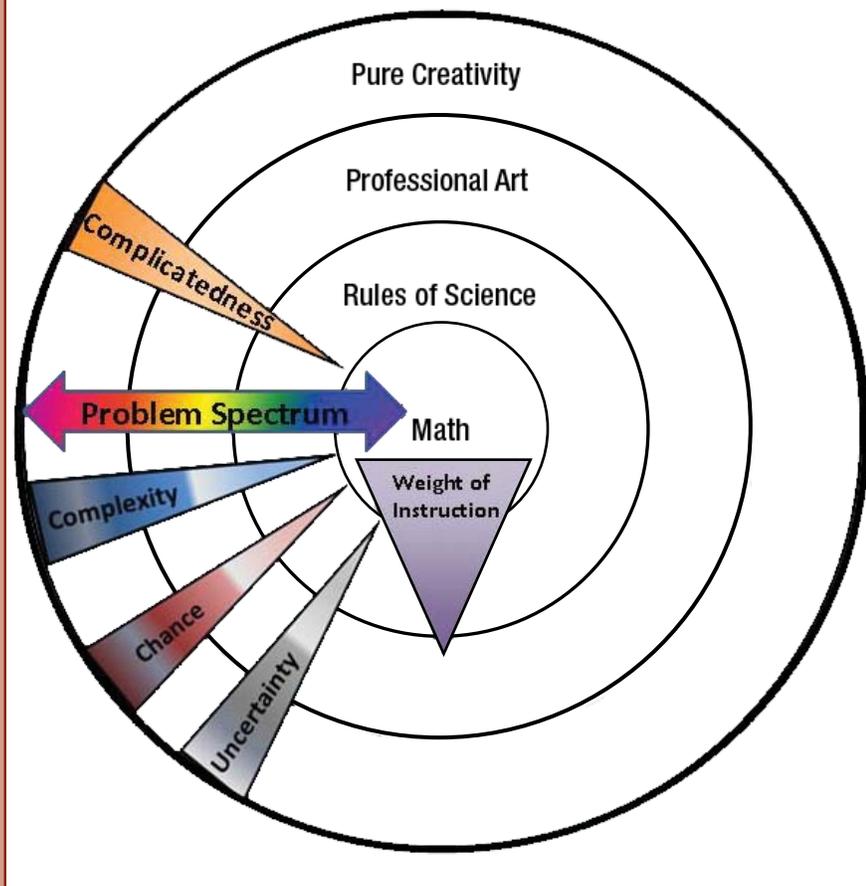
“A LOGISTICIAN UNDERSTANDS CULTURAL CONTEXT AND WORKS EFFECTIVELY ACROSS IT.” SUCH REQUIREMENTS ARE OUTSIDE THE SCOPE OF DOCTRINE AND SCIENCE. IF THESE ARE IN FACT PRIMARY GOALS, THEN THE EDUCATION OF OFFICERS MUST ADDRESS ART AS WELL AS SCIENCE.

Logistics Education Training Model

To depict the current education and training of Logistics branch officers, I have developed the Logistics Education Training Model (see chart at right). This model illustrates an environment in which art and science work together to solve logistics challenges. I intentionally avoided a linear, progressive representation. Challenges faced by logisticians fall on a continuum that is simplistically represented by the double-headed arrow titled “problem spectrum.” The model requires the logistician to examine the operational environment, consider where the problem lies within the continuum, and draw on education and experience to aim for a solution.

Logistics Education Training Model

Education and Training As It Is



The Logistics Education Training Model depicts how the bulk of institutional education focuses on math and rules of science. Institutional education and training lacks development in the professional art and pure creativity arenas, which are necessary for solving problems.

Emanating from the center ring are four triangles: complexity, complicatedness, chance, and uncertainty. These triangles attempt to represent how the environment contains increased quantities of these elements as you move outward. For example, if you have a problem requiring pure creativity, it will be in an environment of great complexity, complicatedness, chance, and uncertainty.

At the center of the model is math, the tool of logic and a mechanism for science. Math is theoretical and involves calculations. Problems solved using math are self-evident or have a full structure. At this level, only one right answer exists, and it is found by learning and executing the correct mechanical technique or computation.

The second ring, rules of science, is where theory meets matter. Science builds on math through manipulation and methodology. The structure ranges from simple to complicated, or it can have many

parts. At this level, science uses mathematical calculations to compare and relate structures; it establishes rules for dealing with problems. Here, there may be more than one right answer but only one end state.

The third ring is termed “professional art” because it relies on practices, habits, and traits. Understanding at this level occurs as knowledge, skill, and experience intertwine. Professional art moves beyond order to consider other factors (such as friction and chance) and their effect on the order of math and science. Several options are available for understanding problems at this level, and developing solutions requires knowledge and evaluation. The art is professional because it relies on a profession’s practices, habits, and traits.

The pinnacle of art occurs in the outermost ring, pure creativity. Pure creativity requires a logistician to identify what is possible and impossible when he has no experience in the subject or when no order is evident. It is here that the combination of math, science, and professional art are required to handle the unexpected and unforeseen.

Contrary to theoretical intentions and the practical realities that logisticians face in the field, the bulk of institutional education falls entirely within the innermost math and rules of science rings. This is depicted by the “weight of instruction” triangle that extends from the center and barely enters into the professional art ring. The gap facing our institutional education and training is the lack of development in the professional art and pure creativity arenas, which are necessary for problem solving. The way logisticians are educated leads to their inability to move beyond the technical aspects of logistics and leaves commanders constrained.

How Education Should Change

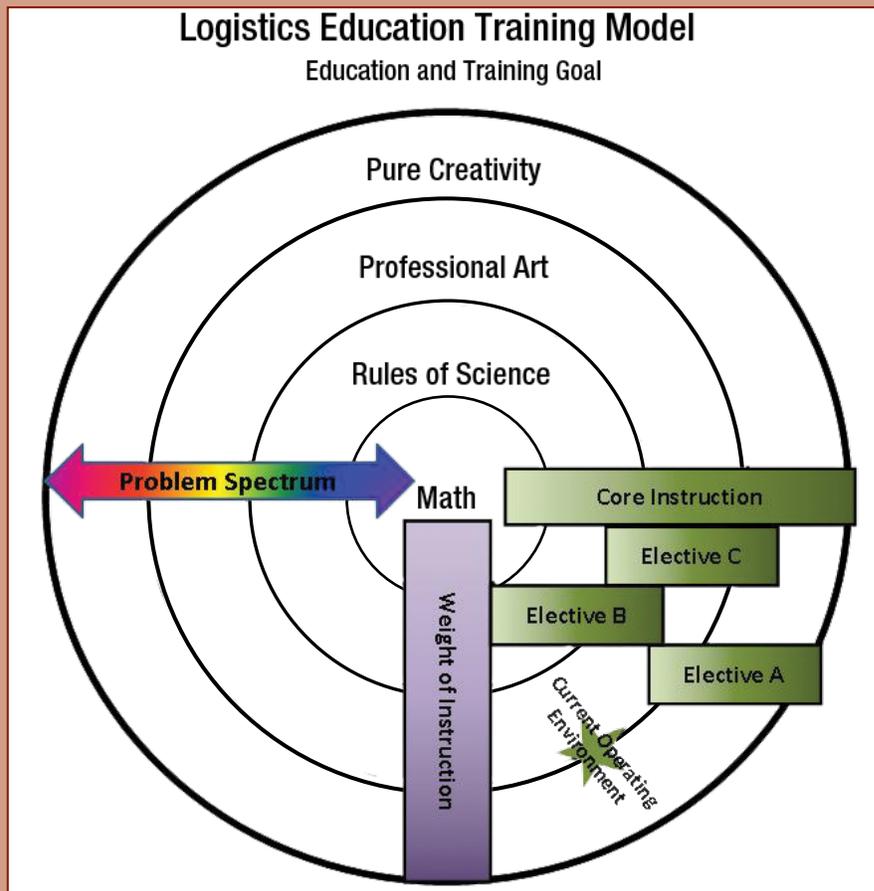
If logisticians are to adapt quickly, then education and training in the art of logistics, coupled with imagination, creativity, and knowledge, must be integrated into our doctrine, institutions, and training. To meet these challenges, I present another version

of the Logistics Education Training Model as a representation for logistics education and training that provides core instruction equally weighted in all areas (see chart at right). This core instruction provides a foundation to build on in each of the domains. Additional electives in each of the four domains would address individual shortcomings and provide instruction for current operational environments. These curricula could be taught at ILE or the Theater Logistics Studies Program because of their ability to reach the most students in a most efficient manner.

I believe that we can improve our logistics practices by including art in our officer education courses and by training logisticians to look for artful solutions. Our Army has been successful in the past without including creativity in officer education, but our current and future operational environments are going to be hard. These environments place logistics on a tipping point that can jeopardize mission accomplishment or the commander's initiative.

The threat to logistics is not always conventional, kinetic, or lethal. Logistics threats come from environmental, materiel, and personnel arenas and include anything that can diminish logistics operations. A threat could be a port shutdown, a trucker strike, a government ministry closure, asset limitations, infrastructure deficiencies, cultural problems, time constraints, or national caveats. Threats that limit the logistics system's responsiveness to the needs of the commander must be understood so they can be reduced, if not eliminated. With the view that the operational environment in Afghanistan is the same type of environment we will face for some time, the study of art and its dimensions and complexities is no longer optional. The need for a logistics approach that extends beyond the boundaries of science is vital to our mission, our military, and our Nation.

Beyond the tables, templates, and checklists are political, military, economic, social, informational, and infrastructure systems, with people categorized as enemies, adversaries, supporters, and neutrals. People are influenced by factors of geography, culture,



This modified Logistics Education Training Model illustrates logistics education and training that provides core instruction equally weighted in math, science, art, and creativity.

religion, language, history, education, beliefs, perceived objectives and motivations, media, and personal experience. Pursuing this approach requires creativity, imagination, and innovation to come together in order to create an environment rich in understanding, knowledge, and value judgments that result in responsiveness, reduced uncertainty, and the ability of the commander to exploit opportunities. Leaders must critically think, collaborate, frame, design, plan, implement, continuously learn, and adapt logistics operations amidst ongoing change. Army education and training must support the development of such leaders.

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Parachute Rigging in Afghanistan

BY CHIEF WARRANT OFFICER (W-3) JEFFERY S. PAGE, USAR



With the poor infrastructure, unimproved roads, and numerous remote unit locations in Afghanistan, aerial delivery is a vital asset in resupplying our Soldiers. The first airdrops began on 8 October 2001 as humanitarian aid for Afghan civilians. As the war completes its eighth year, aerial delivery is more vital than ever.

The airdrop process usually begins with the customer who, after determining an aerial delivery requirement, submits a logistics support request. The movement control team processes the request and submits an intratheater airlift request.

Once the request is approved, the parachute riggers configure the requested supplies on a “skid board,” a 1-inch thick piece of plywood that is either 48 by 48 inches, 48 by 72 inches, or 48 by 96 inches in size. The size of the skid board is determined by the type of supply to be dropped. Holes are drilled in the plywood as appropriate, and cardboard honeycomb (energy-dissipating material) is glued to the top. An A-22 container is placed on top of the cardboard honeycomb, and the supplies are then configured on the containerized delivery system (CDS) bundle. The supplies are strapped in, the skid board is tied to the bundle, and the parachute is placed on top, completing a CDS bundle weighing between 500 and 2,200 pounds.

Next, the bundles must go through a joint airdrop inspection, which is conducted by qualified parachute

Above: Containerized delivery system bundles are dropped in Afghanistan using the low-cost, low-velocity parachute system. Below: Army riggers prepare bottled water for airdrop in Afghanistan. Since 2001, the airdrop of supplies has been essential to resupplying units in remote locations inaccessible by truck.





F/n

647TH QUARTERMASTER COMPANY (AES)



FROM THE FRONT
WORKHORSES

Containerized delivery system bundles are loaded onto a C-130 or C-17 aircraft, where riggers will jointly inspect the bundles with Air Force personnel before handing over the airdrop mission.

riggers and Air Force personnel. After passing the inspection, the bundles are transported to the aircraft and loaded. The parachute riggers and Air Force personnel inspect the bundles again when they inspect the configuration of the aircraft load. At this point, the parachute rigger's job is complete.

The requirement for aerial delivery support in Afghanistan has increased yearly, giving each rotation of parachute riggers the opportunity to outperform the previous rotation. In 2008, the total weight of all CDS bundles almost tripled the 2007 total, increasing from more than 3 million pounds to nearly 9 million pounds. With a success rate of more than 98 percent, the parachute riggers lived up to their motto, "I will be sure always."

In 2009, the 25 parachute riggers of the 11th Quartermaster Detachment (who were replaced by the 612th Quartermaster Detachment in mid-June) and 8 riggers from the 824th Quartermaster Detachment set the pace for CDS resupply to our Soldiers in the fight. During the first 6 months of 2009, the units rigged and airdropped nearly 6 million pounds of supplies, including food, water, ammunition, clothing, building materials, and humanitarian supplies. On top of the impressive CDS totals, the Soldiers rigged 675 low-cost, low-altitude bundles totaling more than 400,000 pounds and provided support for numerous sling-load operations. In addition to their heavy workload for supporting Army units, the parachute riggers of the 612th and 824th were able to provide airdrop support to the Marines when host-nation trucks were unable to get them supplies on time.

The month of June 2009 saw a significant rise in aerial delivery totals, with 1,358 bundles totaling nearly 2 million pounds. The riggers of the 11th Quartermaster Detachment began the operations for June and were replaced in the middle of the month by the 612th. This transition was transparent to customers in the field as deliveries continued without interruption. The two units' combined total for June was nearly 1.5 million pounds. The 8 parachute riggers of the 824th contributed an impressive 472,150 pounds to the month's total.

The riggers exceeded June's total in July by rigging more than 1,400 bundles totaling 1,995,005 pounds. The 612th Quartermaster Detachment rigged 1.1 million pounds, and the 824th rigged 872,000 pounds. In August, the 2-million-pound mark was passed. The 612th, assisted by the 647th Quartermaster Detachment, rigged 1,008 bundles totaling



1,153,560 pounds, while the 824th rigged 587 bundles weighing a total of 885,460 pounds.

The bar was raised again in September, as riggers shattered the August record by rigging and airdropping over 2.23 million pounds of supplies. The 612th, assisted again by the 647th, rigged 1,008 bundles totaling 1,153,560 pounds. The 824th nearly reached the 1-million-pound mark, preparing 642 bundles weighing a total of 955,040 pounds.

The yearly record set in 2008—nearly 9 million pounds airdropped—was broken by the middle of August, with a total of nearly 10 million pounds airdropped by the end of the month. The performance of all of the parachute riggers deployed in support of Operation Enduring Freedom set the standards for others to follow. They, along with the Air Mobility Division of the Air Force, provided the warfighter with the necessary supplies to accomplish their mission.

CHIEF WARRANT OFFICER (W-3) JEFFERY S. PAGE, USAR, IS A SENIOR AIRDROP SYSTEMS TECHNICIAN ASSIGNED AS THE COMMAND AIRDROP ADVISER FOR THE 143D SUSTAINMENT COMMAND (EXPEDITIONARY), U.S. ARMY RESERVE, SERVING IN KANDAHAR, AFGHANISTAN. HE WAS A PARACHUTE RIGGER ON ACTIVE DUTY FROM 1984 TO 1989. HE IS A GRADUATE OF THE WARRANT OFFICER BASIC COURSE, RAM AIR PARACHUTE SYSTEMS COURSE, AIRDROP LOAD INSPECTOR CERTIFICATION COURSE, AND JUMPMASER COURSE.



The first airdrop from Al Udeid Air Base, Qatar, into Afghanistan consisted of 38 bundles of bottled water dropped at a high velocity.

Expanding Aerial Delivery Capability in Afghanistan

BY CHIEF WARRANT OFFICER (W-4) JIMMY TAYLOR



In the summer of 2008, the requirements for Army airdrops in Afghanistan were increasing exponentially. Soldiers dropped a total of 1.2 million pounds of supplies in Afghanistan in 2005, and that amount steadily increased to more than 9 million pounds by the end of January 2009. Airdrop requirements were projected to exceed 20 million pounds by the end of 2009. Only one location, Bagram Air Base, Afghanistan, had a staging area for airdrops over Afghanistan. The Army needed to increase its airdrop capability in the region to meet the growing requirements.

Analyzing the Airdrop Issue

The Supply and Services Branch of the 1st Theater Sustainment Command (TSC) at Fort Bragg, North Carolina, was tasked to determine what could be done to meet the increasing airdrop needs. Results of the analysis revealed that operations at Bagram Air Base were negatively affecting airdrop capabilities in Afghanistan. Combined Joint Task Force 101 (CJTF-101) parachute riggers at Bagram were limited by the small size of the facilities, and airfield congestion added to the maximum-on-ground (MOG) issues for aircraft. Unfortunately, the staging area at Bagram had no space to expand.

The analysis identified three alternate locations for staging airdrop operations in Afghanistan: Ballad Air Base, Iraq; Ali Al Salem Air Base, Kuwait; and Al Udeid Air Base, Qatar. The 824th Quartermaster Detachment, with eight parachute riggers, operated a renovated rigger facility at Ballad, which initially appeared to be a viable course of action. However, the airfield at Ballad also had MOG issues, and the distance from Ballad to the drop zones in Afghanistan caused it to be ruled out as a choice. Ali Al Salem looked promising since it already had logistics support in place, but the analysis revealed shortfalls in available facilities and diplomatic restrictions on aircraft.

The analysis identified that Al Udeid Air Base also served as the C-17 Globemaster hub for the region, and C-17s could be used to deliver to multiple drop zones or drop as many as 40 bundles on a single drop zone. This option could reduce the numbers of C-130 Hercules sorties going into and out of Bagram and would assist with reducing the airfield's MOG issues. This option also would allow the C-130s to fly backlogged pallets into C-130-capable airfields, thereby reducing the amount of backlogged pallets waiting to go forward.

Establishing a New Staging Area

The Supply and Services Branch contacted the airdrop technician for the 4th Sustainment Brigade in Kuwait, members of the 19th Battlefield

Coordination Detachment at Al Udeid Air Base, the 101st Joint Logistics Cell, and parachute riggers at Bagram Air Base to begin the process of establishing a new airdrop staging area. Before leaving Fort Bragg for Kuwait, the Supply and Services Branch's representative for the trip, the command airdrop adviser, requested the assistance of senior airdrop technicians from the 4th Sustainment Brigade and a contact from the 19th Battlefield Coordination Detachment to conduct an initial site survey of the three alternate locations so data would be available when the command airdrop adviser arrived in Kuwait a few weeks later.

After arriving in Kuwait, the command airdrop adviser provided the Army Central Command (ARCENT) deputy commander with an initial assessment. The briefing identified Al Udeid Air Base as the best alternate location. The ARCENT deputy commander concurred and gave directions to complete a formal site survey of Al Udeid.

A formal survey of Al Udeid was conducted in August 2008 to verify that facilities could be provided for rigging classes I (subsistence), III (petroleum, oils, and lubricants), IV (construction and barrier materials), and V (ammunition). The survey was also conducted to ensure that life support for up to 28 Soldiers and all transportation and materials-handling equipment requirements could be provided. The command airdrop adviser held a formal meeting with members of the 379th Air Expeditionary Wing at Al Udeid, and each organization discussed what was needed to establish and support a rigging facility at the base. All critical organizations were present, including the Al Udeid munitions branch, basing chief, facility engineers, and aerial port squadron and U.S. Air Force Directorate of Logistics representatives.

Initially, two obstacles existed: the unavailability of class I rations and bottled water and the lack of munitions storage at Al Udeid. The command airdrop adviser contacted the 1st TSC class I manager, who used an estimate that was developed by CJTF-101 to establish an initial stockage level of rations, unitized group rations, and bottled water. The 1st TSC class I officer immediately contacted the prime vendors, and the class I was in place in storage in Qatar within 30 days.

The munitions issue was more difficult to resolve. All the munitions storage igloos at Al Udeid were being used by U.S. Air Force, U.S. Navy, and British units with little space for expansion. The 1st TSC, ARCENT, and U.S. Central Command (CENTCOM) class V managers were contacted for assistance. Eventually, a location was identified for relocating two igloos that the Air Force was using, allowing munitions to be brought in to support airdrop into Afghanistan.

After determining that Al Udeid was the best location to augment the airdrop support in Afghanistan and provide emergency resupply to the Iraq area of responsibility, the next issue was where to find parachute riggers. The logical choice was to use the 824th Quartermaster Detachment riggers in Ballad. Through several video teleconferences with CENTCOM, Multi-National Corps-Iraq, the 3d Expeditionary Sustainment Command, Air Force Central Command, CJTF-101, and ARCENT, it was determined that the 824th could be relocated from Iraq to Qatar. The detachment was relocated to Al Udeid Air Base on 27 November 2008.

Continuing Progress

To aid the growth of the staging area at Al Udeid, a working group—including the ARCENT G-3 future operations representative, ARCENT G-4 supply and services senior airdrop technician, 1st TSC senior airdrop technician, 4th Sustainment Brigade senior airdrop technician, 3d Expeditionary Sustainment Command senior airdrop technician, 311th Expeditionary Sustainment Command air mobility representative, and 824th Quartermaster Detachment officer in charge—was formed in Kuwait. The purpose of this group was to track requirements, support agreements, and unit personnel moves; establish new theater Department of Defense activity address codes and unit identification codes; and assist with unit equipment moves from Iraq to Qatar. The group met as needed using video teleconferencing when available. The 1st TSC commander, his deputy, and the support operations chief were briefed weekly on the progress of all actions through the CJTF-101 logistics synchronization briefing and various command updates.

The first airdrop staged at Al Udeid Air Base was conducted on 8 December 2008. The airdrop consisted of 38 bundles of bottled water and served as the proof of principle for airdrop tactics, techniques and procedures (TTP). The TTP were validated with some minor changes. As of 2 October 2009, 3,049 bundles had been airdropped by the 824th Quartermaster Detachment at Al Udeid, equaling more than 4,635,060 pounds of classes I, III, IV, and V. The 824th Quartermaster Detachment's personnel increased to 20 parachute riggers, and its total amount of supplies airdropped in support of Operation Enduring Freedom was projected to exceed 6 million pounds by December 2009.

CHIEF WARRANT OFFICER (W-4) JIMMY TAYLOR WAS THE COMMAND AIRDROP ADVISER FOR THE SUPPLY AND SERVICES BRANCH, 1ST THEATER SUSTAINMENT COMMAND, AND IS CURRENTLY ASSIGNED TO THE 1ST THEATER SUSTAINMENT COMMAND AS THE SENIOR AIRDROP TECHNICIAN. HE HAS 26 YEARS OF AIRDROP EXPERIENCE AND HAS WORKED AT THE PLATOON AND COMPANY LEVELS. HE HAS A MASTER'S DEGREE IN ORGANIZATIONAL MANAGEMENT FROM WAYLAND BAPTIST UNIVERSITY.

International Security Assistance Force Logistics Operations in Afghanistan

BY COLONEL SHELIA J-McCLANEY, LIEUTENANT-COLONEL JENNY NEWTON, CANADIAN FORCES,
AND LIEUTENANT COLONEL DOUGLAS A. LEVIEN

The CJ-4 Branch of the North Atlantic Treaty Organization's (NATO's) International Security Assistance Force Headquarters (HQ ISAF) in Kabul, Afghanistan, experienced a major shift in focus between August 2008 and February 2009. The Chief of the CJ-4 Branch was responsible for pushing a number of initiatives forward during this period. This article will show how multinational logistics in Afghanistan is unique and has its own set of challenges.

HQ ISAF CJ-4 Branch

HQ ISAF CJ-4 is a multinational logistics organization with personnel representing 11 countries. It has three sections: logistics operations, logistics plans, and joint theater movements. The CJ-4 has 25 personnel, who ensure that—

- ❑ Class I (subsistence) and class III (petroleum, oils, and lubricants [POL]) commodities are maintained at operational levels.
- ❑ Major theater-level projects, such as the “Afghan First” and winterization programs, are planned and executed.

- ❑ The intratheater airlift system is efficiently moving passengers and cargo within the area of operations (AO), and the strategic air personnel are coordinating movements outside of Afghanistan.

Noticeably missing from the CJ-4 are theater-level logistics assets. This headquarters-level logistics office has no assigned NATO logistics support battalions, transportation battalions, multinational movement control battalions, or other logistics assets to conduct sustainment. This is a major challenge for the CJ-4.

The theater is divided into five regions, each assigned units from a number of troop-contributing nations who are responsible for their own logistics; however, the CJ-4 does not have the ability to move high-value or sensitive equipment and supplies across regional boundaries. The CJ-4 has established the theater movement coordination cell (TMCC) to deconflict convoy operations along the limited main supply routes (MSRs).

Theater Movement Coordination Cell

During August 2008, insurgent activity along Highway 1 between Kabul and Kandahar reached

The CJ-4 inspects a load of bridging parts headed for Bala Morghab.



Jingle trucks get their name from the sound made by the chains hanging from the bottom of the truck. These trucks are used by civilian transporters to support military logistics in Afghanistan.

historic heights. Several bridges were destroyed, improvised explosive device (IED) strikes peaked, and rocket-propelled grenade and small-arms attacks on ISAF forces, civilian contractors, and humanitarian organizations threatened freedom of movement.

These threats prompted the commander of the NATO International Security Assistance Force (COMISAF) to make freedom of movement his top priority. The HQ ISAF TMCC and the regional commands' joint movement coordination cells (JMCC) were established to improve coordination, control, and confidence among ISAF forces, ISAF contractors, nongovernmental organizations, and the Afghan National Security Forces (ANSF). Working from the HQ ISAF Combined Joint Operation Center, TMCC members have emphasized the need to improve movement coordination and visibility within Afghanistan.

Movement Visibility

Movement visibility is needed for the activities of troop-contributing nations, regional commands, civilian contractors, the Joint Forces Command Brunssum, the Supreme Headquarters Allied Powers Europe, NATO's Consultation Command and Control Agency, ANSF, and the Government of the Islamic Republic of Afghanistan. TMCC is working toward having full visibility of all military, contractor, and nongovernmental organization logistics ground movements. TMCC is not, however, working on this major undertaking alone.

In December 2008, the CJ-4 staff sponsored a theater logistics conference at Kandahar Airfield. More than 50 participants, including G-4 staffs from all the regional commands, Kandahar Airfield and Kabul International Airport aerial ports of debarkation, civilian contractors, and members of the ISAF HQ CJ-4, presented logistics information relating to their AOs. The day-long workshops generated valuable input from all participants.

Attendees were split into two groups. One group was asked to identify how the anticipated expansion of U.S. forces and the support forces set to arrive in theater for the election would affect ISAF logistics. The other group, led by members of the TMCC, discussed various movement visibility topics, including the route-naming fragmentary order (FRAGO),



standardized incident reporting, the ISAF Secret Movement Chat Page, various movement templates, and the implementation of regional command-level joint movement coordination centers. Several products were produced from these workshops, one of which was the draft movement visibility standardization FRAGO. The TMCC took back the suggestions and recommendations, intending to incorporate them into logistics operations.

Force Tracking

Movement visibility is difficult to achieve in Afghanistan. Some troop-contributing nations and contractors have tracking systems, such as Blue Force Tracker; however, their systems are not synchronized with each other. Other nations have convoys that move without tracking capability.

CJ-4 approached the issue of force tracking from two fronts. First, it established a common mapping tool to provide a management overview of network visibility and incident reporting. Second, it developed Integrated Command and Control, a comprehensive tool that will monitor all major routes and any incidents that may affect them. Tracking information is presented on a map overlay, giving the regional commands or TMCC users the ability to see the route network in detail. This tool will eventually be used to deconflict convoy movements; the goal is to have it form part of the convoy early warning and support system.

Once tracking systems have been developed and implemented for all military forces in theater, the next step will be to coordinate with civilian contractors to have their convoys tracked, with data moving easily into the TMCC system. By providing the ability to identify IED threats, troops in contact, road closures, and road damage, the TMCC tracking system will provide movement visibility for all military and civilian convoys moving along Afghanistan's roads.

Standardization of Procedures

Standardization is another challenge within Afghanistan. Highway 1, which is ISAF's primary MSR, has various names depending on the regional command through which it travels. The TMCC implemented a new road naming convention that provides direction to the regional commands on what names they can attach to their road networks. Even the term "MSR" will be revised to help identify the strategic or tactical importance of a route. MSRs will be known as theater controlled routes (TCRs), regional controlled routes (RCRs), or provincially controlled routes (PCRs). TCRs, like Highway 1, have strategic importance within the AO. RCRs have either strategic or tactical importance for the AOs where they reside. Finally, PCRs are tactical routes used and managed by task forces to conduct their operations. These changes will bring a common operational terminology to this theater.

Along with the route-naming conventions, TMCC implemented several processes to standardize reports of incidents affecting logistics operations within ISAF's reporting system, JOC (Joint Operational Center) Watch. Civilian contractors, private security companies, and troop-contributing nations are required to use three templates: threat assessment, convoy tracking, and incident reporting, which provide the TMCC and all regional commands with up-to-date information on what is moving on the roads and incidents that could impede convoy movements. Information flows not only toward ISAF but also back to the stakeholders to provide them with real-time situational awareness.

Information Sharing

Sharing all this information is critical to COMISAF's top priority of freedom of movement. As part of the movement visibility project, regional commands established JMCCs within their joint operational centers. The JMCC watchkeepers can view real-time movements of all convoys within their regional AOs and, in turn, provide the TMCC and all other regions with up-to-date information on their convoys via a "chat line" located on their ISAF Secret Information

Technology Network. This is particularly important during cross-boundary convoy movements of high-value or sensitive equipment. Military or security force escorts from the region the convoy is leaving can accurately time their handovers with forces from the receiving region, thus minimizing their exposure to possible insurgent attacks.

Along with these initiatives and the requirement to update both doctrine and ISAF standing operating procedures, TMCC will be championing the development of a multinational movement control battalion. With so few road networks in Afghanistan, deconflicting of convoy movements by the movement control battalion is vital.

TMCC developed and formalized a "way point" system to improve situational awareness and facilitate ISAF response to incidents involving ISAF contractors, nongovernmental organizations, and ANSF convoys that do not normally use the military grid reference system. The way point system identifies known intersections, landmarks, and terrain features with a letter and number that corresponds to a military grid.

TMCC conducts monthly coordination meetings with international aid organizations, nongovernmental organizations, the Afghanistan National Police, the Afghanistan National Army, Pakistani liaison officers, civilian contractors, and personal security companies. At these meetings, TMCC provides the attendees with updates on weather, border crossing points, force escalation procedures, logistics convoy threat assessments, standardization processes, and highway security.

Operational Focus

With the establishment of the TMCC and the strategic importance of class III supplies, the CJ-4 has changed its focus from one of information gathering to operations. This new focus became apparent when the CJ-4 Branch, along with other branches of the HQ ISAF Support Division, began participating in the revised commander update assessment briefings. Since October 2008, CJ-4 has briefed COMISAF and his staff on the status of the TCRs, including insurgent

A truck carrying bridging parts awaits departure for Bala Morghab.



attacks that have affected routes, weather conditions limiting access, bridge bypass conditions, and theater fuel supplies based on the days of supply (DOS). Throughput challenges at border crossing points are briefed when required. Finally, various ongoing operations, such as the convoy movements of humanitarian support, the Bala Morghab Bridge operation, and the poppy eradication force, are briefed regularly.

Bala Morghab Bridge Operation

In cooperation with the Combined Joint Engineers Branch, CJ-4 was the lead for the Bala Morghab Bridge operation. Following the June 2008 Joint Assessment and Concept of Operations for Enhanced Security in Ghowrmach District, COMISAF approved the emplacement of a Mabey & Johnson Military Logistic Bridge, which would improve freedom of movement along Highway 1 in Regional Command West. The purpose of this strategic operation was to reconnect Highway 1 using a bridge with a maximum load capacity of at least 60 tons within Badghis Province.

To accomplish this major undertaking, ISAF had to work with tribal elders and civilian contractors. Transportation of the mission-critical equipment from Camp Invicta in Kabul to Bala Morghab, Badghis Province, was provided by Alpha Logistics, a local Afghan company. On 11 October 2008, the bridge convoy departed from Kabul. The convoy, consisting of 25 contracted drivers and private security officers, drove 811 kilometers (38 hours) from Kabul to Badghis Province. They transported 75 metric tons using 10 trucks holding 20-foot containers, 2 flatbed trucks, 1 spare truck, and 3 security vehicles. The last 80 kilometers, between Ghowrmach and Bala Morghab, proved to be the most treacherous. The contracted drivers refused to continue forward from the Ghowrmach District staging area after visiting a local bazaar and receiving death threats from insurgents. After backtracking to their previous staging area in Meymaneh, the contracted drivers had to be replaced. It took several days to hire new drivers, transport them to the staging area, work out issues with tribal elders, and drive the remaining distance to Bala Morghab.

Afghanistan's tribal heartlands are administered by a traditional system where elders—respected community leaders—resolve disputes and make decisions by forming a “shura,” an Islamic community consultation meeting.

Several shuras were held to facilitate the movement of this civilian-contracted convoy transporting bridge parts through areas managed by these tribal elders.

During the Bala Morghab Bridge operation, CJ-4, TMCC, and the logistics operations section had to resolve many diverse challenges and provide the HQ ISAF senior leaders with situational awareness and recommended courses of action. Several lessons were learned, with the most significant being command and control: CJ-4 does not have the personnel or theater-level assets to command such an operation and must work in cooperation with all the enablers that the HQ ISAF Combined Joint Operation Center representatives provide.

Class III

Everyone who has conducted logistics operations in Afghanistan is familiar with the term “jingle truck.” Jingle trucks are the colorfully decorated trucks used throughout Afghanistan to transport fuel and other supplies within the ISAF AO. “Jingle” refers to the sound of the movement of chains, which are affixed along the bottom of the vehicles. Jingle truck drivers form part of the host nation transportation system. One contractor providing this support saw a 44-percent increase in insurgent attacks against its convoys in 2008. As of the end of November 2008, 202 attacks against this contractor's convoys resulted in 100 of its personnel being killed and 230,000 liters (1 DOS) of fuel destroyed.

The CJ-4 logistics operations section monitors class III status daily to ensure that fuel is available to meet

Open-backed jingle trucks are packed as high as possible to carry the maximum possible load.



mission requirements. Within the logistics operations section, the fuels section ensures that the fuel DOS are kept at the proper levels, especially with attacks on fuel convoys occurring regularly on Highway 1 between Kabul and Kandahar. To provide better visibility to all regional commands, the fuels section places timely class III data on the ISAF webpage, providing POL asset visibility. The fuels section has taken on the additional task of monitoring throughput and capacity at border crossing points, especially those bordering Pakistan.

Intratheater Airlift System

Movement visibility and ground transportation challenges are not the only ones faced by the CJ-4 Branch. Because of Afghanistan's poor infrastructure and lack of resources, logistics support within ISAF depends heavily on strategic and tactical airlift.

The intratheater airlift system (ITAS) is a section within the joint theater movements staff that validates and schedules ISAF airlift in support of the COMISAF's priorities. The ITAS staff balances efficiency and effectiveness through close coordination with troop-contributing nations and the airfield's combined air terminal operations. Every effort is made to plan and execute missions with minimal disruption by external factors and to promote higher levels of confidence in the ISAF airlift system.

Using 14 transport planes from 5 contributing nations in 2008, ITAS moved a staggering amount of passengers and cargo. In 2007, with similar assets as in 2008, ITAS moved an average of one-half of a ton of cargo and 6,500 passengers per month. In 2008, the average jumped to three-fourths of a ton of cargo and 9,000 passengers, an increase of 50 percent and 39 percent, respectively, after ITAS added 50 more flight hours. The increase in efficiency and greater efforts by the ITAS section are directly attributable to this surge in airlift capabilities.

The security mission in landlocked Afghanistan represents the most difficult operational challenge ever faced by NATO logisticians. The chief of CJ-4 and her multinational staff worked diligently to overcome many of these challenges. One of the main challenges that the CJ-4 faced was educating newly-arrived HQ ISAF and U.S. Forces-Afghanistan staffs on the idiosyncrasies of logistics operational support in this theater. Simply put, logistics support in Afghanistan cannot be compared to that in Iraq or to former NATO missions in Bosnia or Kosovo; it is completely different.

With 41 troop-contributing nations—each with its own national logistics chain—spread over 5 regions and with the U.S. expansion forces arriving in theater, the logistics challenges faced by the CJ-4 will only increase in the future. Troop-contributing nations, regional commands, and branches of HQ ISAF must



The terrain in Afghanistan presents challenges for logistics convoys, making airlift important to operations.

understand that logistics is a collective responsibility that requires information flow, coordination, and deconfliction. Information sharing will be achieved through continuous joint operational planning groups, video teleconferences, and staff-assistance visits throughout the regions and to higher headquarters. With the support of troop-contributing nations and contractors, force-tracking systems interfacing with TMCC will provide the visibility that the COMISAF needs in order to ensure freedom of movement in Afghanistan.

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Defense Medical Logistics Balanced Scorecard

BY LIEUTENANT COLONEL GRETA L. BENNETT AND PETER A. BATTAGLIA

Over the past 2 years, the Defense medical logistics (DML) community has undergone tremendous change that was prompted by the adoption of the Medical Joint Strategic Vision Statement (JVS). The JVS has aligned the actions of the services and healthcare providers, resulting in the creation of the DML Balanced Scorecard (BSC). This marks the first time the DML enterprise, consisting of the Navy Bureau of Medicine and Surgery, the Navy Medical Logistics Command, the Air Force Medical Operations Agency, the Defense Supply Center Philadelphia, and the Assistant Secretary of Defense for Health Affairs, have agreed to be universally accountable and to align and act concurrently in order to reduce redundancies, increase efficiencies, and share resources.

Developing the Joint Strategic Vision

In 2008, the Assistant Secretary of Defense for Health Affairs and the vice director of the Defense Logistics Agency (DLA) met to develop a shared vision and set strategic priorities for improving effectiveness and efficiency within the medical supply chain using the synergy among the services. This vision takes the combined Defense healthcare system and uses industry-based business processes to develop one strategic focus. The JVS notes:

The OASD (HA) [Office of the Assistant Secretary of Defense for Health Affairs] and DLA will further transform the global medical supply chain into a seamless, responsive, synchronized, and interoperable process that enables rapid and reliable sustainment of Joint Force Health Protection in every healthcare environment and across the full range of military operations.

To accomplish this, the DML enterprise identified and prioritized current and future objectives and actions. The resulting analysis showed that the DML community was conducting concurrent and duplicative efforts. To maximize resources and create synergy, the DML enterprise developed joint objectives, assigned officers of primary responsibility, and allocated resources.

Creating the Balanced Scorecard

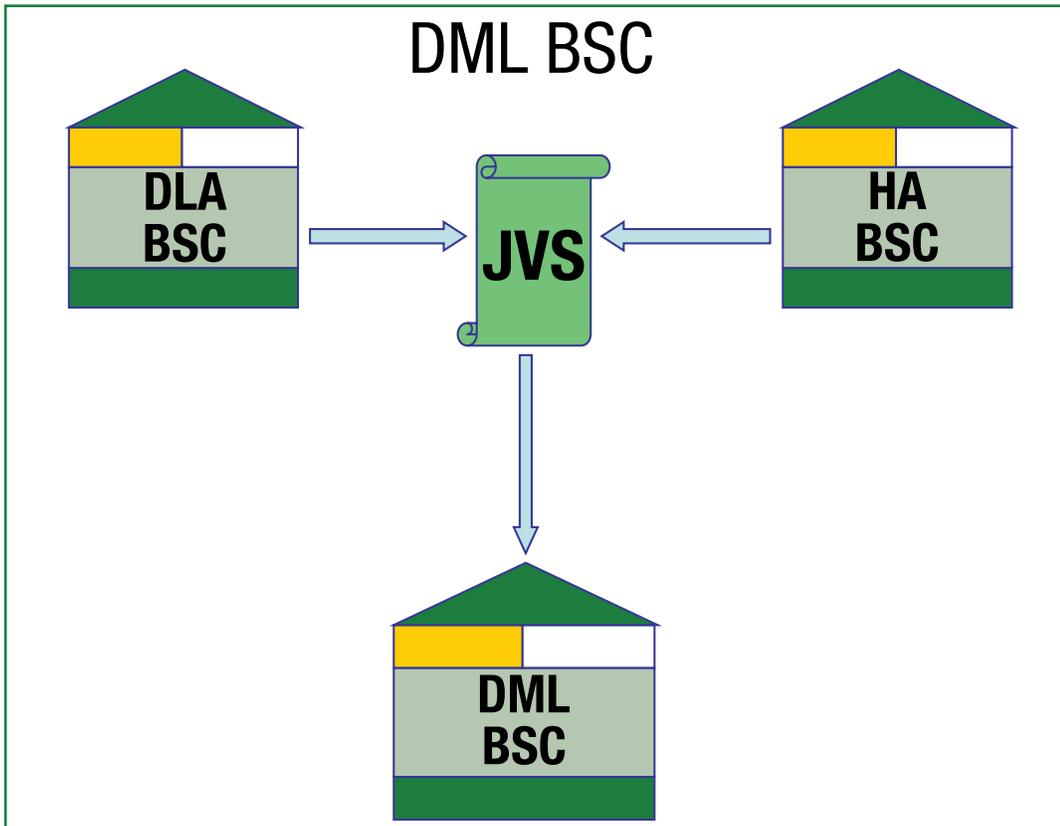
The DML enterprise developed a DML BSC to maintain and track the efforts needed to achieve the JVS. The DML BSC links requirements with objectives, which are supported by the program initiatives and milestone action items. DML personnel directly

contribute to the support of the identified internal processes, which in turn meet the needs of the customers—commanders and healthcare providers. The Force Health Protection Council and the Defense Medical Logistics Supply Chain Council are the governing bodies that provide oversight and guidance while ensuring that resources are available to achieve the vision.

The joint initiative by the DML enterprise used the JVS as a guide to ensure a shared vision and development of joint objectives. The resulting DML BSC is both vertically and institutionally aligned. The vertical alignment with DLA and OASD (HA) ensures that the actions taken by the DML enterprise align with the actions required to support the warfighter. The institutional alignment ensures that resources are provided and accounted for and reduces duplicate efforts throughout the DML community.

The BSC is the focal point of the DML enterprise and gauges the achievement of the JVS by outlining assumptions, approaches, and timelines for completion. The goal is to work with the military services and combatant commands to develop seamless, efficient, and effective medical supply support for joint force health protection across the full spectrum of global military operations. Specific objectives include—

- ❑ Rapidly responding to the materiel needs of military healthcare organizations across the full range of military operations.
- ❑ Providing best-value products and services at the lowest total delivered cost.
- ❑ Improving the sharing and synchronization of DML data so that they are timely, accurate, and relevant across the military medical enterprise and the supporting logistics enterprise.
- ❑ Providing the ability to accurately forecast DML demands across the range of military operations through joint medical modeling and processes for contingency requirements management.
- ❑ Improving the ability to synchronize medical supply-chain activities across organizational boundaries by linking supply with demand.
- ❑ Improving operational medical interoperability and interchangeability through joint, enterprise-level total life-cycle management of medical equipment and assemblages.
- ❑ Delivering to operational settings materiel that enables clinical training, techniques, and the achievement of standards developed in institutional military healthcare systems.



This chart shows the relationship among the balanced scorecards. The Office of the Assistant Secretary of Defense for Health Affairs (HA) and the Defense Logistics Agency (DLA) have independently arrived at scorecards that influence medical support and are unified by the Joint Strategic Vision Statement (JVS). The Defense medical logistics (DML) balanced scorecard (BSC) is derived from the JVS, thus providing horizontal and vertical integration.

- ❑ Continually striving to reduce costs associated with the Department of Defense healthcare system.
- ❑ Using the Supply-Chain Operations Reference Model to promote the process alignments needed for joint management of the global medical supply-chain DML functions and to provide support to combatant command planning and execution of health service support.

Increasing Standardization

An example of how the JVS drives BSC objectives can be seen in the JVS section entitled Internal Process 06, Strengthen Information Management Processes. This objective calls for developing a seamless, synchronized, and interoperable process within the DML enterprise for actions across the range of military operations. Specifically, this objective entails joint cooperation in developing and publishing both an Enterprise Master Catalog and an Enterprise Data Dictionary. These two products will improve the effectiveness and efficiency of automated logistics systems by increasing the accuracy of item identification and employing a cross-reference capability between national stock number and commercial identifiers. This will increase standardization and drive institutional and operational use of standard items within and across the services.

The Office of Strategy Management provides the joint operational infrastructure for DML and serves as the focal point for strategy management and data

integrity. This office uses the commercial web-based software, Enterprise Strategy Manager, to capture and maintain data for the BSC. Each program manager and action officer provides real-time information through Executive Strategy Manager [a web-based software application that assists with the construction of, and reporting on, balanced scorecards], providing transparency of work accomplished and progress.

The DML BSC assists the DLM enterprise in setting priorities, validating “good ideas,” and providing a strategy for the future. Although the DML BSC is in its infancy and will undergo several adjustments, it marks the first time DML professionals have come together and forged a way ahead for medical materiel supply-chain management.

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The Prosperity Plan: Implementing Soldier and Family Care

BY CHAPLAIN (MAJOR) ROY M. MYERS

With the number and length of deployments increasing, care for Soldiers and Army families is all the more important. If the Army hopes to maintain its readiness and capabilities, it must seek ways to build resilience in Soldiers and their families. The Prosperity Plan is an approach to Soldier and family care that features individual goal setting, primary leadership relationships, and strong command support and emphasis. The 21st Combat Support Hospital (21st CSH) at Fort Hood, Texas, used the Prosperity Plan during and after deployment in support of Operation Iraqi Freedom (OIF) 06–08. I want to encourage Army leaders to consider implementing Soldier and family care programs in their own organizations.

Goal Setting as an Approach to Care

The Prosperity Plan is a simple questionnaire that asks Soldiers and family members to set goals for themselves during and after deployment. The plan is built on the conviction that when Soldiers and their families are growing spiritually and mentally, they are stronger and will be more resilient in the face of the challenges of Army life and combat operations. Stronger and more resilient Soldiers and families enhance a unit's ability to function and increase Army readiness. By capturing their goals in a simple format, Soldiers and families can begin to make plans and gather the resources they need to accomplish their goals.

Separation during deployment can be very damaging to primary relationships. Soldiers and families may accept survival of their relationships as their goal for deployment. Unfortunately, mere survival often produces stagnation and even regression in primary relationships, and often those relationships eventually break down. A survival mindset may actually cause relationship failure.

Complex goals, like making a marriage better, seem daunting, but the most difficult step is to set the goal. From there, Soldiers and family members are offered resources and encouragement to make and implement plans that can help their marriages grow during deployments, including relationship-enhancement classes. Soldiers and families are also encouraged to be creative in finding ideas and tools to keep their marriages alive, even while separated.

The plan itself is structured around four areas: personal, professional, family, and spiritual or religious. People who are growing in all areas of their lives will be stronger because they are well-rounded. Army leadership training aims at supporting both the professional and personal growth of Soldiers. The Army recognizes that leaders need to achieve balance and grow in all facets of life.

The Prosperity Plan directs Soldiers to think long term. Rather than focusing only on preparing for the deployment, the Prosperity Plan asks Soldiers to prepare for their next permanent change of station. By challenging Soldiers and families to set longer-term goals, the Prosperity Plan establishes growth as a lifestyle.

For growth to be truly meaningful, it must represent the concerns and needs of the individual. The Prosperity Plan offers Soldiers and families an opportunity to set goals that are personally meaningful to them so they are more likely to devote the energy needed for long-term comprehensive growth.

Primary Leader Relationships

Army Regulation 600–20, Army Command Policy, directs commanders to establish Soldier care programs within their organizations. While the Prosperity Plan itself empowers Soldiers to care for themselves, organizational support and resources are necessary to ensure its implementation. Coaching and counseling relationships already exist in the Army. Each Soldier has a rater responsible for coaching and counseling them on their job performance. These primary leader relationships form the main effort for organizational implementation of the Prosperity Plan.

The commander of the 21st CSH, Colonel Jeffery Clark, directed that every Soldier in the task force complete the Prosperity Plan questionnaire. Each primary leader was responsible for using the Prosperity Plan as a part of their coaching and counseling relationships. Leaders were responsible for initiating the process and then providing assistance as the Soldiers implemented their plans.

While family members were not expected to be accountable to the chain of command, they were offered help from the chaplains, the family readiness group, and other agencies. Soldiers and family members also were encouraged to share their personal goals with each other.

The Prosperity Plan

21st Combat Support Hospital
Fort Hood, TX

METL Task: Provide For Soldier Well-Being
1 Nov 2005

Individual Prosperity Plan: Prosper Before, During, and After Deployment
Pages in this Plan refer to the Soldier Health Maintenance Manual TG 272, Sep 01

Include date started and date achieved as appropriate.

Personal Goals

Overall Health, e.g., stop smoking, stress management, special health needs.
Physical Fitness Plan, e.g., desired body weight and APFT score > 270, injury prevention, vary PT activities (not just running).

Five-year physical and Well-Woman Exam as needed.
Develop/improve Gifts and Abilities, e.g., musical instrument, hobbies
Cultural Awareness and Ethics of Detainee Healthcare
Capture Personal Lessons Learned, e.g., be a better listener, stress management, relaxation techniques

Professional Goals

MOS and Soldier Skills; enhance skills needed for deployment
College Classes (prerequisites needed) and Professional Development (bring needed materials)
Military Education and Computer Skills
Fulfillment of Career Requirements, e.g., licensures and certifications
Capture Professional Lessons Learned
Prepare for the Challenges of Detainee Healthcare

Spiritual Goals

Strengthen Spiritual Belief/structure
Journal/personal web page
Improve Stress Management capacities

Family/Friends/Marriage

Relationship with Family Members (siblings and/or children).
Relationship with Spouse or Significant Other.
Strengthen/Develop Supportive Social Network
Work on any Unresolved Conflict
Finances, e.g., accelerate payoffs, savings plan, Troop Savings Plan
Special Needs for Family Members, e.g., health

Soldier's Signature

Supervisor's Signature

Each 21st Combat Support Hospital Soldier began implementing the Prosperity Plan by completing this questionnaire.

Implementation of the Prosperity Plan reflects a structurally unique approach to Soldier and family care. Many Army training efforts are top-down, with standardized content selected at the installation or division level. Predeployment and other Soldier care classes are often offered in large-group settings by subject-matter experts. Information presented in large groups often lacks individualized application and offers little opportunity for personalized coaching. For this reason, large-group deployment classes are often regarded by Soldiers as “check-

the-block” exercises. The Prosperity Plan may include large-group training events, but those training events should be tailored directly to support the main effort for Soldier care: each Soldier’s primary leader relationship.

Primary leader relationships are preferable as a means to achieve the goals of the Prosperity Plan. Primary leaders should know the unique strengths, needs, and situations of the Soldiers they rate so they can help their subordinates find goals that are meaningful and perhaps even inspirational.

THE PROSPERITY PLAN DIRECTS SOLDIERS TO THINK LONG TERM. RATHER THAN FOCUSING ONLY ON PREPARING FOR THE DEPLOYMENT, THE PROSPERITY PLAN ASKS SOLDIERS TO PREPARE FOR THEIR NEXT PERMANENT CHANGE OF STATION.

Command Support and Emphasis

Without a commitment on the part of the organization, the Prosperity Plan's value will diminish. Colonel Clark brought a threefold commitment to the organization by stating, "The 21st CSH will accomplish the mission, take care of Soldiers, and take care of our Families." This motto expresses the hospital leaders' commitment to Soldier and family care.

Late in the summer of 2005, the 21st CSH began preparing for deployment in support of OIF 06–08. The mission called for the 21st CSH to provide level III and level IV medical care for Iraqi detainees at Abu Ghraib and Camp Bucca. One of the tasks on the III Corps mission-essential task list (METL) was "Care for Soldiers." By establishing Soldier care as one of his essential tasks, the III Corps commander gave Soldier care efforts command emphasis and resources. Colonel Clark followed the III Corps commander's example and added "Provide for Soldier and family wellbeing" to the 21st CSH METL.

The emphasis on well-being reflects a conviction that healthy Soldiers and families are better able to accomplish missions, are more resilient, and will be better prepared for the future. Well-being should not be merely a matter of extracting the best effort from Soldiers to accomplish a particular mission; it must also reflect a commitment to prepare Soldiers and families for the future.

The Prosperity Plan establishes a structure for Soldier and family care by defining lanes of responsibility. It provides leaders with a common language and set of expectations and allows Soldiers to define wellness for themselves. The Prosperity Plan also provides commanders with a way to document their Soldier and family care efforts.

Staffs can create several systems to help Soldiers and family members access assistance and resources. In the 21st CSH, the religious support team and the command financial specialist created a comprehensive Prosperity Resource Guide, which provided information on over 80 helping agencies in the Fort Hood area. Representatives from agencies like the Fort Hood Education Center also came to talk with Soldiers and family members about resources available to them. The Religious Support Team provided retreats, classes,

and individual counseling to help Soldiers and family members develop their Prosperity Plans.

Results of the Prosperity Plan

The success of the 21st CSH's Prosperity Plan was hard to measure because it involved the individual interests of over 375 Soldiers and many of their family members. Most Soldiers established long-term goals, which cannot be completely accomplished right after a deployment. Many Soldiers also set goals for their spiritual lives and relationships, which are very difficult to measure in a consistent way.

A set of metrics was developed to assess, at least at some level, the success or failure of the program. Each company tracked the number of miles run and the number of personal development classes attended, such as smoking cessation. They also tracked the number of correspondence and college credit hours completed, continuing education credits completed by medical professionals, and religious services or observances that Soldiers attended. Finally, they tracked the number of Soldiers contacting home at least once a week and the number of Soldiers saving money or reducing their debt.

The Prosperity Plan appeared to contribute successfully to the deployment and to the well-being of many Soldiers and families. Soldiers from the 21st CSH ran over 100,000 combined miles and completed over 1,000 college credit hours and over 40,000 correspondence hours. Throughout the deployment, 90 percent of Soldiers reported either saving money or reducing their debt. Ninety-five percent of Soldiers reported maintaining weekly contact with their families.

Several couples found ways to invigorate their marriages while deployed. One leader, whose marriage had been troubled, used creativity to enjoy his weekly web-cam dates with his spouse. For their first date, he pretended to take her to a fancy dinner by cutting out pictures of their favorite meals and dressing up in a "tuxedo" that was penned on a tan t-shirt. His creativity and sense of humor increased their mutual affection and trust, and he provided inspiration for others working on their own relationships.

We ask Soldiers and their families to make tremendous sacrifices. Army leaders have a responsibility to make every effort to establish conditions that support the well-being of those who give so much in the service of their Nation. Perhaps the Prosperity Plan will inspire other Army leaders to implement Soldier and family care programs in their areas of responsibility.

CHAPLAIN (MAJOR) ROY M. MYERS IS CURRENTLY SERVING IN IRAQ AS THE MULTI-NATIONAL CORPS-IRAQ (I CORPS) FUTURE OPERATIONS CHAPLAIN. HE HAS A DOCTOR OF MINISTRY DEGREE FROM OBLATE SCHOOL OF THEOLOGY AND A MASTER OF DIVINITY DEGREE FROM TRINITY UNIVERSITY IN ILLINOIS.

- ❑ Identify the operational problem.
- ❑ Determine the initial mission statement.
- ❑ Obtain approval of the problem and mission statement.

Establish the strategic context. The commander must understand how the supported forces fit into the overall operation and how that operation will progress. This context will influence the resources available and how support will be provided.

Synthesize guidance. First, the logistics commander must work with all organizations that the command supports to determine what guidance they have received and how they will implement that guidance. Second, the commander must work with those organizations to determine how they desire to be supported. By understanding the end state of supported units, the logistics commander can derive information on the operations that will occur and the support they will require. Finally, the commander uses this information, which may include restrictions on operations or directed courses of action, as a basis for planning. The detailed analysis will occur later in the process, but the translation of guidance into a rudimentary concept of support is critical for framing the problem.

Describe the operational environment. Logistics organizations should focus on solid numbers and calculations more than the maneuver forces. The analysis must include adversaries, neutral parties, and friendly forces, organizations, and entities.

In describing the operational environment, logistics organizations should focus on the infrastructure and the factors that will influence its usability. Not only is the logistics network critical from a logistics perspective, it may have a significant impact on maneuver forces as well. The critical portions of the environment to analyze include five areas: infrastructure, civilian population, supported forces, enemy forces, and other logistics organizations. Each of these areas can and likely will have an impact on the others, and those impacts should be considered.

With the description of the operational environment complete, the commander must conduct his first analysis of the feasibility of supporting the maneuver commander's plans. If significant challenges are associated with operating in the areas identified by the maneuver commander or with specific operations, the logistics commander must communicate those challenges so that the maneuver commander can adjust the plan as required to make the operation supportable.

Determine trends. For logistics organizations, the overall trends of the system must be determined and then translated into their effects on logistics operations. Some of this analysis is conducted during the previous stage when evaluating the supported units. The likely courses of action and enemy reactions are of primary concern. The sustainment planner must consider both the adversary and the

local population. As operations develop, convoys will likely become targets for military forces and sympathetic irregular forces.

Identify gaps in knowledge and establish assumptions. Knowledge gaps are areas in which the commander needs additional information in order to make an informed decision. Once the gaps are identified, the commander may choose to make assumptions related to those areas to continue planning. Just as every reasonable effort must be made to fill information gaps, assumptions must be validated or disproved as quickly as possible to ensure that the plans being developed will interact with the system as desired. Invalid assumptions about the system may cause unintended results. While listed as a separate step, this should be an ongoing process and is only included to ensure that the commander and staff are aware when assumptions are made.

Identify the operational problem. After the first five steps, the commander should have a detailed understanding of the system and how his organization fits into the situation. The problem for logistics organizations will usually be "how do I support x while they conduct y ?" But each type of operation has specific areas of importance. These areas should focus on features that vary from normal operations, including unusually high consumption, limited infrastructure, limited force structure, noncontiguous areas of operations, or particularly dangerous areas for logistics organizations.

Determine the initial mission statement. After determining the operational problem, the commander will develop an initial mission statement. The mission statement for logistics organizations will be somewhat static and resemble the following statement: "On order, logistics organization will conduct sustainment operations in support of x in order to facilitate z ." Most of this information will come from the forces the unit is tasked to support instead of from the higher logistics headquarters. The supported units' missions and intents will directly influence how the sustainment organization executes operations.

Obtain approval of the problem and mission statement. The final step in framing the problem is obtaining approval of the problem and mission statement. Because of the multiple command, control, and support relationships, the commander must ensure that all of the leaders concerned agree. Perhaps the most important approval is from the supported units. In each of these discussions, the sustainment commander must not only get concurrence on his own problem and mission statement, but he must also gain an understanding of the other commander's operational problems and likely solutions.

At the conclusion of problem framing, the commander will have identified the relevant areas of the

system and determined their effect on his mission and operations. Through this process, he also will have established the basis for the campaign planning process. To translate this understanding into action, the commander must now consider how he will act within the operational environment in order to accomplish his mission.

Mission Analysis

As stated in TRADOC Pamphlet 525-5-500, “The ultimate goal of mission analysis is to define or identify where there is potential for meaningful and productive action that supports resolution of the problem and the realization of national strategic aims.” Although the mission analysis portion of the commander’s appreciation shares a name with step two of the military decisionmaking process (MDMP), the steps and outputs for the two are different. Much of the intelligence preparation of the battlefield (IPB) process and the identification of the operational problem occurs during the development of the commander’s appreciation, while the development of the commander’s intent occurs during a later step.

An approved mission statement will allow for a more focused analysis of the portions of the network in which the organization will operate or influence. The problem statement will allow for clear boundaries for analysis and will provide better understanding of the types of operations that the supported forces will conduct.

The following tasks are the three critical steps to mission analysis associated with the commander’s appreciation:

- Describe the systemic conditions that the command must realize to achieve the strategic aims.
- Identify campaign objectives.
- Identify the potential for campaign action.

Through these three steps, the commander and staff will build the foundation for planning the campaign and the included operations.

Describe the systemic conditions. While maneuver commanders focus on building a series of conditions that ultimately lead to a final set of conditions linked to the overall objectives, logistics commanders must focus on conditions to support current and future operations. In describing the conditions that the commander must realize, a series of intermediate conditions linked to the maneuver commander’s critical events will be needed over time. Each of these conditions will likely be described with respect to location of assets and capabilities at specified times.

By combining the conditions required to support the maneuver force and the mission requirements, both internal and external, the commander develops a clear understanding of the conditions required for success-

ful execution of operations. From this information, the commander can establish broader objectives for the campaign.

Identify campaign objectives. The overall campaign objectives for all logistics organizations should be to enable the supported commander’s operations by allowing supported troops to effectively accomplish their objectives. The logistics commander must identify lasting capabilities or conditions that will remain in place during and after the maneuver campaign. Capabilities that the commander may want to develop and sustain may include rapid mobile support, humanitarian assistance, coalition support, or other specific capabilities that are needed based on the operational environment.

Identify potential for campaign action. For logistics organizations, the potential for campaign action refers to the ability of the supported units to conduct operations as they see necessary. After following the first two steps for mission analysis, the logistics commander will have an understanding of the supported commanders’ intents and his own ability to support those operations. The ability to support operations will likely affect the supported commanders’ choices of which courses of action to follow and in what sequence.

Campaign Design

After developing the commander’s appreciation of the operational environment and problem, the next step is to design the campaign. As the process transitions to campaign design, a detailed understanding of the system developed to this point serves as a basis for developing a plan to support the maneuver units. The three major steps of campaign design are to describe—

- The commander’s intent for the campaign.
- The campaign approach.
- The requirements for reframing.

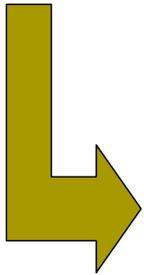
While all of the steps in campaign planning are sequential, they are also iterative. At any time, the commander and staff may need to revisit previously accomplished tasks based on a new understanding of the problem or a changing situation. Because the lines between each of the major steps of planning are not definite, the commander will often begin working on the next step before completing a previous step.

Commander’s Intent for the Campaign

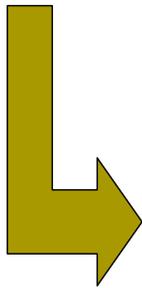
As with traditional planning, the commander’s intent serves as a key building block for all planning. As a result, developing the intent is the first step in designing the campaign plan. In describing his intent, the commander must succinctly express his understanding of the problem and provide guidance for subordinates. A recommended method for determining

Campaign Planning

Commander's Appreciation:
Understanding the environment and the mission.



Campaign Design:
How to approach the campaign and mission.



Campaign Planning:
How to support each operation and transition between operations.

the logistics commander's intent is to identify the problem, purpose, key objectives, priorities, risks, and end state.

Problem. State the problem as the commander envisions it. The description should link to the operations that the maneuver forces will conduct and how those operations drive the logistics approach. This is simply a concise statement of the problem developed during the commander's appreciation process.

Purpose. The purpose should focus on supporting the operations of the maneuver force and should include the maneuver commander's purpose to provide context for the problem. Including this information will prevent subordinate units from conducting logistics operations for the sake of logistics.

Key objectives. For logistics operations, each objective will likely have a time and duration or event associated with it. The conditions developed during commander's appreciation are restated in general terms in order to ensure that subordinate commanders understand what the conditions are and their importance. In determining the key objectives, the commander should consider enduring capabilities required, support to the maneuver commander's operations, and decision points in the supported commander's campaign plan.

Priorities. Logistics organizations have a number of ongoing priorities, including support to maneuver forces and force protection. The commander should also include any specific units or operations that will be high priority during different events. The commander can also include the capabilities that he deems critical to the success of the organization or that need to be developed.

Risks. Just like the maneuver commander, the logistics commander must articulate the acceptable risk in terms of threat to the force, areas where support may be minimal, and other areas where he is willing to assume risk. After identifying the risks, the commander must also address mitigation of those risks.

End state. The end state will focus on the ongoing capabilities and actions of the logistics unit and how it will support the maneuver forces in their operations. The statement should conclude with the supported commander's end state to provide context for the logistics campaign.

Campaign Approach

The first step in the campaign approach is to describe the initial conditions. This description, and the description of all future conditions, should include the supported forces, available logistics forces, available

supplies, and the infrastructure used during operations. The description of the supported forces should include the task organization, type of operation, and support requirements. Depending on the operations being conducted, each supported organization may require a separate description. Multiple units may be combined if they are conducting similar operations.

Next, the commander and staff should describe each major phase, operation, or event as designated by the supported maneuver commanders. The supported units' campaign plans (or initial concept in the absence of an existing campaign plan) should provide a general timeline of their major operations and phases.

In discussions with the supported commanders, the sustainment commander should assess the probability that the operation will occur, the ability to support the operation, and the impact on follow-on operations. Obviously, if an operation has a high likelihood of execution, it must be considered in the planning. If the likelihood is less, the commander should ensure that the support plan during that phase is flexible enough to support the operation but should not build the support plan to specifically support the operation. Finally, if the operation is not likely, the commander should ensure that the failure to plan for it would not lead to catastrophic failure. In every case, the support concept must be sufficiently flexible to adjust to any likely change in the maneuver plan.

When determining what conditions must be established at the beginning of each block of time, the commander must also consider how far in advance he can begin establishing those conditions. Typically, to develop a capability, another area will suffer diminished capability. The commander should determine when he can begin decreasing support in one area to build capability in another area without adversely affecting the mission.

From this design, the staff and subordinate commanders will be able to understand the major operations that will occur, how operations will be supported, and how logistics fits into the broader effort.

Reframing the Problem

Because of the changing nature of military operations, sometimes the existing campaign plan will no longer be valid or will require significant adjustment. In those cases, the commander and staff must reframe the problem to develop a new plan that more accurately describes the operational environment. During the initial campaign design, the commander must designate criteria for when to review or reframe the problem.

The commander should develop commander's critical information requirements (CCIRs), which

will help indicate when reframing the problem is required. Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms, defines a CCIR as "an information requirement identified by the commander as being critical to facilitating timely decision-making. The two key elements are friendly force information requirements and priority intelligence requirements." The key difference between a traditional CCIR and a CCIR related to a campaign plan is the result. A traditional CCIR drives a decision, while a campaign plan CCIR triggers reframing of the commander's understanding of the environment.

With the commander's intent and campaign approach, both the staff and subordinate commanders should be able to begin the planning process for the campaign.

Campaign Planning

With the completion of the campaign design, the commander and staff can develop the campaign plan, which will later be the basis of operational planning and execution. The following discussion generally parallels the MDMP in developing the campaign plan. However, it does not necessarily include all of the individual inputs and outputs described in FM 5-0. Campaign planning includes optimization and communicating the plan.

Optimization

Optimization has been defined as "the urge for efficiency and can be both qualitative and quantitative."¹ In logistics planning, the optimum solution will meet all of the needs of the supported commander while minimizing costs and without accepting unreasonable risk. While the traditional definition of the optimum solution for military planners has been the ideal solution for a situation, a new perspective is needed. In current and future operations, the optimum solution is the one that is flexible enough to adapt to a changing situation while providing the necessary support rather than the perfect plan.

Because the focus of campaign planning is on supporting the entire campaign, the decision of whether to change the concept of support for each phase or to develop a single concept of support that will support operations throughout the campaign is important. Of course, it is a generalization to say that there are only two options, but the concept is critical in determining how the support campaign plan will develop.

Developing the campaign plan requires a series of steps. First, the commander and staff should

¹ Kenneth King Humphreys, *Jelen's Cost and Optimization Engineering*, 3d ed., McGraw-Hill, New York, 1991, p. 252.

develop the best solution for each phase. The commander should then analyze the costs associated with changing the concepts for each phase. The costs may include decreased effectiveness during the transition, time and resources required to move support units, and confusion on the part of the supported organization as to how they receive support.

The commander should then compare the costs of changing concepts for each phase to the decrease in effectiveness associated with retaining the same concept of support across multiple phases. Through this explicit comparison, the commander can determine if it is more effective to have multiple concepts or to retain the same concept. Obviously, some components of the support concept may remain stable while others change, but it is only through this analysis that the commander can determine the optimum solution for providing support.

The areas for optimization include task organization; location; command, control, and support relationships; training; and equipment. This process is similar to a combination of steps three through five of the MDMP (course of action development, course of action analysis, and course of action comparison). One key point to remember is that the optimum solution includes not only the currently understood operations but also includes a degree of flexibility in the event that the current understanding of the maneuver campaign changes.

Task organization. The first area requiring optimization is the task organization of the sustainment unit. First, the commander must determine what forces are required to meet the supported commander's needs. While the natural tendency is to request units specifically designed to provide a particular type of support, some organizations may be used for other purposes when their primary mission is not required. Beyond the number and types of units, the commander must determine how to task organize the assigned elements to maintain maximum flexibility and efficiency.

Location. The commander must determine the best physical location for the subordinate battalions and his own headquarters. In determining the physical location, the commander should consider the requirement to maintain continuous, flexible, and efficient support. A road network or tactical situation has the ability to significantly impede the ability of subordinates to support the maneuver force.

Command, control, and support relationships. The commander and staff must carefully consider the relationships among logistics organizations, higher commands, and supported forces. The new logistics command and control relationships may result in a single logistics organization supporting organizations without a common higher headquarters

(such as brigade combat teams assigned to different divisions).

The commander must determine how those relationships will evolve over time. In the case where a relationship will change, the commander should look at how the transition will occur and what systems should be in place to effect the change. The transitions should include when the change will occur and whether that change is event or time driven. Preplanning the transfer of control will allow for the most efficient transition and clearly identify any gaps in support that may occur during the transition.

Training. A gap may exist between capabilities and requirements. Given a resource-constrained environment, the command must determine the most effective way to close the gap. One possibility is to retrain and reassign the missions of parts of the organization. The timing of that training is significant. Given sufficient time before the beginning of operations, the commander should initiate the required training before deployment. If that is not possible, the commander should review the campaign and determine opportunities for training. During this process, the commander should consider the level of proficiency required, the difficulty of training the task, and the impact of losing the normal capability.

Equipment. The commander should determine the shortfalls in equipment needed to accomplish the assigned missions. Similar to the process for training new capabilities, the commander should identify when new or different equipment is required. Once identified, under-utilized equipment during the same phase should be reallocated to fill the gaps. If equipment is not available, other logistics organizations will likely have to accomplish the mission.

The result of the optimization process is a support concept for the duration of the campaign. The concept cannot be considered approved until the supporting commander has presented the concept to both the supported commanders and the higher logistics commander. These discussions are primarily for information purposes, but another commander may identify a shortfall in the support provided and the campaign plan would then require modification.

Communicating the Plan

Upon completion of the planning process, the commander must be able to effectively communicate the plan to higher, subordinate, and supported commanders. This format can be adapted to be more specific or more general based on the clarity of the situation as well as the preferences of the commander.

USING CACD, THE COMMANDER IS ABLE TO EFFECTIVELY UNDERSTAND THE ENVIRONMENT IN WHICH HE WILL OPERATE AND EVENTUALLY DEVELOP A PLAN TO SUPPORT THE MANEUVER COMMANDERS AND THEIR OPERATIONS.

Campaign intent. The campaign intent will be taken from the campaign design process. It summarizes the problem, purpose, key objectives, priorities, risk, and end state.

Campaign approach. The commander should describe each phase and the general requirements for support as developed during the campaign design. This description should show how the phases relate and how the support plan nests with the supported commanders' campaign.

Phase description. For each phase, the commander should describe how the operations of the supported commanders will be supported. The critical elements that need to be described are the internal organization and capabilities, support requirements, and preparations for follow-on operations.

The phase description should begin with task organizing the sustainment brigade and its subordinate elements. The task organization should reflect location, command, control, and support relationships. The specific requirements for each subordinate organization should be explained in sufficient detail for the commanders to conduct operations planning. The plans for each phase should also describe the critical capabilities required at the beginning of the phase, major missions, capabilities required at the beginning of the next phase, and the criteria for transitioning to the next phase, from both the supported unit and logistics unit's perspectives.

The commander of the logistics organization should share the final campaign plan with the same group of commanders that he included in commander's appreciation discussions. By presenting the completed campaign plan to those commanders, he is able to validate his understanding of the situation and gain support from the other commanders.

Through the campaign planning process, the commander and staff will translate the campaign design previously developed into a campaign plan that is understood by both the subordinate organizations and the supported organizations. This plan will also serve as the basis for operational planning during each phase of the campaign. As each phase

or operation approaches, the commander, with staff assistance, will review his understanding of the operational environment, assess past and ongoing operations to determine their effectiveness, and review the campaign plan to ensure that it is still applicable to the current situation. From there, he will direct more detailed planning for upcoming operations in the form of the joint operational planning process or MDMP.

Because of the changes in logistics command and control and the increasing complexity of the contemporary operational environment, logistics organizations must develop new techniques for planning support throughout the maneuver campaign. Using CACD, the commander is able to effectively understand the environment in which he will operate and eventually develop a plan to support the maneuver commanders and their operations.

The end result of a logistics organization's effective campaign planning is the optimal solution for supporting maneuver forces and a basis for planning individual operations that are part of the campaign. The understanding developed during the campaign planning, along with additional information gathered during execution of the campaign, allows the commander and staff to quickly translate the broad outline of support included in the campaign plan into executable plans.

Just as the methodology described above is not rigid, the campaign developed as a result of applying it also should not be rigid. Through the metrics developed during the campaign planning process, the commander and staff will be able to identify when the plan is no longer effective. At that point, the commander must make the decision to either adjust the plan based on the current understanding or restart the program and reframe. Just as staff estimates are a living document, which are continually updated, the campaign plan is a living document that will be reviewed frequently and updated as required.

Regardless of the operational environment, logistics organizations should conduct campaign planning to ensure that they are providing the optimum support to the assigned force. Without this process, the tendency will be to adjust the concept of support to meet short-term challenges without looking at long-term requirements and impacts.

MAJOR KEVIN M. BAIRD IS CURRENTLY DEPLOYED TO IRAQ AS A PLANNER WITH THE 13TH EXPEDITIONARY SUSTAINMENT COMMAND HEADQUARTERS. HE GRADUATED FROM VANDERBILT UNIVERSITY AND HAS A MASTER'S DEGREE FROM THE UNIVERSITY OF MISSOURI-ROLLA. HE IS A GRADUATE OF THE ARMOR OFFICER BASIC COURSE, THE COMBINED LOGISTICS CAPTAINS CAREER COURSE, THE ARMY COMMAND AND GENERAL STAFF COLLEGE, AND THE SCHOOL OF ADVANCED MILITARY STUDIES.

Transformation of LandWarNet Will Improve Joint Interoperability

One of the major Army initiatives highlighted at the Association of the United States Army (AUSA) annual meeting was the transformation of LandWarNet as part of the Global Network Enterprise Construct strategy. The goal is to transform LandWarNet over the next 3 years into a centralized and more secure network enterprise that can support warfighters in all operational phases and improve interoperability among all the armed services.

Speaking at the AUSA meeting, held 5 to 7 October in Washington, D.C., Lieutenant General Jeffrey A. Sorenson, the Army's Chief Information Officer and Deputy Chief of Staff, G-6, called the current system dysfunctional. "We have a lot of different networks, we've built these up over time, and oh, by the way, they are spending a lot of money, and in some cases they are not maybe as secure as they need to be." He said warfighters want LandWarNet to offer five features:

- ❑ Access to and search capability for Army and joint warfighting data.
- ❑ Global access to the network.
- ❑ A single network infrastructure.
- ❑ Common network policies and standards.
- ❑ Access to web-based collaboration tools.

In order to provide the functions Soldiers have asked for and reduce costs over time, the G-6 has developed a standardization and modernization strategy that will be executed Army-wide. Sorenson said that standardizing and modernizing across the enterprise is less expensive than tackling separate networks and will increase the availability and continuity of information while ensuring increased protection.

Sorenson said the Army wants to give Soldiers the "Blackberry experience," meaning that wherever they move, the network moves with them almost seamlessly. "This cannot be an Army deal," said Sorenson. "This has got to be a joint deal, otherwise we've failed our warfighters when they get to theater."

Attaining a mobile network will require consolidation of information technology (IT) assets across the Army. "Dell today essentially does worldwide operations with two data centers," said Sorenson. "In the Army alone, we've got 447 locations here in CONUS [the continental United States] that touch the network." Under the Global Network Enterprise Construct, the Army is consolidating networks and local servers under five Army network service centers (NSCs). The 5th Signal Command at Mannheim, Germany, established the first NSC to support the U.S. European Command area of responsibility. The Army will stand up NSCs in Southwest Asia and in CONUS this fiscal year, and the Pacific theater will receive its NSC in fiscal year 2011. (See related story that follows.)

Control of CONUS DOIMs Transfers to NETCOM

Thirty-seven installation directorates of information management (DOIMs) in the continental United States (CONUS) were reassigned from the Army Installation Management Command (IMCOM) to the Army Network Enterprise Technology Command (NETCOM)/9th Signal Command (Army) on 1 October 2009. The

RECENTLY PUBLISHED

Field Manual (FM) 4-01.45, Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations, describes methods for conducting convoys with a focus on reducing casualties and increasing mission success. The newest version of the publication is reorganized into a "logical mission sequence of events," from organizing, planning, and executing tactical convoy operations to post-mission responsibilities. The manual also includes current doctrine on avoiding and neutralizing improvised explosive devices and information on counter radio-controlled improvised explosive device electronic warfare systems.

FM 4-20.112, Airdrop of Supplies and Equipment: Rigging Typical Supply Loads, contains information on preparing and rigging bulk supplies, such as rations, fuels, lubricants, and ammunition, as well as tailored supply packages.

FM 4-20.113, Airdrop of Supplies and Equipment: Rigging Trailers, is another revised manual for the rigger's library. It includes procedures for rigging new equipment in the Army inventory and updated procedures and equipment used by the airdrop community for loads dropped from C-130 and C-17 aircraft. The manual consolidates previous trailer-rigging manuals (FM 4-20.113, FM 10-532, FM 10-55, FM 10-569, and FM 10-591) and the information concerning trailers and trailer-mounted equipment into one publication.

Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms, continues to receive updates to align the publication with current doctrine on joint operations. The publication also identifies terms approved for use by the Department of Defense and the North Atlantic Treaty Organization (NATO). The dictionary only includes unclassified terms and continues to be available online at <http://www.dtic.mil/doctrine/jel/doddict>.

DOIMs are now known as Army signal network enterprise centers (NECs).

Consolidating all NECs under a single Army command will enable NETCOM to support the Army's Global Network Enterprise Construct and develop the enterprise capabilities of regional network service centers to support all phases of joint operations. (See preceding story.)

The NECs will be managed by two brigades under the 7th Signal Command (Theater), the 93rd Signal Brigade at Fort Eustis, Virginia, and the 106th Signal Brigade at Fort Sam Houston, Texas. The 7th Signal Command (Theater), headquartered at Fort Gordon, Georgia, has been designated as the single enterprise network manager for CONUS. CONUS is the final theater to be organized under a theater signal command.

A plan to reassign all other CONUS DOIMs and DOIM-like organizations, including those under the Army Materiel Command and the Army Medical Command, to NETCOM will be implemented by fiscal year 2012.

Some DOIM functions will remain under IMCOM garrisons. These include photo laboratories; multi-media support; visual information broadcast, video, and audio support; graphic arts; visual information media and equipment support; Land Mobile Radio End-User Device procurement; records management; official mail and distribution; and forms and publication management.

One of the first new mine-resistant ambush-protected (MRAP) all-terrain vehicles to reach southern Afghanistan parks next to the larger MRAP MaxxPro Dash at Kandahar Airfield. (Photo by SPC Elisebet Freeburg, Joint Sustainment Command-Afghanistan Public Affairs Office)

New MRAP All-Terrain Vehicles Available to Soldiers in Afghanistan

The first mine-resistant ambush-protected (MRAP) all-terrain vehicles (M-ATVs) arrived in Afghanistan on 5 October 2009. While some of the original MRAP vehicles weighed nearly 60,000 pounds, the M-ATV, developed by Oshkosh Defense, weighs 25,000 pounds. The lighter weight better meets the need for vehicles that can be driven over the difficult terrain in Afghanistan.

The M-ATV is designed for a driver, three passengers, and a gunner and features a v-shaped armored hull. Its independent suspension system, which it shares with the more recent family of medium tactical vehicles, provides improved off-road mobility.

Oshkosh Defense started delivering vehicles just 3 months after receiving the Department of Defense contract, enabling the MRAP Joint Program Office to fly the vehicles to Afghanistan earlier than initially planned. As of 11 November, Oshkosh had secured five contracts with the Army TACOM Life Cycle Management Command to provide a total 6,219 M-ATVs plus spare parts and support services. The contracts are worth a total of \$3.2 billion.

The company has received an additional contract for \$33 million from TACOM to supply a rear-mounted camera system on more than 2,200 M-ATVs.

Oshkosh, which started production of 1,000 M-ATVs a month in December, plans to continue at this pace through at least March 2010.





The XM-153 Common Remotely Operated Weapons Station, developed by the Army Armament Research, Development and Engineering Center, provides remote aim-and-fire capability for a suite of crew-served weapons while stationary or on the move.

tion based on the technology's impact on the Army's war-fighting capabilities, potential benefit outside the Army, and inventiveness. This year, many of the winners protect the Soldier on the battlefield. The following items were recognized as the top ten inventions of 2008.

Top Ten Inventions Protect Soldiers

The Army Materiel Command and the Army Research, Development and Engineering Command honored the Army's "Top Ten Inventions of 2008" in Arlington, Virginia, on 21 September 2009. The event showcased the best Army technologies and their accomplishments, as chosen by deployed Soldiers.

Soldiers from the 1st Armored Division, 82d Airborne Division (Air Assault), and 25th Infantry Division voted on the nominations for this competi-

XM-153 Common Remotely Operated Weapons Station (CROWS), developed by the Army Armament Research, Development and Engineering Center (ARDEC), provides Soldiers with the capability to remotely aim and fire a suite of crew-served weapons while stationary or on the move. The CROWS provides increased protection to gunners and enhances target acquisition, identification, and engagement for nonturreted light-armored vehicles in day and night conditions.

Sustainment Center of Excellence Stands Up With New Colors and New Patch

Members of the Army Combined Arms Support Command (CASCOM) officially transferred to the Sustainment Center of Excellence (SCoE) on 25 September 2009 outside the SCoE headquarters building at Fort Lee, Virginia. In the photo at right, Major General James E. Chambers, Commanding General of CASCOM, SCoE, and Fort Lee, applies a new patch to the uniform of Command Sergeant Major C.C. Jenkins, the CASCOM, SCoE, and Fort Lee command sergeant major. The five stars of the patch signify the major functions of sustainment—maintenance, supply and field services, transportation, human resources, and financial management—while the torch symbolizes the training function of the center of excellence. (Photo by Kimberly Fritz, Fort Lee Public Affairs Office)



Projectile Detection Cueing-CROWS Lightening, from ARDEC, is a low-cost acoustic gunfire detection system. It is capable of detecting the origin of incoming gunfire and provides quicker response to traditional attacks as well as enemy sniper fire.

Light machinegun and medium machinegun cradle, from ARDEC, provides a more stable and more accurate firing platform for the M249 squad automatic weapon and the M240B medium machinegun. The cradle eliminates the hazard of a full-length belt of ammunition hanging loose from the weapon and keeps rounds in line with the feeder tray to reduce machinegun stoppages caused by twisted ammunition.

Overhead cover for the objective gunner protection kit, designed by ARDEC, is an integrated armor and ballistic glass system that is mounted on the objective gunner protection kit of tactical and armored vehicles. It provides 360-degree protection from ballistic threats while maintaining the gunner's visibility of his surroundings. An overhead cover protects against hand grenades, rocks, incendiary devices, and liquid acids.

Enhanced mobile rapid aerostat initial deployment vehicle, from the Army Aviation and Missile Research, Development and Engineering Center, is a single platform boasting intelligence, surveillance, and reconnaissance capabilities that can be used by units that are operating remotely.

Whisper, developed by the Army Communications-Electronics Research, Development and Engineering Center, is a passive detection device used by combat engineer companies in reconnaissance vehicles. The system features advanced electronic warfare equipment to detect radio-controlled improvised explosive device threats.

Combat gauze for treating hemorrhages in injured Soldiers, from the Army Institute of Surgical Research, gives medics a cost-effective hemostatic product to treat severe external bleeding. This is especially useful when a medic cannot apply a tourniquet. The product is a large, flexible roll of nonwoven gauze containing a contact pathway containing the clotting agent kaolin.



C-17 Aircraft Travels 5,000 Miles by Boat and Land to Fort Lee

Logisticians from the Military Surface Deployment and Distribution Command at Fort Eustis, Virginia, helped to move this Air Force C-17 fuselage from Orange County, California, to Fort Lee, Virginia. When the Joint Transportation Center and School opens at Fort Lee in 2011, it will use the fuselage to train military personnel on airload procedures as part of the Multi-Modal Training Site, which will also have four railroad cars and a C-130 aircraft. The trip that brought this piece of equipment through the Panama Canal to the Chesapeake Bay and up the James River cost \$1.7 million—\$1 million less than the cost of constructing a new fuselage for training. (Photo by Rhonda Seward, Fort Lee Public Affairs Office)

Mine-Resistant Ambush-Protected Armor Weight Reduction Spiral Program, from the Army Research Laboratory, introduced lightweight composites, new materials, and enhanced ballistic mechanisms to reduce the add-on weight of final armor packages, while continuing to increase Soldier survivability.

Mine-Resistant Ambush-Protected Expedient Armor Program add-on-armor kit, from the Army Tank Automotive Research, Development and

UPCOMING EVENTS

AUSA Winter Symposium

The Association of the United States Army (AUSA) Institute of Land Warfare will hold its Winter Symposium and Exposition from 24 to 26 February at the Greater Fort Lauderdale/Broward County Convention Center in Fort Lauderdale, Florida.

The professional development forum's topic this year is "The Institutional Army: Enterprise Approach to Success." For more information or to register, go to the AUSA website, www.ausa.org, and select "Meetings" on the lefthand-side of the screen.

Engineering Center (TARDEC), was developed to protect Soldiers from improvised explosive devices and explosively formed penetrators. The armor is 50-percent lighter than previous MRAP armor kits and increases protection without sacrificing vehicle performance.

One System Remote Video Terminal A-kit, from TARDEC, is a modular video and data system that provides the capability for Soldiers to receive near-real-time surveillance image and geospatial data remotely from tactical unmanned aerial vehicles and manned platforms. This improves the safety and

speed at which Soldiers can recover vehicles and provides enhanced situational awareness for mission planning and intelligence gathering.

Army Unit Receives Top Honors at 2009 Secretary of Defense Maintenance Awards

The Department of Defense (DOD) honored the 1st Squadron, 3d Armored Cavalry Regiment, from Fort Hood, Texas, as the 2009 Phoenix Award Winner. The award, part of the Secretary of Defense Maintenance Awards, recognizes the unit as the top field-level maintenance unit among Active and Reserve

PROFESSIONAL DEVELOPMENT

Army Adapts Courses to Fit ARFORGEN

“Institutional adaptation” describes the Army’s recent efforts to mold courses at Army schools and training centers to better fit into the Army Force Generation (ARFORGEN) cycle.

During the Association of the United States Army annual meeting in Washington, D.C., Brigadier General Dana J.H. Pittard, the Deputy Chief of Staff, G-3/5/7, of the Army Training and Doctrine Command, explained some of the changes that will influence the flexibility of leader development.

“The Warrior Leader Course used to be 29 days, now it is 15 to 17 days, and it is also on the road,” said Pittard. “The shortening of the Advanced Leader Course, or the old BNCOC [Basic Noncommissioned Officer Course], to 8 weeks for most of the schools, [is] again bending our system to make sure that we are in support of ARFORGEN.”

Pittard said the Army is eliminating Basic Officer Leader Course (BOLC) Phase II. “We will now have BOLC A and BOLC B. Again, [we are] trying to get leaders, young lieutenants, out there quicker and trained in support of the ARFORGEN cycle.”

Mobile training teams will play a more prominent role in the future of the Army. Pittard said that 6 years ago mobile training teams were almost nonexistent. “This year alone, we have over 1,500 mobile training teams going out to where units are so that they can be trained at their home station.” Pittard said home-station training protects the little dwell time Soldiers have right now.

Balancing readiness with dwell time is one goal of institutional adaptation—a goal that falls in line with another goal set forth by General George W. Casey, Jr., the Chief of Staff of the Army, to put the force back in balance.

“We think that we have it about right at our combat training centers. We know that we must do much more work at home station training levels, at our institutional Army, as well as training deployed,” said Pittard.

Further changes lengthen warrant officer schooling to make room for training in leadership, knowledge management, project management, policy, strategy, globalization, and media relations.

Wiki-Functions Tested as a Tool for Improving Tactics, Techniques, and Procedures

The Army has tested a program that allows Soldiers and leaders to update field manuals (FMs) that describe tactics, techniques, and procedures (TTP) in a wiki environment in the same way that users can update Wikipedia entries. Staff from the Army Combined Arms Center’s Combined Arms Doctrine Directorate at Fort Leavenworth, Kansas, launched the test in an attempt to accelerate knowledge sharing as compared to the time-consuming staffing process traditionally used for revisions of these FMs.

TTP FMs will be renamed Army tactics, techniques, and procedures (ATTP). The Army Training and Doctrine Command (TRADOC) identified over 200 potential ATTPs during a doctrine reengineering study in May 2009.

During a forum at the Association of the United States Army annual meeting in October in Washington, D.C., Brigadier General Dana J.H. Pittard, TRADOC’s Deputy Chief of Staff, G-3/5/7, said once the FM reorganization is complete, only 94 FMs will remain. “We will put 215 field manual types, that we are calling the ATTP, the Army tactics, techniques and procedures, online on the Internet in a wiki approach, where, as a collaborative community, we are looking at our manuals and making corrections, just like you would with Wikipedia,” said Pittard. “We are finding that already in the pilot wiki manuals that we have out there that it is working very well.”

The program only piloted seven manuals, including those on risk management, Army unmanned aircraft systems operations, and knowledge management. The ATTP pilot is available through Army Knowledge Online through the self-service tab selection “My Doctrine” or at the Web address https://wiki.kc.us.army.mil/wiki/Portal:Army_Doctrine.

If you are interested in submitting an article to *Army Sustainment*, here are a few suggestions that may be helpful. Before you begin writing, review a past issue of *Army Sustainment*; it will be your best guide. Keep your writing simple and straightforward (try reading it back to yourself or to a colleague). Attribute all quotes. Identify all acronyms and technical terms. *Army Sustainment's* readership is broad; do not assume that those reading your article are necessarily Soldiers or that they have background knowledge of your subject.

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component organizations throughout DOD.

While deployed to the Tigris River Valley in Iraq in 2008, the unit distinguished itself by achieving an operational readiness rate of 97 percent while maintaining a fleet of equipment that was 75 percent larger than the fleets normally authorized to a unit its size. The unit was spread over 24,000 square kilometers and provided more than 12,000 hours of maintenance training to Iraqi mechanics. The leaders accomplished this by adopting innovative techniques, such as cross-training maintenance technicians, adjusting operations and maintenance practices based on combat experiences, and modifying standing operating procedures.

Army Logistics Management College is Renamed and Reorganized

On 1 October 2009, one of the colleges of the Army Logistics University (ALU) at Fort Lee, Virginia, the Army Logistics Management College (ALMC), was

renamed the College of Professional and Continuing Education.

“Army Logistics Management College” was also the name of ALU’s predecessor organization and comprised two schools. The School of Systems and Acquisition Management consisted of the Department of Systems Acquisition (DSA) and the Department of Systems Engineering (DSE). The School of Logistics Science consisted of the Logistics Executive Development Department (LEDD), the Tactical Logistics Leader and Development Department (TLLDD), and the Materiel Management Department (MMD).

The College of Professional and Continuing Education consists of four of those departments: LEDD (renamed the Department of Advanced Logistics Studies), MMD (renamed the Department of Strategic Logistics), DSA, and DSE.

See the March–April issue of *Army Sustainment* for an article on the College of Professional and Continuing Education.

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- ❑ Ten Things Warrant Officers Need to Know About ARFORGEN
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