

ARMY LOGISTICIAN

NOVEMBER–DECEMBER 2008

Medical Logistics

**Integrating Contractors
Into Brigade Support Battalion Operations**

**Logistics Status Reports
and the Logistics Common Operating Picture**

Providing S-2 Support for a Brigade Support Battalion

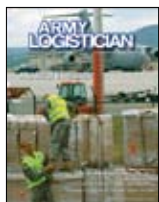
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Cover: On the battlefield, Army medical logisticians fill critical roles ranging from transporting medicine and blood to maintaining medical equipment. The articles beginning on pages 17, 20, 22, and 26 discuss a variety of medical logistics topics, including managing medical logistics, preventing injuries, and mentoring medical logisticians of allied forces. On the cover, two Soldiers prepare pallets of medical supplies and emergency shelters for delivery to the Republic of Georgia. Army medical logisticians play a key part in humanitarian efforts around the world.

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The Sustain Warfighters' Forum: Sharing What You Know

BY MAJOR GENERAL JAMES E. CHAMBERS

For a moment, I ask you to consider the following challenges taking place everyday in our Army—

- A second lieutenant is looking for the latest doctrine and tactics, techniques, and procedures for logistics convoy operations.
- A colonel wants to know how human resource management is being integrated with current sustainment operations.
- A specialist deployed in Iraq is having difficulty opening online technical manuals and ordering sight adapters.
- A major in a brigade support battalion is looking for sample tactical standing operating procedures he can leverage as his unit prepares to deploy.
- A warrant officer class producing a supply guide wants to solicit feedback from counterparts in the operational force.
- A redeployed sustainment brigade staff wants to share best practices and lessons learned with other organizations preparing for deployment.
- A Department of the Army (DA) civilian at the Army Materiel Command (AMC) wants to provide information on mine-resistant ambush-protected (MRAP) vehicles to the field.

Topics may vary, but even in these few examples, one resounding theme stands out: We need to improve on sharing what we know with others in the Operating and Generating Forces.

The volatility of the operational environment, coupled with advancements in technology, has outpaced our historical approach of relying solely on email, traditional websites, and physical gatherings as the primary means of exchanging knowledge. These methods still play an important part, but we all know inboxes are full, too many websites exist, and location-specific events cannot adequately satisfy our daily mission knowledge needs. If they did, we would not encounter the many knowledge gaps exemplified above.

Today, Active and Reserve component commanders, staff, and Soldiers want to readily collaborate—synchronously and asynchronously—with each other and with members of other Army organizations, in settings commensurate with their operational missions, functions, and operating tempo. They need simple but effective tools that provide access not only to those who “know what” but also to those who “know how” and “know who” by using “virtual rolodexes” of subject-matter experts, coaches, and mentors. Likewise, those of us in the Generating Force who serve and support operational sustainment formations need to actively contribute our wealth of doctrine, training, education, and combat development expertise by engaging in these knowledge-sharing venues, with an ear toward listening and responding to

questions, and sharing operational insights, best practices, and lessons learned.

The Sustain Warfighters' Forum (Sustain WfF) is our approach to achieving this vision. In partnership with DA G-4, AMC, and the Army Forces Command (FORSCOM) G-4, the Army Combined Arms Support Command (CASCOM) has established the Sustain WfF to provide the entire sustainment and logistics community with an array of knowledge products and services. Commanders, staffs, Soldiers, and DA civilians now have a single entry point to a number of interdependent websites, document repositories, and collaboration enablers. Hot topics are visible to all, with easy navigation to unique Operating and Generating Force domains. Direct access to communities, discussion forums, lessons learned interviews, multimedia products, and lifelong learning courseware is available, and every user has the ability to “ask now” to get immediate responses to critical questions and concerns arising in the field. We have even provided the means for any user to schedule and execute online meetings, and we will use this tool to routinely conduct Sustain WfF leader symposiums and other events with Operating and Generating Force organizations.

The Sustain WfF is our part of a larger Warfighting Forum vision, led by commanding generals, the Army Training and Doctrine Command (TRADOC), FORSCOM, and AMC. The FORSCOM G-4 has recently directed all Soldiers in operational sustainment and logistics units to use the Sustain WfF. This significantly increases our obligation to fully engage in performing our knowledge-sharing roles. Every member of the CASCOM staff, faculty, and schools should be routinely using the Sustain WfF, and we must now embed this enabler within our training base, ensuring that all Soldiers graduating from CASCOM schools are competent in using the Sustain WfF in their operational assignments and are benefiting from the knowledge reach-back to their proponent schools. Over the next year, we must also incorporate the Sustain WfF into the Sustainment Center of Excellence (SCOE) model command post, sustainment training exercises, and other collective training venues to ensure that operational sustainment commanders and staffs can rapidly share insights, best practices, and lessons learned with each other, the SCOE, and other organizations.

I challenge each of you to use the Sustain WfF to share what you know. I can assure you there's a Soldier out there who needs it.

Users can access Sustain WfF at <https://www.us.army.mil/suite/page/372426>.

MAJOR GENERAL JAMES E. CHAMBERS IS THE COMMANDING GENERAL OF THE ARMY COMBINED ARMS SUPPORT COMMAND AND FORT LEE, VIRGINIA.

Integrating Contractors Into Brigade Support Battalion Operations

BY MAJOR DAMIEN GREEN

As the sun set over the desert landscape of Forward Operating Base (FOB) Hammer, the logisticians of the 203d Brigade Support Battalion (BSB) prepared another convoy in support of the 3d Brigade Combat Team (BCT) of the 3d Infantry Division (Mechanized). Following the afternoon logistics synchronization meeting, the distribution company's truck master returned to her office to make the final adjustments to the next day's convoy plans.

Her first call was to the supply support activity (SSA). Answering the radio was Mr. Smith, the site lead for a company that provided personnel augmentation to SSAs throughout Iraq. "I need you to load onto the Iraqi truck platoon's flatbeds 10 containers of the Rhino Snot for Combat Outpost Salie. The convoy is leaving tomorrow morning. I'll have the convoy, upon its return, stop at the SSA to pick it up." "Understood," was his response.

Mr. Smith stepped outside the office container to pass the message. Looking into the issue lanes, he saw Haider Ezzet using a 4,000-pound forklift to load a supply truck. Mr. Ezzet and four additional forklift operators were contracted through a purchase request and commitment (PR&C) to work in battalion motor pools and the SSA. Mr. Smith entered the issue section tent and passed the message to the noncommissioned officer-in-charge for the section.

A couple of hours later, a group of contractors rolled through the FOB's entry control point after returning from a barrier mission at Combat Outpost Salie. Through FM radio, Sergeant Williams spoke with the contractors and confirmed his next mission and the delivery of the Rhino Snot, a soil stabilizer actually called Envirotac II. The contractors were filling a gap and working side-by-side with the 203d BSB Soldiers.

Supporting the 3d BCT from a newly created FOB, the 203d BSB began its Operation Iraqi Freedom rotation with only the transportation assets that it had drawn from Army pre-positioned stocks in Kuwait. A shortage in up-armored logistics vehicles left the BSB with only 60 percent of its authorized transportation requirements.

The vehicle shortage especially hindered the BSB's construction projects. The BSB waited a month for concrete to arrive because concrete was in high demand at all combat outposts, patrol bases, joint security sites, and everywhere else that was not yet protected. But once the concrete began to flow, the BSB Soldiers thought they had the construction under control with their palletized load systems (PLSs). How hard could it be to move t-wall and Jersey barriers, Scud bunkers, and towers? They learned the hard way that they definitely did not have it under control.

The corps was able to loan the BSB a crane to use indefinitely and two qualified Soldiers to operate it for 1 week. Their first mission was at Combat Outpost Cahill, which is a few kilometers north of the Salmon Pak facility near Baghdad. Within 3 weeks, the crane, which had been abused for months, finally had to be taken back to the Victory Base complex for extensive maintenance. The 3d BCT had no organic crane capability, so the BSB had to rely entirely on a contractor's 60-ton crane to emplace concrete. It was obvious that the BSB needed help to move the concrete and barriers.

Filling the Transportation Gap

On 22 June 2007, a contract was awarded to an Iraqi company to move 1,715 barriers. The contract was written so that the vendor was paid by the number of barriers moved. The conditions-based statement of work (versus time-based) gave the BSB increased flexibility to determine the right delivery time based on the tactical situation. The contracted personnel and their equipment easily merged into BSB operations. Although the company was not a military unit of any kind, it worked under the distribution company just like a platoon, so the Soldiers of the BSB referred to it as the "Iraqi Medium Truck Platoon."

Using the Iraqi Medium Truck Platoon, the BSB increased its ability to move critical supplies and materials throughout the area of operations in support of the 3d BCT. Through the use of a PR&C, the BSB contracted four 22-ton cranes for 30 days. On the first day of the contract, all four crane drivers took a wrong turn on the way to FOB Hammer and were

Contractors often work alongside Army personnel to fill capability gaps on today's battlefield. Here, an officer with 2d Battalion, 12th Cavalry Regiment, 4th Brigade Combat Team, and an interpreter talk with a contractor in Baghdad, Iraq. (Photo by Tech. Sgt. Andrew M. Rodier, USAF)



hijacked by terrorists. They were beaten until the contractor negotiated for their release. Within 2 weeks, the vendor had found new drivers and, with 3d BCT gun trucks accompanying them for security, they reported for work. The contractor provided reinforcement to the Iraqi Medium Truck Platoon, allowing the brigade to establish four additional combat outposts and build traffic control points on main routes within the area of operations.

Realizing the importance of cranes and flatbeds, the brigade S-4 and comptroller extended the contract to move an additional 1,708 barriers, which at the time would have completed the brigade's requirements of an additional 9 checkpoints and a joint security site. Because of the high demand for concrete, the contract was awarded within 30 days. Without a contract in place, the BSB would only have been able to use the forward support companies' and distribution company's PLSs, so the same amount of concrete would have taken 60 to 75 days to move.

The BSB also advertised a new contract that would fulfill its movement requirements for the rest of the rotation. After 38 days, a contract was awarded to the same vendor to provide ten 40-foot flatbeds and two 20-ton cranes with operators. Under this contract, the Iraqi Medium Truck Platoon personnel worked on a 2-week schedule for 8 months with 2 days off every other week. The platoon belonged to the distribution company and was organized under the BSB's chemical officer and a transportation staff sergeant. It received its missions at the brigade's daily logistics synchronization meeting run by the BSB support operations officer (SPO).

While every mission is unique, the BSB established some basic rules to ensure that off-the-FOB convoy missions were successful. All of the contractors in the Iraqi Medium Truck Platoon and their equipment were treated and protected as if they were assigned to the BSB. Every mission included a squad leader so that if the mission went off course, the squad leader could intercede or get on the phone to ask for backup. The Iraqi Medium Truck Platoon ensured that the

maintenance company ran quality assurance checks on the trucks and cranes before each mission, and if there were any issues, the platoon, with the contractor's supervisor, would coordinate replacement vehicles and crews. Because of the high degree of trust among the personnel and the contractor's competence, lost equipment was typically replaced in less than 24 hours.

The Engineer Capability Gap

Transportation was not the only capability that the 203d BSB lacked; it was also short on engineer assets. The heavy BCT's combat organization normally includes two engineer companies to perform mobility (route clearance), countermobility (obstacle plan development), and survivability (fighting positions and protective emplacements) missions. But as a surge brigade, the 3d BCT had no engineer companies (even though it was deployed to an area of operations that had no established bases) and was forced to rely on engineers outside the brigade for support. Two organizations—a contracted company and the Air Force's Red Horse Squadron—had the right capabilities. However, as required by its contract, the contractor and its assets were not permitted to leave FOB Hammer. On the other hand, the Red Horse Squadron could support off-the-FOB missions but required multiple layers of command to approve missions that deviated from their assigned task and purpose.

Over the course of several months, the 3d BCT tried different techniques to solve its engineer capability shortfalls. To make force protection improvements throughout the battlespace, the brigade hired individuals for specific projects through field ordering officer payments, sent engineer work requests (EWRs) to the

division for Task Force Liberty engineers, and developed short term PR&Cs. Sometimes the 3d BCT was able to have the right mix of assets at the same time, but typically it could not provide the immediate response that the maneuver commanders wanted.

Filling the Engineer Gap

A more permanent solution was needed, so the BSB SPO wrote a service statement of work and found three vendors who were willing to provide their services for an 8-month contract. After 4 months of pushing paperwork through the brigade, division, and corps, the contracting office finally chose a vendor. The 203d BSB referred to the contracted personnel as the “Iraqi Engineer Platoon.”

Having these pieces of equipment in the quantities requested enabled the 203d BSB to meet short suspenses and accomplish engineer missions that were deemed low priority for the Red Horse Squadron and the existing contractor.

The Iraqi Engineer Platoon had two fill-and-evacuation sections, a grading and compacting section, and additional personnel and equipment to augment other sections and units on the FOB. For the first fill-and-evacuation section, the vendor provided two bucket loaders, one dump truck, and one excavator. The second fill-and-evacuation section included one bulldozer, one bucket loader, one dump truck, and an excavator. The grading and compacting section had one grader, one bulldozer, one bucket loader, and a steel roller. The personnel who augmented other units on the FOB had two 20-ton cranes to supplement the Iraqi Medium Truck Platoon’s lift capability, five 4,000-pound forklifts (one for each battalion motor pool and one for the SSA and class I [subsistence] yard), and two pavement spreaders and a compactor to assist the Red Horse Squadron in improving the road networks on the FOB.

Having these pieces of equipment in the quantities requested enabled the 203d BSB to meet short suspenses and accomplish engineer missions that were deemed low priority for the Red Horse Squadron and the existing contractor. The Iraqi Engineer Platoon was able to move within 24 and 48 hours of mission receipt, and because the operators were not Soldiers, they were specifically dedicated to engineer tasks and were not subject to details like guard duty. No more EWRs were denied because of limited equipment availability. If the 203d wanted it done, it had control of the assets to make it happen.

Because the Iraqi Medium Truck Platoon was well led by skilled leaders, the 203d BSB aligned the Iraqi Engineer Platoon under the Iraqi Medium Truck Platoon’s leaders and expanded their operation to the equivalent of a company-sized unit.

Filling Other Gaps on the FOB

Establishing an SSA in the middle of the desert with literally no infrastructure to begin with was a challenge for the Soldiers of the 203d BSB’s distribution company. Initially made up of just boxes and 463L pallets amid the dust of the Besamaya Range Complex, the 3,500-item multiclass warehouse came together under the leadership of a chief warrant officer (W-3). Once again, contractors were invaluable to BSB operations. A company contracted by Multi-National Corps-Iraq provided one site leader and four workers who, under the SSA technician’s direction, assisted in receiving, storing, and issuing classes II (clothing and individual equipment), IIIP (packaged petroleum, oils, and lubricants), IV (construction and barrier materials), and IX (repair parts).

An additional lifesaver was a contracted recovery and lift team that was resourced by the 15th Sustainment Brigade and established on FOB Hammer. This team provided the only forklifts and assets to upload and download containers for the motorpool and SSA, and at times it was the only crane support for both on and off the FOB. The same contractor also provided facility operations and maintenance for the FOB, bulk water purification, more than 40 mechanics to work in the unit motor pools, laundry services, latrine and shower cleaning, refueling and maintenance of generators, management for the gym, dining facility support, and morale, welfare, and recreation events.

Learning while in garrison the particulars of contracting, such as writing a PR&C and knowing what an Army contract letter is and how it is different from a letter of technical direction, will pay large dividends when you are in a combat setting. Always look at yourself and your organization and ask what you could be doing to improve your foxhole to make life better for your Soldiers and the next unit that falls in on your mission. In many instances, it will be a contractor who helps you achieve that goal. **ALOG**

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Logistics Status Reports and the Logistics Common Operating Picture

BY CHIEF WARRANT OFFICER (W-4) TIMOTHY N. MCCARTER, SR.

To avoid third-order effects that can cost Soldiers' lives, logistics planners must be able to develop a complete logistics operating picture of the battlespace. But that picture cannot be achieved unless units provide timely and accurate logistics status reports.

We had finally established our logistics operation at Forward Operating Base Detroit in Ghazi Province. However, neither the brigade S-4 nor the brigade support battalion (BSB) support operations officer (SPO) had received any of the brigade's logistics status (LOGSTAT) reports at 0800 hours. That was the first indicator that we were going to have a bad day. Then the need to support high-priority tactical missions precluded the convening of the brigade logistics synchronization meeting scheduled for 1000 hours. The SPO began to wonder what else could possibly go wrong.

This scenario vividly demonstrates that failure to submit accurate LOGSTAT reports in a timely fashion undermines the ability of units to achieve an accurate LCOP, and lacking an accurate LCOP can lead to deadly third-order effects on the battlefield.

That was when the Battle Command Sustainment Support System (BCS3), used for collecting, analyzing, and publishing data, lost connectivity. Since the brigade had not practiced any alternate methods of transmitting LOGSTAT information, we were unable to synchronize our efforts with the echelons-above-brigade support battalion that was responsible for supply distribution to our brigade.

By 1600 hours, the brigade combat team (BCT) S-4 had received only three of the eight required reports from the brigade's units. The SPO had to make

a decision based on the incomplete logistics common operating picture (LCOP) he had before him. Based on the shortages listed on the LOGSTAT he had in hand, he decided to schedule an emergency resupply convoy to transport water and fuel from the BSB to a forward operating base. The convoy left the BSB at 1930 hours. Along the route, it encountered an improvised explosive device that detonated at 2010 hours, killing two BSB Soldiers and destroying a fuel tanker.

Fortunately for everyone, this sequence of events occurred at the National Training Center (NTC) at Fort Irwin, California, and not in the hostile environment the Army faces every day in Iraq and Afghanistan. The Soldiers who were notionally "killed" were "resurrected" 24 hours later, along with their "new" tanker. The greatest irony of this scenario was that the LOGSTAT report received by the SPO—on which he based his decision to send the emergency resupply convoy—was inaccurate. The unit did not need an emergency resupply because its report did not show actual quantities on hand. The unit had sent a duplicate of a previously submitted report in order to meet the brigade commander's reporting requirement. In other words, the unit sent the report in order to "check the block."

This scenario vividly demonstrates that failing to submit accurate LOGSTAT reports in a timely fashion undermines the ability of units to achieve an accurate LCOP, and lacking an accurate LCOP can lead to deadly third-order effects on the battlefield. What follows are some thoughts for improving LOGSTAT report management—and thus the LCOP—based on observations and practices at NTC.

A Common Operating Picture for Logistics

The LCOP is essentially a function of the common operational picture (COP). Field Manual 3-0, Operations, defines a COP as "a single display of relevant

information within a commander's area of interest tailored to the user's requirements and based on common data and information shared by more than one command." Similarly, an LCOP is a single and identical accounting of the logistics capabilities, requirements, and shortfalls in an area of operations shared between the supporting and supported elements. The LCOP allows the supporting elements to determine unit capabilities, forecast logistics requirements, synchronize logistics movements, and publish information that improves situational awareness at multiple echelons of support.

Many Army terms formerly reserved solely for the tactical field now have logistics equivalents. Supply convoys are now potential combat convoys because modern logisticians cannot expect to operate in the rear battlespace and deliver supplies forward as their predecessors did.

Contemporary logistics operations require that use of the LCOP be integrated into and support the COP. The tiered areas of interest (meaning combat zones, or "hotspots") on the multilinear battlefield in the Middle East have led to greater emphasis on increasing the combat skills of sustainment Soldiers. Many Army terms formerly reserved solely for the tactical field now have logistics equivalents. Supply convoys are now potential combat convoys because modern logisticians cannot expect to operate in the rear battlespace and deliver supplies forward as their predecessors did. Modern logisticians consider every combat support mission in Iraq and Afghanistan a deliberate tactical movement through unforgiving, hostile territory.

Correspondingly, logisticians realize the increased need to incorporate tactical considerations into their planning process through the development of their own COP, the LCOP. This means that the operation of the BSB tactical operations center (TOC) must be aligned in a manner that "fuses" the key information and planning cells. This TOC fusion cell must be efficient, effective, and simple enough to function throughout continuous operations. The BSB SPO, S-2, and S-3 officers, along with the BCT S-4, assemble in a directed logistics targeting meeting to address current and future mission capabilities, shortfalls, and requirements. The logistics targeting meeting synchronizes the brigade's logistics effort with its tactical mission and includes the brigade-level maintenance meeting.

The Daily LOGSTAT

Observer-controllers at NTC have noted a trend toward low frequency of submission of LOGSTAT or forward operating base logistics (FOBLOG) status reports by brigades training at NTC. Many reasons are behind this trend, ranging from conflicting mission requirements and communications network issues to sheer noncompliance by BSB-supported units. Noncompliance with the established battle rhythm is often directly related to the supported units' lack of confidence in, or inexperience with, their supporting BSB or a general lack of trust in the supply system. ["Battle rhythm" refers to a deliberate daily cycle of command, staff, and unit activities intended to synchronize current and future operations.]

However, just as Department of the Army Form 5988-E, Equipment Inspection Maintenance Worksheet, is the starting point of the entire maintenance support process, the LOGSTAT report is the feeder for the visibility, forecasting, and execution of the sustainment mission. It is not just a logistician's tool but also a friendly force information requirement (FFIR), which is "information the commander and staff need to understand the status of friendly force and supporting capabilities," as defined in FM 3-0.

Before logistics planning can begin, the organic and nonorganic units supported by the BSB must submit accurate information on the status of commodities. Consequently, the LOGSTAT report must be detailed enough to be an effective tool but also easy enough for everyone to use and understand. The LOGSTAT report should be standardized across the using units and should follow a format that allows its transmission through a system that does not require line-of-sight communications. To ensure that multiple transmission methods are available to prevent the disruption of the information flow, units should develop a primary, alternate, contingency, and emergency communication plan.

Once the LOGSTAT format is determined, a good data-transfer battle rhythm must be established to develop a good LCOP. A thorough communications exercise (COMMEX) should be conducted before the information management systems are actually used; this will allow the command to identify and resolve issues while building user confidence in the stability of the signal officer's communication plan. Coupling the COMMEX with a good data-transfer rehearsal helps to establish the brigade standard with each participating unit.

A good data-transfer battle rhythm facilitates the collection of accurate and timely information from supported units by maintaining the principles of flexibility, sustainability, and ease of use. A flexible battle rhythm responds to changing mission effects and new logistics requirements. A sustainable battle rhythm is synchronized with the scheduled logistics

The use of automation to transfer data among units is a definite combat multiplier. However, units experience diminishing returns when they focus more heavily on the systems used to transmit data than on the integrity of the data.

resupply missions. An easy-to-use battle rhythm does not require reports during normal hours of limited operations since reports at such times often produce unverified or inaccurate data.

The use of automation to transfer data among units is a definite combat multiplier. However, units experience diminishing returns when they focus more heavily on the systems used to transmit data than on the integrity of the data. BCS3 allows for exceptional visibility of brigade- and unit-level assets. Using BCS3 and other information management systems should not prevent regular face-to-face or voice communication between the supporting and supported units.

Backhaul Versus Emergency Resupply

Maneuver battalions facing conflicting mission requirements at NTC tend to delay or neglect the LOGSTAT report since the first-order effect of not reporting logistics is not as distressing as that of not accomplishing a tactical mission. In fact, the third- and fourth-order effects of poor logistics management may be as destructive as the “flash-to-bang” first-order effects of any other tactical mission.

It is important for logisticians to remain aware of the effects of their forecasts and schedules.

Logistics planners and executors constantly face the difficulty of determining the requirements, capabilities, and shortfalls of the logistics system. They direct their efforts toward ensuring that no tactical mission is jeopardized because of logistics challenges. However, the absence of accurate and timely reporting by supported units often creates the need to choose between two courses of action: either pushing supplies based on incomplete data and thereby risking the need to move inordinate amounts of backhaul (planned or unplanned loads carried back with a transporter to the point of origin); or delaying the planning process until accurate information is gathered and thereby risking the need to make an emergency resupply to a unit that is dangerously low on a commodity like fuel, water, or ammunition.

No matter what decisionmaking process is used, backhaul and emergency resupply missions still mean additional U.S. and coalition forces personnel on the road. Emergency missions, in particular, may entail the hasty assembling of personnel and equipment and the bypassing of proper precombat checks and inspections. The possible loss of life and equipment resulting from poor planning should give every logistician excellent grounds for insisting on compliance with the battle rhythm and the integrity of the LOGSTAT report. Proactive and predictive logistics is paramount for tactical victory over the enemy.

It is important for logisticians to remain aware of the effects of their forecasts and schedules. The SPO should endeavor to provide sustainment to supported units in a relatively normal and predictable manner; this will reduce the need to have to push emergency resupply commodities, regardless of cost. Comparing the commodities backhauled with the commodities sent by emergency resupply will give logistics planners and executors an idea of where their LCOP is deficient.

Making effective and sustained changes to the logistics battle rhythm is often a protracted process requiring excellent lateral coordination and earnest command emphasis to be successful. Nonetheless, the gains of an improved LCOP are tremendous, including greater tactical flexibility, less logistics unpredictability, and, in turn, better management of our greatest resource: the Soldier. Professional logisticians understand that the life of the Soldier resides in the third-order effect of logistics and act accordingly.

Persons desiring updated information on the logistics training trends at NTC or teaching products for their command can email the author at timothy.mccarter@us.army.mil or contact the Goldminer team at (760) 380-5805 or DSN 470-5805. **ALOG**

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Providing S-2 Support for a Brigade Support Battalion

BY CAPTAIN MARY K. KAHLER

During her deployment to Operation Iraqi Freedom, the author learned the importance of intelligence information to logisticians.

“You’re the BSB S-2? What do you do all day?” When I took over the position of brigade support battalion (BSB) S-2 officer in charge, I believed in the stereotype that the support battalion S-2 job was not a desirable position. Most of the support S-2 shops I had known in my career were staffed by a lieutenant or by a noncommissioned officer (NCO) and one or two junior enlisted intelligence analysts. I was to learn over the course of the next year that the BSB S-2 section fills a very important role for the many Soldiers and leaders it supports.

From Forward Support Battalion to BSB

Before Operations Enduring Freedom and Iraqi Freedom and the force modernization era, the division-and-below support units were the forward support battalion and the division support command. The modification tables of organization and equipment (MTOEs) and doctrine for these units reflected a hypothetical force-on-force battlefield and assumed support elements would operate in a very secure rear area, where the greatest threat would be artillery or chemical attack. The MTOE for the intelligence section was based on an assumption of a very limited threat. The following excerpt from Field Manual 63-20, Forward Support Battalion, demonstrates the complete paradigm shift between the Soviet-era support fight and the counterinsurgency battlefield we face today: “If there is no open, secure line of communication, self-sustainment will be required. CSS [combat service support] will be limited to what the brigade can carry with it or forage.” This quote may as well refer to a Civil War-era mule train as to modern sustainment operations in Iraq and Afghanistan. Today, logistics units on the battlefield continually travel over routes that may not be secure, and the status of those routes can change on an hourly basis.

Today’s Army logisticians tread the same ground as their combat arms brethren and are likely to fight many of the same fights. Their leaders need to understand the dynamic threat environment to be able to make deci-

sions about not only which route to take but also when to take it and what additional equipment may be needed to get there effectively. Brigade logistics planners must understand where the next fight is and what the nature of it will be in order to forecast the brigade’s logistics needs and avoid shortfalls for the combat arms units.

This paradigm shift from the forward support battalion of yesterday to the BSB of today created a need for a change in the battalion S-2 shop MTOE. A BSB is now authorized one career field 35D (military intelligence [MI]) captain, one military occupational specialty (MOS) 96B (intelligence analyst) E-5, and one MOS 96B E-4. This allocation gives the shop an MI officer who has likely served as an S-2 before, an NCO with some analytical experience, and one analyst to train in logistics-specific intelligence.

Intelligence Priorities for the Logistics Fight

What enemy information is important to logisticians? How do they want to see the battlefield? To answer those questions, I had to see things through the logisticians’ eyes. Good intelligence officers understand the role, mission, and tactical operations of the unit they support, and they understand the enemy. When they understand both, they can figure out what enemy activity and trends are important in accomplishing the unit’s mission.

I started by asking my fellow officers, most of whom were combat veterans, what was important to them as logisticians and as intelligence customers. A common response was, “You need to be looking at the routes.” Main supply route (MSR) and alternate supply route (ASR) systems were the primary means for transporting supplies to the customer units. If the routes were impassable, we would be out of a job. But what specific conditions would limit our movement and our ability to support the brigade?

Many logisticians do not know about the intelligence, surveillance, and reconnaissance capability available to them in the brigade combat team. I believe this is because, in the past, limited intelligence support

Soldiers from the brigade support battalion S-2 section conduct a Raven unmanned aerial vehicle training flight.



was available in the forward support battalion. Before the Global War on Terrorism, and even immediately after it began, the BSB S-2 position had been filled by inexperienced officers. I found that many of the logistics leaders I worked with had never had quality intelligence support for their missions, and as a result, they did not understand what intelligence capabilities were available to them and had limited expectations.

Supporting the Commander's Priorities

Knowing that the brigade combat team would deploy within 18 months but not knowing the location or mission, I started with the basics. I trained my Soldiers to capture debrief data from our convoys, understand the commander's priority intelligence requirements, and understand the broad influences of the Global War on Terrorism on our mission.

Rotations at the Joint Readiness Training Center Leadership Training Program at Fort Polk, Louisiana, and the National Training Center at Fort Irwin, California, had given me a fundamental understanding of the BSB mission and of what my commander's priority

intelligence requirements would be. When we deployed to Iraq, we edited and made additions to those requirements from time to time, but for the most part, my commander's priorities remained force protection of our Soldiers and assets, force protection of convoys, and route trafficability.

Force protection of our Soldiers and assets. What are the indicators of indirect fire attack or ground attack on BSB assets? When will these attacks occur, and how can we mitigate them? These questions gained greater emphasis when we learned that the unit occupying our future forward operating base (FOB) had lost its ammunition transfer and holding point (ATHP) when it was hit by multiple indirect fire rounds. The nature of the ATHP and the fuel system supply point makes them more vulnerable to indirect fire effects than other FOB resources. By understanding the capabilities of enemy weapon systems and alerting ourselves to indicators of pending indirect fire attacks, we could better protect our Soldiers and resources, ensuring continued support. We sent four Soldiers to Raven unmanned aerial vehicle training

so we could use this short-range asset to investigate historic indirect fire points of origin. We also used it to get a bird's-eye view of the area around the FOB and monitor civilian activity in the area.

Force protection of convoys. The threat of improvised explosive devices (IEDs), precision small-arms fire, and rocket-propelled grenades made convoys our most dangerous missions in Iraq. Finding the optimal routes and times for convoy travel required a constant assessment of when attacks occurred. The IED “hot spots” and attack engagement areas changed constantly, and so did our preferred routes and tactics, techniques, and procedures (TTP).

Route trafficability. Civilian activity, fallen or low overpasses, and many other factors affect the logistician's ability to provide support. More than any other factor, the geographic and political expanse of the logistics area of interest makes the intelligence support that logisticians require different from that required by the maneuver battalion. When an overpass on a corps MSR was damaged by a vehicle-borne IED, I realized the true nature of our area of interest; an event that occurred outside of our division boundary was directly affecting our ability to support customer units. So, I trained my shop to be constantly aware of events throughout the Iraqi theater of operations—including political changes, attack trends, spectacular bridge attacks, and dust storms—that could slow the speed at which we received supplies.

Disseminating Intelligence

One of our most important challenges was packaging intelligence so that logisticians could see how it was relevant to their operations. Once we arrived in Baghdad, I was able to borrow and modify some tools in order to develop our own unique perspective of our area of operations. The tools I used included the weekly route analysis beyond green-amber-red, an IED threat trend slide, and convoy briefings.

Weekly route analysis beyond green-amber-red. The BSB whose area of operations (AO) we fell in on gave us the idea of doing a weekly route analysis to identify trends on

the major MSRs and ASRs within our brigade AO. The route analysis was similar to the “trail book” concept that is popular for theater support units. This analysis tool showed the attacks by location and type on a particular route and compared them to attacks from the previous week.

Over time, my analysts improved and enhanced the route analysis tool. By reviewing the recent activity on our routes, we could identify shifts in enemy TTP and changes in the locations of activity hot spots. We plotted every attack on a map of each route in our AO. The key was that we always plotted every route whether there was significant activity or not—even if we had not used that route in months. This forced the analysts to review all the information on each significant activity and identify trends in the type of attacks that were occurring across the AO. We then made a chart showing the attack times during the past week and compared them to the current week. As unpredictable as an insurgency can be, insurgents are still human beings, and humans are fundamentally creatures of habit. Although not infallible, using the trends in attack times on a particular route to identify optimal movement times proved to be successful.



S-2 personnel brief a lieutenant before a convoy.

Many logistics units assumed that the lowest level of enemy activity occurred during the hours of darkness because of the civilian vehicle ban from 0001 to 0500. After researching past activity, we found that on at least one of our often-used routes, the risk of daylight attacks was actually minimal. We were able to use this information to our advantage. Having one route for daytime missions and one for nighttime meant that we could roll whenever required.

When a vital intersection saw continued IED activity, we identified which shoulder the attacks came from and which emplacement techniques that particular IED cell used. Because the attacks consistently occurred on the southern side of the interchange, our convoys rerouted themselves to the northern section. The bypass added a few kilometers to their route, but the convoys were never engaged, even when daily IED attacks were occurring elsewhere.

The tool also allowed us to do quick assessments when unplanned support missions arose. By including the time analysis and reviewing the types of IEDs or attacks on a route, we were able to recommend preferred start times or suggest alternate routes when the support operations officer had an urgent mission. Having this information readily available in the weekly intelligence product, rather than having to create a tailored product on the spot, meant less time between when the battalion received the mission and when the company received a route and timeline. Ultimately, it gave the platoon leaders more planning time and greater predictability for their missions.

IED threat trend slide. Another tool we produced weekly was a slide that depicted the geographic location of each IED emplacement (found or detonated) in the past week. The IEDs were color-coded by type, such as explosively formed projectile, buried, or surface laid, and by initiator type, such as victim operated, command wired, or radio controlled. This tool allowed us to identify areas of historic use of a particular type of device and track the changes in trends as they occurred. It was a valuable tool for demonstrating to our customers the most likely IED threat on a particular route. It was also a good tool to give personnel who were unfamiliar with our AO because it provided them a quick look at areas of historic IED use and showed the types of devices most commonly used in those areas.

Convoy briefings. For every off-the-FOB transportation mission conducted by our battalion, my shop briefed the patrol leader and crews on the route status and the historical trends in enemy activity. We focused on threat times and engagement areas, highlighted recent attacks, and focused on providing diagrams of previous attacks and IED indicators. Much of this information was gleaned from weapons intelligence team reports or combined explosives exploitation cell

reports, which showed initiators and IED emplacements from previous attacks.

Although IED cells tend to use similar devices in similar locations, the IED threat varied greatly from one area to another. Displaying these pictures and walking through previous attacks enhanced our Soldiers' awareness and focused them on finding the IEDs before they could be detonated.

Route Experts

Although the maneuver task force S-2s focused on targeting, we were known as the BCT route experts. We worked closely with the brigade route clearance planner, providing him information and expertise. As a result, we were often called on to do assessments for other units. We made tailored products for military police and military transition teams moving to our sector from the other end of the division AO. When one of our forward support companies needed to pick up equipment from a FOB out of sector, they turned to us for a route assessment. Using historical analysis, area unit intelligence summaries, and weapons intelligence team and combined explosives exploitation cell reports, we determined the ideal route for the unit and identified potential hotspots for enemy activity.

The BSB S-2, S-3, and support operations battle captain were colocated in the tactical operations center, which proved to be a valuable asset to the entire battalion. Together, we were able to assess the mission requirements and enemy situation quickly and give the company the complete mission up front. This fusion proved especially vital during recovery missions for vehicles that had been catastrophically damaged. I could immediately provide information from sensitive reports about IEDs en route to the recovery site, and we could recommend an alternate route to the security mission commander within the time it took to stand up the service and recovery team.

We were ultimately successful by focusing on our commander's priorities and making the S-2 team the subject-matter experts on route and IED data. Our time in Iraq proved to be an outstanding, fulfilling learning experience. In contrast to the military intelligence schoolhouse focus on targeting and analysis for maneuver units, I learned about how logisticians affect and are affected by the battlefield and the enemy. The importance of intelligence support to logistics units, especially at the BCT and below, cannot be overlooked. **ALOG**

CAPTAIN MARY K. KAHLER WAS THE S-2 FOR THE 610TH BRIGADE SUPPORT BATTALION, 4TH BRIGADE COMBAT TEAM, 1ST INFANTRY DIVISION, WHEN SHE WROTE THIS ARTICLE. SHE HOLDS A BACHELOR'S DEGREE FROM MARQUETTE UNIVERSITY AND IS A GRADUATE OF THE MILITARY INTELLIGENCE OFFICER BASIC AND CAPTAINS CAREER COURSES.

Supply Line Warfare

BY DR. CLIFF WELBORN

A soldier fighting in a war today has many of the same basic needs that a soldier had thousands of years ago. Meals, medicines, and munitions are just a few of the fundamental supplies that are needed to keep a military unit operating at full capacity. Soldiers require the same basic life necessities as civilians: nutrition, shelter, and medical supplies to maintain good health. But soldiers must also have weapons and the consumables that weapons need to function, such as ammunition, repair parts, and fuel. So, not surprisingly, great warriors throughout history have carefully planned their strategies around logistics.

Logistics Strategies in History

In his book, *Alexander the Great and the Logistics of the Macedonian Army*, Donald W. Engels describes many of the techniques Alexander the Great used to supply food, water, and equipment to his traveling army. In 320 B.C., Alexander's 35,000-man army traveled with no more than a 10-day supply of food. Alexander also incorporated supply chain logistics into his overall military strategy.

Jonathan Roth provides insight to the supply chain strategy of the Roman army in his book, *The Logistics of the Roman Army at War (264 B.C.–A.D. 235)*. Roth describes tactics used by the Roman Army to both defend their own supply lines and attack their enemies' supply lines.

Napoleon Bonaparte once said, "An army marches on its stomach." His army lost more soldiers because of spoiled food than from battle. In 1795, Napoleon offered a prize of 12,000 francs to anyone who could devise a reliable method of food preservation for his army. This effort resulted in the first attempts to store food for extended periods of time in cans and ultimately led to modern food canning methods.

Early in the history of the United States, military leaders focused on maintaining an efficient supply chain. The position of Quartermaster General was created the day after George Washington accepted command of the Continental Army in June 1775. The Quartermaster General was responsible for acquiring provisions and distributing them to the troops. His major concerns were finances and logistics.

The U.S. military has also disrupted the enemy's supply chain to weaken its fighting capabilities. When we think of a military supply line, we often think of the logistics considerations necessary to keep our own supply chain flowing. However, just as important to military success are tactics for disrupting the enemy

supply line. A defensive strategy is to protect our own supply chain; an offensive strategy is to inhibit the supply chain of our enemy. The United States has used both offensive and defensive strategies in many wars, including the Revolutionary War in the 1770s and 1780s, the Civil War in the 1860s, the Plains Indian Wars in the late 19th century, World War II in the 1940s, and the Vietnam War in the 1960s and 1970s.

Revolutionary War (1775–1783)

Although the British had a larger and better trained army than the Americans, they had to transport soldiers and supplies across the Atlantic Ocean. George Washington, as well as other military leaders in the Continental Army, recognized that disrupting the flow of supplies to the British soldiers would destroy their ability to fight effectively.

In the Carolinas, Major General Nathanael Greene developed a strategy of harassing the British supply lines. He enlisted the help of local patriots like Francis Marion, also known as "Swamp Fox," who led guerrilla-style raids on British supply lines. Marion concentrated his attacks on British supply camps and was able to cut the supply lines linking several British-occupied cities.

During the war, General George Washington also relied on a French fleet under the command of Admiral François de Grasse to establish a blockade in the Chesapeake Bay. This blockade cut off the supply line to General Lord Charles Cornwallis' British troops at Yorktown, Virginia. The British were cut off from rescue or resupply, while the Continental Army and their French allies benefited from plenty of troops and supplies. This led to the Battle of Yorktown, the surrender of Cornwallis's army, and the ultimate defeat of the British forces in America.

Civil War (1861–1865)

Before the Civil War, the economies of most southern states primarily relied on exporting cotton and tobacco to Europe and the northern U.S. states. The Confederacy did not have the factories, machinery, or skilled labor needed to establish a large manufacturing base. From the onset of the war, the Confederacy looked to Europe to supply many of their military needs.

At the beginning of the Civil War, Union Commanding General Winfield Scott presented President Abraham Lincoln with a nonaggressive strategy to bring rebellious Confederate States back into the Union. The plan would exploit the South's reliance on exporting cash crops and importing manufactured goods

by instituting a naval blockade of more than 3,500 miles of coast from Virginia to Mexico. By choking off the supply chain of inbound and outbound goods, the Union hoped to limit the South's ability to supply its army with goods. This plan became known as the Anaconda Plan. Later in the war, the Union Army also destroyed farms and businesses in the Shenandoah Valley of Virginia. Lieutenant General Ulysses S. Grant ordered Major General Philip H. Sheridan to render the valley so barren that a crow flying over it would have to pack its own lunch.

Major General William T. Sherman's march from Atlanta to Savannah, Georgia, in 1864, which is called Sherman's March to the Sea, was characterized by a scorched earth policy. Advancing Union troops were ordered to burn crops, kill livestock, consume supplies, and destroy railroads and manufacturing capabilities to keep goods from falling into Confederate hands. This tactic rendered the Confederate economy incapable of resupplying its soldiers.

Certainly, the Union's defeat of the Confederacy depended on many factors. One of those factors was the South's dwindling supply of battlefield provisions. With limited internal manufacturing resources and a reduction of imported goods, the Confederacy found it difficult to supply its soldiers with necessary supplies. The Union army was able to drastically reduce the effectiveness of the Confederate forces by disrupting or destroying parts of their supply chain.

Plains Indian Wars

After the Civil War, white American settlers began to spread west at an increased rate. This expansion led to conflicts between settlers and the indigenous Plains Indians. The Plains Indians roamed a geographic

Above, Commanding General Winfield Scott's Anaconda Plan emphasized the blockade of the Southern ports during the Civil War. The name came from the plan being likened to the coils of a snake suffocating its victim.

region from Texas to Canada and from the Mississippi River to the Rocky Mountains. They included the Sioux, Comanche, Cheyenne, Blackfeet, Crow, and other tribes.

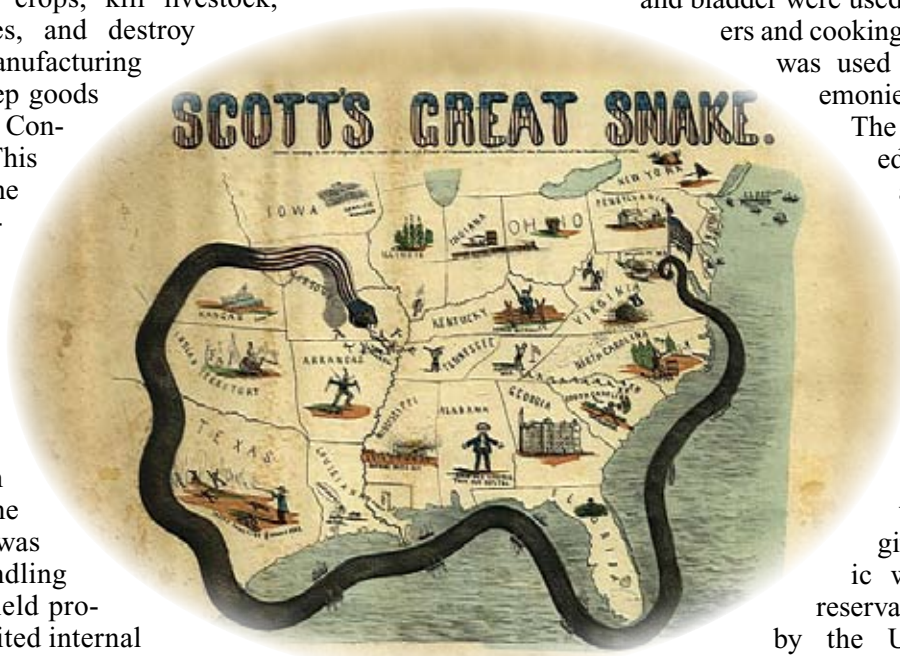
These tribes relied on the buffalo for almost every aspect of their existence. They used every part of the buffalo. The meat was roasted and eaten fresh or was dried into a kind of jerky for long-term storage. The hides were used for tipi covers, robes, blankets, containers, and drums. Muscles were used for bow strings and sewing thread. Bones were used for tools, knives, pipes, and arrowheads. Horns were used for spoons, cups, bowls, containers, and arrowheads. The buffalo's fat was used to make hair grease, candles, and soap, and its dung was used for fuel in fires. The stomach and bladder were used for water containers and cooking pots, and the skull was used for religious ceremonies and decoration.

The buffalo represented the Plains Indians' entire supply chain. As long as the buffalo were plentiful, the Indians could lead a nomadic, independent lifestyle.

Many Plains Indian tribes were reluctant to give up their nomadic ways to settle on reservation land set aside by the U.S. Government.

Although it is debatable whether the U.S. Government had an official policy concerning extermination of the buffalo, it is clear that key individuals encouraged buffalo hunting. General Sheridan and General Sherman recognized the Indian's dependence on the buffalo. When asked about the buffalo hunters, Sheridan summarized the situation as follows—

These men have done more in the last two years, and will do more in the next year, to settle the vexed Indian question, than the entire regular army has done in the last forty years. They are destroying the Indians' commissary. And it is a well known fact that an army losing its base of supplies is placed at a great disadvantage. Send them powder and lead, if you will; but for a lasting peace, let them kill, skin, and sell until the buffaloes are exterminated. Then your prairies can be covered with speckled cattle.



Without the buffalo, the Plains Indians could not maintain their self-sufficient, nomadic lifestyle. The buffalo was their entire supply line. In 1860, about 13 million buffalo roamed the plains. By 1890, this number was reduced to about 1,000. Ultimately, all Plains Indian tribes were either defeated in battle or accepted life on Government reservations.

World War II (1941–1945)

During World War II, Japan was a nation that depended on imports across the Pacific Ocean to fulfill its supply lines. Japan had a limited number of ships, and the ability to import goods depended on having ships available. So, Allied navies waged a tonnage war to limit the volume of supplies reaching military operations. A tonnage war is a naval strategy designed to disrupt the enemy's economic supply chain by destroying merchant shipping.

Allied navies sank 1,178 Japanese merchant ships compared to 214 Japanese naval ships. The U.S. Navy sank over 4.8 million tons of Japanese merchant ships. By the end of the war, Japan had only 12 percent of its merchant shipping fleet operable and a minimal fuel supply available to operate the ships. Without merchant ships to import supplies for Japan's military needs, its navy and air force became ineffective. Because of the lack of fuel, naval ships were confined to ports and air force planes were grounded.

Vietnam War (1960–1975)

In 1954, the country of Vietnam was separated into two distinct sections: Communist North Vietnam and democratic South Vietnam. The North Vietnamese Communist Party formed the National Liberation Front with the goal of unifying North and South Vietnam under communist rule. Fearing the spread of communism, President John F. Kennedy pledged support to the democratic government of South Vietnam.

The conflict was primarily fought in South Vietnam. The Ho Chi Minh Trail was a series of truck and foot paths used by the northern Communist troops to transport materiel to the south during the war. Supplies in North Vietnam were transported through the neutral countries of Laos and Cambodia to troops in South Vietnam. The trail was not a single road, but a network of primitive roads, jungle paths, and waterways extending over 1,500 miles of terrain. Supplies were transported by truck, bicycle, boat, and foot. Although no exact figures for the volume of traffic along the Ho Chi Minh Trail exist, estimates are that over 1 million tons of supplies and 2 million troops traveled from North Vietnam to South Vietnam along this trail.

The Ho Chi Minh Trail became a target for U.S. bombing missions in an effort to disrupt the Communists'

supply chain. The United States also released defoliants to expose the trail. During the Lyndon B. Johnson administration, the bombing activity along the Ho Chi Minh Trail reached a level of 900 bombs per day. Operations Barrel Roll and Steel Tiger were designed to reduce the traffic to such an extent that the enemy could not get enough supplies for sustained operations. U.S. bombing targets included truck convoys on the trail, bridges, and the roads themselves. Throughout the war, the Ho Chi Minh Trail remained a constant target of U.S. bombing missions. The trail was so important to the North Vietnamese strategy that construction crews repaired the damage after each bombing raid. So ultimately, the bombing missions had a limited effect on the overall flow of supplies along the trail.

Supply chain management is, and always has been, an important characteristic of any military organization. Soldiers must have food, water, shelter, and medicine to sustain life. They must have a supply of weapons and a means of transporting those weapons. Since ancient times, successful military leaders have recognized the importance of maintaining a supply line to keep their troops equipped. Legendary German Field Marshal Erwin Rommel is credited with saying, "The battle is fought and decided by the quartermasters before the shooting begins."

The U.S. military has recognized this concept since the Revolutionary War and General Washington's request to create the Quartermaster General position. Enemy forces have the same supply needs as U.S. forces. If an enemy can be cut off from its supply line, its ability to fight is quickly compromised. In some cases, the enemy's ability even to survive is compromised. The U.S. strategy of attacking enemy supply lines has been repeated throughout history. Although this aspect of military strategy may not be as exciting as battlefield tactics, it is no less critical to success. The strategy for defeating an enemy force can take the shape of many varied objectives. Disrupting our enemy's supply line has been an effective U.S. military strategy to weaken those opponents. Without meals, medicines, and munitions, a military force is incapable of sustaining operations. **ALOG**

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The Army Reserve at 100: An Emerging Operational Force

As Chicago Cubs fans this year ruefully note the 100th anniversary of the last time their team won the World Series, the men and women of the Army also are marking a centennial—and their anniversary is one truly worthy of celebration. It was 100 years ago, in 1908, that the first step was taken toward creating what is now the United States Army Reserve. As logisticians know, the Army Reserve plays a crucial role in the Nation's defense because much of the Army's logistics force structure resides in the Reserve and many of the Army's logisticians are reservists themselves. So it is fitting that logisticians join with other Soldiers and with all Americans to commemorate a century of service to the Nation by America's Warrior Citizens.

Birth of a Federal Reserve Force

The Army Reserve traces its beginnings to the creation of the Medical Reserve Corps, which was authorized by an act of Congress signed into law by President Theodore Roosevelt on 23 April 1908. The idea behind the Medical Reserve Corps was to create a pool of trained medical officers who could be called to active duty in time of war. Under this new program, 160 medical professionals were commissioned as Medical Reserve Corps officers in June 1908. By June 1917, as the United States entered World War I, the Medical Reserve Corps had a strength of 9,223 doctors, dentists, and veterinarians.

In the meantime, Congress in 1912 had created a Federal reserve force outside the Medical Reserve Corps, known as the Regular Army Reserve. In 1916, the infant Reserve was mobilized for the first time as part of the expedition into Mexico led by Brigadier General John J. Pershing to pursue Mexican revolutionary leader Pancho Villa. Approximately 3,000 reservists participated in that operation.

The National Defense Act of 1916 mandated a major reorganization of the nascent Federal reserve force. It established an Officers Reserve Corps (into which the Medical Reserve Corps was merged the following year), Enlisted Reserve Corps, and Reserve Officers Training Corps (the birth of ROTC). The

National Defense Act of 1920 joined the Officers and Enlisted Reserve Corps to form the Organized Reserve (renamed the Organized Reserve Corps in 1948).

Service in War and Peace

Since its first decade, the Army Reserve has made significant contributions in all of the Nation's wars and in many peacetime operations as well. Almost 170,000 reservists served on active duty during World War I, including 89,500 officers (one-third of them medical personnel) and 80,000 enlisted Soldiers.

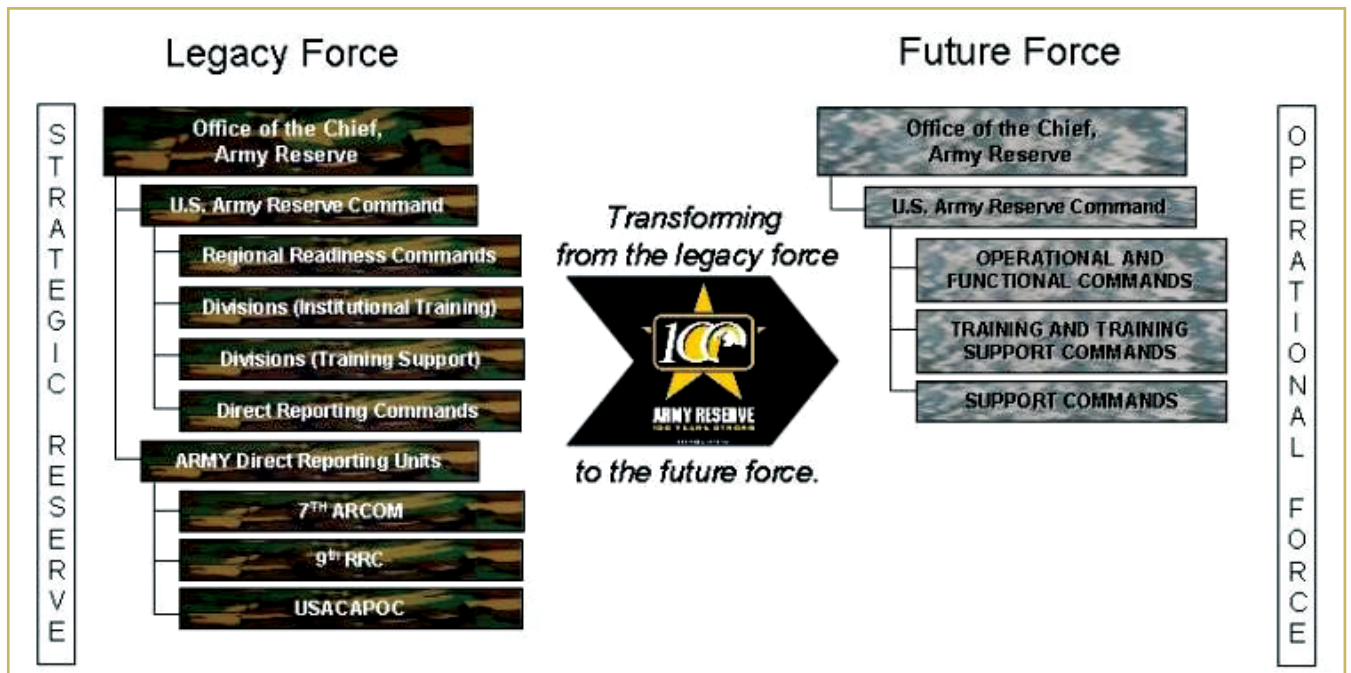
Some 30,000 Reserve officers commanded or served at the 2,700 camps of the Civilian Conservation Corps during the 1930s. Of the 900,000 officers in the Army during World War II, more than 200,000 were reservists. The importance of the Reserve to the war effort led the Congress to authorize drill pay and retirement benefits for reservists in 1948; the same legislation also authorized women to join the Reserve. Approximately 240,500 reservists served on active duty during the Korean War.

In 1952, an act of Congress renamed the Organized Reserve Corps as the U.S. Army Reserve and divided it into three components: Ready Reserve, Standby Reserve, and Retired Reserve. Surprisingly, fewer than 5,000 reservists and only 42 Army Reserve units were called up for service in the Vietnam War. However, almost 84,000 reservists provided combat support and combat service support during the Persian Gulf War, with over 40,000 deployed to Southwest Asia. In 1991, the U.S. Army Reserve Command was created as a component of the Army Forces Command.



21st Century Transformation

In its centennial year, the Army Reserve is in the midst of some of the most significant changes in its history, transforming from a strategic force in reserve to an operational force that works in partnership with deployed Active Army units. To perform effectively in this role, the Army Reserve is changing its organizational structure from one based largely on geography to one based largely on function. The Army Reserve's chain of command has been based mainly on regional readiness commands that



The Army Reserve is transforming from a strategic reserve force to an operational force.

parallel the geographic regions used by most Federal civilian agencies; in a similar fashion, training has been conducted by training divisions with geographic areas of responsibility. From this structure of regional readiness commands, institutional training and training support divisions, and direct reporting commands and units (the legacy force), the Army Reserve is restructuring into operational and functional commands, training and training support commands, and support commands. (See chart above.)

The operational and functional commands will command units performing similar functions without regard to their geographic locations. Operational commands will be deployable, while functional commands will not. The four training commands will train Active Army, Army National Guard, and Army Reserve Soldiers through formal classroom instruction and hands-on training. Each command provides a specific type of training for units throughout the country. The two training support commands, both organized under First U.S. Army, will plan, conduct, and evaluate training exercises for Active Army, Army National Guard, and Army Reserve units.

The traditional geographic structure of the Army Reserve will continue in the form of four regional support commands. However, unlike the 11 regional readiness commands they are replacing, the regional support commands will not have operational or command and control relationships in their geographic regions; they will only provide base operations and administrative support. The regional support commands and their

geographic regions will be the 99th in the northeast United States; the 81st in the southeast; the 88th in the northwest; and the 63d in the southwest. For Army Reserve units outside the continental United States, the 1st Mission Support Command (MSC) will be responsible for Puerto Rico, the 9th MSC for the U.S. Pacific Command area of responsibility, and the 7th Civil Support Command for the U.S. European Command area of responsibility.

Today, the Army Reserve has an authorized strength of 205,000 Soldiers. Since the terrorist attacks of 2001, approximately 191,000 reservists have mobilized to serve in the Global War on Terrorism, and about 27,000 are currently serving in Iraq, Afghanistan, and 18 other countries.

The Army Reserve provides a disproportionate amount—about half—of the Army’s sustainment force structure. This includes 100 percent of railway units; more than two-thirds of expeditionary sustainment commands, petroleum groups and battalions, and combat support hospitals; and almost half of the Army’s movement control battalions, water purification companies, terminal battalions, and transportation commands.

In this centennial year—a year of celebration, change, and wartime service—the Army Reserve is guided by four imperatives: to sustain Soldiers, their families, and employers; to prepare Soldiers for success in current operations; to reset and rebuild readiness for future operations; and to transform to better meet the demands of the 21st century. **ALOG**

Project Management Principles for Unit Logisticians

BY LIEUTENANT COLONEL PAUL WAKEFIELD

In 2004, the Army conducted the first rapid fielding initiative of nearly 20 individual items, such as advanced combat helmets, lightweight global positioning systems, hydration systems, goggles, and boots, for 4,000 Soldiers deployed to Iraq. This was no small feat, given that the first set of equipment made it from factory to foxhole in only 9 days. Subsequent flights sent an additional 4,000 sets to theater every 10 days. This scenario involved daunting logistics tasks, and the parties involved could not have accomplished it without the use of proven project management practices.

One major requirement was for units to communicate their needs through the chain of command and through logistics acquisition channels. The acquisition branch had to find equipment that met the units' operational needs, hire contractors to provide the equipment, obtain ground and air transportation from the continental United States to Kuwait, and coordinate with the customer to develop a distribution plan for the equipment once it arrived in theater. This rapid fielding effort is an example of logistics-oriented project management at the highest level. However, junior logisticians can use the same project management principles to achieve positive results at the unit level.

Project Management

Project management is the art and science of managing assets (time, personnel, equipment, and money) in order to complete a project in the way that best meets customers' needs and expectations. Project managers traditionally balance three constraints—time, quality, and cost—to achieve desired results throughout each phase of a project. Logisticians typically view these constraints as being in constant conflict with each other, with customers being able to set requirements for no more than two at one time. As one of the three constraints increases, the other two must also increase in order to maintain a balance. (See the illustration on page 18.) As a result, a project can fail if logisticians place too much emphasis on one or two constraints and do not adjust the other(s) to account for the inevitable friction that accompanies any project.

For example, the rapid fielding initiative described in the opening paragraph allowed the Army to quickly provide Soldiers in theater with quality equipment, but at an exorbitant financial cost. In this case, the customer

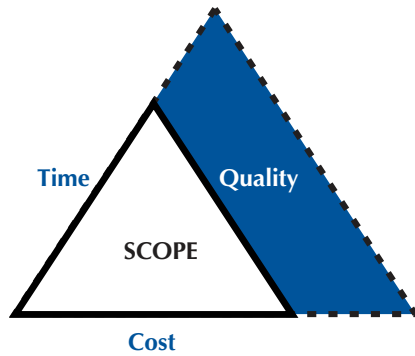
(the Army) had the ability and willingness to balance the constraints by paying the contractor costs in order to achieve the needed capability. Of course, unit logisticians have a much smaller purview, not to mention a much smaller spending limit; nevertheless, they still can use project management practices to achieve positive solutions. By taking a positive approach and viewing constraints as project success parameters (PSPs), as described by Denis R. Petersen and Daniel W. Anderson in *The Art of Project Management: Rethinking Our Current Paradigms*, logisticians can more easily use limited assets to achieve project success. Instead of thinking in a triangular paradigm, logisticians can maximize gains by considering five PSPs—time, quality, cost, deliverables, and risk—and taking a circular approach to project management. Petersen and Anderson called this method the Total Scope Model.

Young logisticians often tend to make decisions without fully considering their potential effects on other stakeholders within the organization, including their own team members. As a result, commanders and S-3s (two of their biggest stakeholders) may be inclined to stovepipe logistics or place logistics-related issues low on their priority lists. However, the best way to manage these PSPs is to work with the stakeholders to create partnerships that allow the logistician to guide the processes through to successful completion. Let me illustrate with a couple of personal examples.

Pre-Exercise Coordination

My first assignment as an officer was as a medical platoon leader for an armor unit in the 1st Infantry Division. When I reported for duty in July, the unit was in the middle of training for a February rotation to the National Training Center (NTC) at Fort Irwin, California. Four months after my arrival, the battalion conducted a 5-day field training exercise (FTX) as part of company lanes training. The battalion commander informed me that the line companies would include medical evacuation with a mass casualty exercise as part of their exercise scenarios. So, my platoon loaded up its equipment and headed to the field with the rest of the battalion. I should have realized that something was not right when, just before we departed the motor pool, the S-3 commented that “except for the company medics, the medical platoon usually stays back in garrison

Triple Constraint Model



With the Triple Constraint Model, when one of the three constraints increases, the other two must increase, as demonstrated by this triangle.

while the rest of HHC [headquarters and headquarters company] goes to the field for these things.”

In preparation for the exercise, I had put together an elaborate medical play scenario. We set up the main battalion aid station (BAS) and even sent out the jump BAS so that we could practice casualty collection and patient transfer with the line company medics. However, reality set in at 1800 that night when we discovered that the battalion had all received their hot A-rations for dinner, but the BAS still had not received its logistics package. I had assumed that since the battalion commander had told us to go to the field and incorporate medic play, the first sergeant, S-4, and S-3 would automatically take care of my platoon. My platoon sergeant ended up going back to garrison that evening to scrounge food for the BAS and to make sure that the first sergeant included us in future headcounts.

The rest of the exercise was equally dismal because I had not fully collaborated medical play with the rest of the line companies or even with the line company medics. By the end of day 2, the only casualty play I had to report at the nightly command and staff meeting was a patient with a sprained ankle. The company medics treated the Soldier, and then his first sergeant evacuated him directly from the site of injury to the garrison hospital's emergency room using his own high-mobility multipurpose wheeled vehicle.

The battalion commander showed up unannounced at the BAS on day 4 of the FTX to find my men and me playing cards and inventorying the class VIII expendables. Fortunately, he was impressed with our innovative training because we were conducting both activities while wearing mission-oriented protective posture level 4 protection (masks, overgarments, overboots, and gloves).

Yes, medical play was definitely dead on arrival at the FTX because I had not taken time to get the other stakeholders to buy in to my plans. That experience taught me the need to evaluate time, quality, cost, deliverables, and risk consistently. By balancing each parameter during the initiating and planning phases of subsequent training events, I forged partnerships between the medical platoon and each stakeholder within the battalion. That enabled my platoon sergeant

and other noncommissioned officers to conduct intensive, innovative training during the execution and monitoring phases. This training resulted in the medical platoon receiving many honors during that February NTC rotation and commendable ratings on subsequent inspector general inspections, and the platoon had the most recipients of the expert field medical badge in the division that year.

Hand Receipt Accountability

The second experience comes from my first assignment as a captain. Having just completed the Army Medical Department Medical Materiel Manager Course, I performed a utilization tour at the Army Reserve's 328th General Hospital (now known as the 328th Combat Support Hospital) in Salt Lake City, Utah. Since its activation in 1947, the unit had been a table of distribution and allowances (TDA) (nonfield) hospital with a wartime mission to backfill Army medical centers. Consequently, unit members had conducted all of their annual training events at Active component fixed healthcare facilities. Because of the unit's status as a Reserve component TDA organization, it owned very little equipment, which resulted in a small, manageable property book.

About a year before my arrival, the hospital converted to field-unit (table of organization and equipment [TOE]) status, and the Army Medical Materiel Agency fielded it a new Deployable Medical Systems training set. Understandably, the unit's culture was still not field focused, and as a result, the unit had conducted no cyclic inventories after the initial fielding inventory. Shortly after my arrival and assignment as the full-time S-4 and property book officer (PBO), I realized that most of the primary hand receipt holders were no longer in the unit. However, the hospital sections had maintained continuous access to the equipment after the initial equipment fielding. The unit had lost property accountability, and it was going to be an uphill battle to regain it.

To succeed at the job, I would need to create a partnership with the acting S-3 (who was in the Army Nurse Corps [AN]) and the HHC commander (who was in the Medical Service Corps). Neither of these two key stakeholders had ever dealt with hand receipts at this level or fully appreciated logistics requirements. Both officers were intelligent and had persuasive personalities, and both spoke plainly when expressing their opinion that inventories were “a waste of valuable training time.” The S-3 held considerable sway with the hospital commander (who was in the Medical Corps), the director of nursing services (who was AN), and the executive officer (XO). The nursing services section used most of the equipment and would need to provide most of the

primary hand receipt holders. (I mention the stakeholders' branches because nonlogisticians, especially those brought up in a nonfield environment, do not always develop a full appreciation for property accountability and sometimes view logistics as a necessary evil.) At times like this, the logistics process can be personality driven, and the Total Scope Model is an effective tool to balance constraints and achieve solutions that are acceptable to all parties involved.

As a PBO with 100-percent pecuniary liability, I did not want anyone playing with my toys until they were hand receipted down to the primary hand receipt holder. However, the hospital commander and director of nursing services did not share that view and ordered me to give the sections access to the training equipment sets. That's when it hit me: I was trying to manage a property accountability project without obtaining complete buy-in from the hospital commander. He was also a key customer. I was neglecting my responsibility to coordinate between him and the other stakeholders in order to accomplish the mission. He was the center of gravity; if I could get him on board, he was in a position to persuade the other stakeholders to cooperate. I did not realize it at the time, but my arguments to the hospital commander and staff aligned with the five PSPs. Fortunately, the XO was also a medical logistician and was willing to advocate my position to the commander and staff. We presented the following explanation to the hospital commander using the PSPs.

Time. With the S-3's and section leaders' assistance, we could minimize the impact of conducting an inventory on training time by developing a training schedule that allowed the sections to conduct inventories while training on the equipment. The 100-percent inventories would become familiarization training for the primary hand receipt holders and the users.

Quality. The commander could achieve trained and partially trained mission-essential task list (METL) status faster and more easily without the distractions of a major inventory hanging over his head. By allocating one full drill weekend to conduct the initial primary hand receipt holder inventories and then incorporating cyclic inventories into each drill, he would ultimately have fewer distractions on the rest of the training throughout his command tenure. To minimize the effect on section training, the S-4 would publish the cyclic inventory items on the monthly training schedule. That way, the hand receipt holders would know at what time they needed to present specific items to the PBO each month, and there would be no risk of sections improperly passing items to cover a friend who may have lost a piece of equipment.

Cost. Even though the value of the equipment on the property book was over \$16 million, I did not want to appear threatening in my argument, so I chose to

focus on two far greater assets: personnel and training. The unit was already experiencing a high loss rate of personnel because of the conversion from a TDA organization to a TOE organization. If the unit lost medical equipment because of improper hand receipt controls, its ability to train and retain quality Soldiers would continue to decline.

Deliverables. The unit members would develop an appreciation for property accountability. This was especially important while the commander worked to convert the unit's culture to a field mentality. In the end, the commander could have the unit trained on equipment with which the members were familiar. He would also have 100-percent property accountability, possibly without having to endure a painful 15-6 investigation. [A 15-6 investigation is conducted by a disinterested officer to determine pecuniary liability.]

Risk. This constraint was the most difficult for me to present because of rank and personality issues. However, using Army Regulation 735-5, Policies and Procedures for Property Accountability, and a sympathetic XO, I explained the five types of responsibility, their relationship to accountability, and how commanders, leaders, and users can be held pecuniarily liable for failure to maintain accountability. I addressed gross versus simple negligence, and I explained how more than one party could share liability, even if one or more of the liable parties is not a hand receipt holder. I also asked the command and staff to consider the cost to lives should the unit be mobilized and not properly trained on its go-to-war equipment.

Just as my medical platoon excelled over time, the hospital did attain property accountability, thanks to tenacity and a balanced application of the principles discussed in this article.

These are just two of many experiences that have proven to me how logisticians are most capable and best positioned to complete a project, or accomplish a mission, when they take the time to balance the five PSPs (time, quality, cost, deliverables, and risk) as part of their logistics planning considerations. Of course, an occasional box of doughnuts is helpful, too; it's all part of building partnerships. **ALOG**

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DCAM: Managing MEDLOG Systems on the Battlefield

BY BILL SNETHEN

“Tedious, yet important” is the mantra of medical logisticians manning medical facilities on the frontlines and at home. Tasked with ordering, maintaining, and reporting the status of class VIII (medical supplies), medical logisticians have the arduous task of ensuring commanders and medical professionals at all levels of healthcare always have on hand critical items, such as tourniquets, iodine, saline, and intravenous (IV) bags. Service members’ well-being weighs in the balance.

The monotonous task of counting stock on shelves helps to identify items that need reordering. For decades, replenishing those supplies meant filling out paper order forms and faxing or mailing them to suppliers. Those supply order forms often got lost en route. Forms that arrived at the supplier were often delayed by poor handwriting that caused misshipment of the requested supplies. Medical logisticians hoped and prayed the orders made it through. Commanders and clinicians relied on those orders to replenish their critical medical supplies.

The Department of Defense Medical Communications for Combat Casualty Care (MC4) system was fielded to Kuwait in 2003 to remove any question of whether or not orders would be received and filled. Today, more than 25,000 MC4 laptops, handheld devices, servers, and printers have been fielded to combat support hospitals, battalion aid stations, and medical detachments throughout Southwest Asia, proving that electronic recording is the way of today.

Secure Order System

In addition to streamlining the electronic medical recording mission at hand, MC4 laptops are used to access the Theater Army Medical Management Information System Customer Assistance Module (TCAM) application and digitally draft, submit, and process supply orders.

Although many users focused on just placing their orders, TCAM had additional features and benefits. However, TCAM had one inherent flaw: it transmitted supply orders via an unsecure file transfer protocol (FTP) connection, leaving units hesitant to use the system and encouraging them to revert to paper-based methods of the past.

In March 2007, MC4 personnel fielded an improved medical logistics (MEDLOG) system to replace TCAM, featuring the secure Defense Medical Logistics Standard Support Customer Assistance Module (DCAM) application. During the first 12 months after DCAM’s launch, more than 270,000 class VIII orders were submitted in Balad, Iraq, and Bagram, Afghanistan, by more than 560 users via MC4 systems.

Supply orders now traverse a secure connection on their way to supply houses in Qatar, Germany, and the United States. “DCAM uses a secure port that increases the security of passwords and order information,” said Major Frederick White of the 6th Medical Logistics Management Center. “The use of this secure port improves the overall security of information.”

Advantages of DCAM

Although the new application functions similarly to TCAM, users have found DCAM easier to use. As a result, more logisticians have joined the electronic MEDLOG movement on the battlefield. “From the user perspective, the major difference between using DCAM and TCAM is navigating through the program,” said Navy Lieutenant Darryl Green, serving with the 1st Medical Brigade. “The toolbar has been changed, making it much easier to use.”

From DCAM’s toolbar, medical logisticians can easily generate supply requests, create receipts, and monitor inventory levels. “Many of the customers in Afghanistan

A medical logistics Soldier uses DCAM to maintain the class VIII inventory.



Medical logistics personnel inventory a class VIII shipment.

using DCAM have noticed a time savings since they are freed up from many of the day-to-day tasks they previously completed with paper or TCAM,” said Sergeant First Class David Awanda, assistant warehouse noncommissioned officer in charge for the 583d Medical Logistics Company in Afghanistan. “Physically counting inventory on a daily basis is no longer necessary.”

Order Tracking

While electronically ordering medical supplies has saved time and effort for logisticians, DCAM’s tracking function has provided peace of mind for medical commanders. “I have received feedback from some customers that this [tracking] feature is very useful and makes their lives so much better,” Awanda said. “It is important for them to know when medical supplies will arrive, as well having a real-time status of the order. In a short amount of time, they know exactly where the order is within the supply chain.”

Generating receipts when an order arrives closes the loop for that order. TCAM also had the ability to create receipts, but the function was not used fully. MEDLOG personnel now using DCAM realize the importance of completing this task because it adjusts the electronic inventory maintained by the system.

“This process is a tremendous asset as it helps the units forecast class VIII needs and future reorders,” Awanda said. “When the staff does not complete this step, many times there is a discrepancy with the physical inventory on the shelves and what the system thinks is ‘in stock.’ I’ve seen a number of examples where the system generates resupply orders for products that are fully stocked.”

Inventory Management

When setting up DCAM, users establish facility-specific supply levels to generate orders when supplies drop below a threshold. As the users issue supplies or update their on-hand balances, DCAM computes the quantities needed to replenish their supplies to the desired inventory level. On-hand inventories need to be counted periodically, but not daily as was required in the past.

Since the orders are automatically generated when items need to be reordered, the customer only needs to push a button to send the order on its way. “This feature of DCAM saves a lot of man-hours daily,” Awanda said. “The amount of time spent conducting a local inventory at a facility can vary from a couple of hours to the better part of one day, depending upon the inventory of the given facility. Since the process is



automated, personnel better utilize their time by fulfilling other duties within the facility, instead of routinely counting supplies.”

Even with an automated inventory in place, medical logisticians still must conduct physical inventories, just not every day. These checks and balances remain a quality assurance measure. Having more accurate data easily available enables MEDLOG personnel to produce quick, accurate reports and further assure commanders and medical personnel that their supplies are managed effectively. “Monitoring and reporting inventories is much easier when units generate electronic reports through DCAM,” Awanda said. “This is another example of the time savings units realize by utilizing the tools available. The system shows the quantities on hand, so you can reorder whatever you need as opposed to reflecting different quantities between what’s listed as ‘on the shelf’ and the numbers in the system.”

Maintaining medical supplies is a critical responsibility for medical logisticians. It can mean the difference between life and death for the Soldiers. Using MC4 and DCAM is helping MEDLOG personnel accomplish their jobs more easily. It reduces how often they must take physical inventory and helps them identify what needs to be ordered, order it, and track it through the supply system. Using these systems to manage medical supplies saves the Army money by reducing the amount of time personnel must spend to accomplish the job and by reducing the amount of unneeded class VIII ordered because of inaccurate inventories.

ALOG

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Measures to Prevent Profiles in Combat Support Commands

BY LIEUTENANT SARAH D. THOMAS, USN

Soldiers on duty-limiting medical profiles offer reduced benefits to commands that provide logistics support to operations in Iraq. Medical limitations can prevent a Soldier from wearing body armor or driving, leaving fewer Soldiers to perform a steady workload. For units already undermanned, medical issues can compromise mission success.

Between March and August 2007, shoulder and back pain complaints among Soldiers of the 377th Theater Support Command were numerous. Because of the physical demands of the environment, many ailments became chronic despite rest and required physical therapy. Recognizing this injury trend, the command identified measures for preventing injury in order to reduce physical therapy visits and avoid lost work hours. Two areas identified as causing injury to Soldiers were ill-fitting body armor and misaligned vehicle seats.

Shoulder Pain and Individual Body Armor

Prolonged wear of the interceptor body armor outer tactical vest (OTV) is frequently blamed for common complaints of neck and shoulder pain. Thirty percent of the physical therapy referrals at Camp Arifjan, Kuwait, in March 2007 were related to pain caused by OTV wear. The OTV is being replaced in direct combat roles

Note how the ill-fitted outer tactical vest does not align at the front closing.



with a newer model known as the modular tactical vest, but the OTV is still issued to active duty members in ancillary roles, such as supply, transportation, and training commands.

The OTV should be worn tightly around the torso to protect core organs from some types of small projectiles. The vest, with two small-arms protective inserts, weighs approximately 17 pounds. The additional burden of side, shoulder, groin, throat, and neck pieces, plus the enhanced tactical load-carrying vest and individual equipment belt, can result in a total system weight of more than 60 pounds.

When worn tightly on the torso with minimal shoulder contact, the OTV attempts to distribute its weight along the surface area of the ribcage. If the vest is not adjusted correctly, the tactical load rests directly and disproportionately on the smaller surface area of the shoulders. Over a prolonged period, the weight of the system pushing down on the upper extremities can fatigue muscles, compress nerves, impinge on the shoulder rotator cuff, reduce available range of motion, and cause pain. Even if patients improved after a period of light duty and shoulder rehabilitation, many complained of pain after returning to OTV wear when their shoulders again became the focal point of weight distribution.

The Soldier looks up as he adjusts the OTV to clear his chin from the path of the neckline.



Positioning the OTV

During physical therapy evaluations, patients who donned a basic OTV under supervision demonstrated a distinctive pattern of errors in positioning the OTV that included—

- Failing to initially release the side straps to assist with front Velcro alignment.
- Adjusting the neckline flaps around the angle of the chin when looking down at the vest and not straight ahead.
- Failing to adjust the vest off the shoulders and tightly against the ribcage.

These three factors lead to misalignment of the neckline and reduce the weight borne by the ribcage, placing the weight on the shoulders. Weight resting on the shoulders inhibits natural biomechanics of the upper extremity and causes pain.

When the OTV was readjusted onto the ribcage by the physical therapist, patient complaints of shoulder and neck pain generally decreased. To achieve this relief independently, Soldiers were instructed to—

- Loosen the side straps each time the vest was put on.
- Look up to clear the chin when aligning the neckline.
- Lift the OTV off the shoulders with the thumbs.
- Have a partner tighten the OTV against the ribcage.

In addition to one-on-one patient contact to review this technique, instruction on properly donning the OTV was presented during a safety briefing for the 337th Theater Support Command to company leaders. As a result of these proactive, preventive measures, physical therapy consults for neck and shoulder pain

The Soldier lifts the OTV with his thumbs to ensure that it is properly positioned so the weight will be on the chest and not the shoulders.



significantly decreased over a 4-month period. Clinical research has also been initiated to study the effect formal instruction on safe OTV-donning techniques has on the frequency of shoulder and neck pain in Marine Corps training units at Camp Pendleton, California.

Prolonged Compromised Posture in Vehicles

Complaints of lower back pain among Soldiers made up another 30 percent of the physical therapy visits at Camp Arifjan in March 2007. Although administrative workers reported such pain, the majority of patients were truck drivers who ran frequent missions into Iraq. Complaints included increased lower back pain with prolonged sitting, difficulty returning to a standing position, buttock pain, and occasional numbness and tingling in the legs. Conservative treatment included limited duty to modify activity and lessen symptoms. However, extended periods of light duty reduced the number of available drivers and became a concern for company commanders.

Back pain during prolonged sitting typically occurs when the natural curve of the lower, or lumbar, spine is reduced. In a normal spine, the natural curvature distributes a balanced load on the pliable lumbar discs, which expand and compress in response to force. With compromised posture, the lumbar curvature is reduced and the angle of force on the discs is altered so that the discs are unable to disperse force and are often pushed toward nerves in the lower back. Compounded by increased force from body armor, mechanical vibration, and shock absorption from unpaved roads, the resulting

With this correctly-fitted OTV, the front closing is completely closed, all straps are aligned, and the neckline is aligned.





At left, the seat adjustment has the Soldier's hip and knee at the same height. At right, a Soldier sits in an M1114 seat with his knees higher than his hips. Both of these positions can cause back injury by decreasing the lumbar curve and the spine's ability to absorb shock while the vehicle is in motion.

long-term pressure on these nerves causes chronic lower back pain.

With assistance from the 336th Transportation Group's safety officer, several vehicles used by these Soldiers, including the heavy equipment transporter (HET), M915 tractor, 5-ton truck, and M1114 high-mobility multi-purpose wheeled vehicle (HMMWV), were examined for postural supports. The key factors determined to contribute to lower back pain included—

- A poor relationship between the hip and knee height of the driver.
- Low seats.
- Poor curvature of the lumbar spine.
- Excessively reclined backrests.

Once these factors were corrected, drivers typically reported decreased lower back pain.

Sitting Correctly in Vehicles

When seated, the driver's knees should be lower than his hips. The relationship between hip and knee height in a seated position often determines the presence of a natural curve in the lower back. When the hips are equal in height to the knees, the curvature of the lower back is reduced and the Soldier experiences a "slouch" in the lower back. This can occur when the driver seat is adjusted too low. A good example is the rear seat of an M1114, where the low seat combined with the lack of leg room results in the knees resting well above the hips. Curvature of the back in this extreme position is relatively nonexistent, and excessive pressure is placed on the discs of the lumbar spine, causing Soldiers to experience pain after prolonged periods of riding. The seat height should not be lower than the height of the lower leg of the person in the seat.



In this truck, the driver's knee is lower than his hips, improving the lumbar curve and reducing the possibility of back injury.

The lumbar curvature and the capability of the spine to absorb force efficiently are restored when the knees fall below the hips in the seated position. Sometimes this can be achieved by adjusting the height of the seat when enough headroom is available. It is most successfully achieved when the seat fully supports the thighs with a 5- to 15-degree slant below the horizontal. In vehicles like the newer-model 5-tons, in which the seat rest adjusts downward, the seat should be adjusted so that the knees rest below the height of the hips and a curve is evident in the lower back. This supported position allows the spine to absorb the shock of the road most efficiently. When interviewed, drivers noted less back pain when sitting in this position.

Current Department of Defense (DOD) seat standards for vehicle acquisition and procurement do not

specify standards for seat rest adjustment below the horizontal. For this reason, many seat rests, such as those in the HET, M1114, and M915, do not adjust at all. Soldiers in these vehicles can sit on a pillow or seat wedge that creates an angle sufficient to achieve a relative curve in the lower back. The DOD Safety Office is working with SKYDEX Technologies, Inc., to develop a universal seat cushion for use in these vehicles. This product is currently in field testing.

Corrections to the seat rest angle are only effective when the backrest is 95 to 100 degrees from the horizontal position. Reclining farther requires the driver to reach farther forward to control the vehicle, reduces the lumbar curve more, and increases pressure on the vertebrae. Adjusting a backrest to an upright position, 90 degrees from the horizontal, does not fully allow for the bulk of the OTV and makes the driver pitch forward. Typically, 95 to 100 degrees for back rest inclination above the horizontal, combined with the seat rest slope of 5 to 15 degrees below the horizontal, is an anatomically comfortable position that does not exacerbate pain.

Identifying the occupational trend of lower back pain at the battalion level resulted in proactive measures to improve prolonged sitting posture and helped return Soldiers to duty. For this reason, I recommend that DOD consider revisiting standards for seat design and include a measure that addresses angulation or adjustment of the seat to rest 5 to 15 degrees below the horizontal.

Taking the steps described in this article can do much to reduce the number of complaints of pain by support Soldiers. Teaching them to properly don their OTVs and adjust their vehicle seats will go far in reducing injury and keeping Soldiers on the job. **ALOG**

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THE AUTHOR THANKS MAJOR KURT ZACHARIAS, ALFRED RICE, LIEUTENANT COLONEL HELEN MEELHEIM, BEN REESE, MIKE BUCHEN, AND SKYDEX FOR THEIR SUPPORT IN THE INITIATIVES THAT LED TO THIS ARTICLE.

Ee Afghanistan Ast: Medical Logistics Mentoring in the Afghan National Army

BY MAJOR SCOTT C. WOODARD



Afghan National Army personnel prepare to pick up medical supplies for a Logistics Command convoy.

As part of a joint medical logistics embedded training team (ETT), I spent a year in Afghanistan mentoring members of the Afghan National Army (ANA). Our 10-member team, which included 4 U.S. Soldiers, 4 U.S. Airmen, 1 Afghan civilian, and 1 ANA medical logistics officer, was assigned to the Combined Security Transition Command-Afghanistan (CSTC-A) Command Surgeon's Office in Kabul. The CSTC-A provides mentors to assist the Afghan Ministry of Defense in training, equipping, and employing Afghan National Security Forces (ANSF) so that they can defeat insurgencies and provide security for the citizens of Afghanistan.

Our mission was to facilitate the operation of the ANA Medical Stocks Command in order to ensure that its regional medical depots received proper health

services materiel support, including materiel management, stock control, storage, shipping and receiving, and biomaintenance support. As mentors, we were there to train ANA personnel in the art of medical logistics so that one day they would be able to run the depots without assistance.

In a typical week, our ETT would brief the ANA Force Modernization G-4 at the Ministry of Defense, conduct classes on managing temperature-sensitive medical supplies (cold-chain management) at the Medical Stocks Command, conduct convoys throughout the city (and quickly navigate to alternate routes when improvised explosive devices changed our plans), referee disputes with antagonistic commercial vendors at the medical depot, and facilitate the development of products like the Afghan first aid kit.

Techniques for Success

Adhering to the tenets of multinational operations in Joint Publication 3-16, Multinational Operations, was critical to our success in Afghanistan. Although the manual is written from the perspective of working with allies in a joint and multinational campaign, we applied it to our role as mentors to the ANA. Respect, rapport, knowledge of partners, patience, and making the most of interpreters proved to be keys to our success.

Respect. Respecting our Afghan colleagues came from seeking to understand their culture, history, religion, values, and customs. Since very little of this knowledge was provided in a formal educational setting, we gained it through extensive reading and experience. I read a multitude of books exposing me to Islam and Afghanistan's rich history and culture. For example, I learned that proverbs and metaphors are valued in Afghan society because of their simple conveyance of a deep idea or thought. In the West, we tend to marginalize proverbs as simple, but when one masters a proverb in Dari, the world is open to his influence. Understanding and a healthy dose of mutual respect go

a long way toward creating an environment where partners can achieve great things. When U.S. mentors have disdain for their Afghan colleagues, it is often evident in their lack of mission achievement.

Rapport. Building rapport is an investment and therefore takes time. Greeting with a kiss and humble hand to the heart allowed me to gain the confidence of many Afghans. Family is very important to Afghans, so I showed them pictures of my immediate and extended family and inquired about theirs during our first conversations. Small talk over several cups of chai tea built a foundation for future dialogue. The teamwork that ensued was invaluable to our mutual accomplishments.

Knowledge of partners. Just as a good leader should know himself and a good commander should know his enemy, a good mentor should know his partners. Our Afghan brothers were part of our team. We sought to use their knowledge and cultural views to help us accomplish missions. Understanding their perspective and abilities allowed us to concentrate our efforts to produce effects with the most long-term benefits.

Patience. Patience is a required skill in mentoring Afghan soldiers. In general, Americans tend to be very results-oriented and expect immediate gratification—in essence, impatient. One could easily tell that our Afghan colleagues did not operate with a sense of urgency. Their work habits were developed within their cultural views, not ours. Yes, the Americans probably could have quickly produced near-perfect products by doing it themselves, but that was not the point. Since everything we did was designed to mold a self-sufficient organization, it had to be a group effort. And partnerships take time to develop.

A Soldier teaches a class at the Medical Stocks Command headquarters.



Making the most of interpreters. The most important asset we had in training the Afghans for success was our interpreters. Interpreters should be treated well because they hold the knowledge required to build better partnerships with the mentees. We were blessed to develop habitual relationships with very competent and hardworking interpreters. Mission continuity, better situational awareness, and technical understanding resulted from continuously using the same interpreters. When it was feasible before a meeting or daily mission, an interpreter and I would go over the subjects I planned to discuss with the ANA. This helped to build upon previous coordination and minimize the possibility of miscommunication.



An embedded training team picks up equipment and supplies at the off-site overflow warehouse at Camp Dogan.

Challenges

Working in a joint environment was something new for each of the U.S. Soldiers. Since half of the medical logistics ETT personnel and half of our surgeon's cell leaders were Air Force, I learned a lot about working with our sister service. Their expertise was exceptional, but Airmen generally tend to complete projects

differently than Soldiers. Our Air Force teammates previously had operated in environments where they managed projects as individuals; the Army tends to operate in teams. Although this was not a huge sticking point for us, we did pause to discuss the differences and how we would proceed with our tasks.

From an Army perspective, it concerned us when we realized that the echelons-above-corps and corps-and-below ETTs were filled with non-Army mentors. Navy and Air Force personnel have begun to occupy Army-centric slots in Afghanistan as "in lieu of" fillers. Yes, healthcare is healthcare in a garrison setting, but land warfare doctrine training for a land component force (which the ANA happens to be) is very different from air and sea doctrine. This observation can be applied to all mentoring missions currently operating in Afghanistan—not just medical mentoring missions.

Another challenge was balancing our time between the requirements of staff work inherent in a joint environment and the actual hands-on mentoring of our Afghan colleagues. Without a doubt, facilitating ANA hospital and clinic openings, conducting logistics staff work, and providing staff assistance visits to the regional medical ETTs were critical. Our challenge was prioritizing our mentoring and infrastructure-building responsibilities and our staff work. We wrestled with it daily. Eventually, we sorted out the differing roles in our staff lanes. However, we observed that equipment and materiel fielding may be better accomplished by a separate team dedicated to equipment fielding and deployment.

Taking time for ourselves and putting everything in perspective was essential to avoiding burnout. Constantly being asked to solve problems or provide materiel every time we stepped outside the wire became very draining. Everywhere we went, Afghan civilians and military personnel would crowd around and seek something. They reminded me of crowds closely following some celebrity healer and wishing to merely touch his cloak so that they may be healed. We commonly heard, "You are Americans and will solve our problems." Sure, maybe we could fix everything immediately, but that was not our mission. After pleas for help, we had to take a step back, encourage self-help, and provide tools to accomplish the task. It was the slow way but also the right way. To combat the potential for burnout, we tried to incorporate some down time. The Afghans celebrate the Sabbath on Fridays, which were also our lowest battle rhythm days. The ANA was off on Fridays, so we had no one to mentor. Using this time for individual recuperation and protecting it for the team became critical.

Lack of continuity and different funding streams often created situations where we had lots of money for supplies, but no money for a building to store them. The American tendency to put the cart before the horse was



At top, the interior of the clamshell shelter before new pallet risers were received at the Medical Stocks Command headquarters. Above, the interior of the clamshell shelter after new pallet risers were received.

a constant challenge. The Afghans have a proverb that loosely translates as “Before you buy an elephant, you must build the elephant’s house.” We helped prevent future homeless elephants by focusing on the big projects’ second- and third-order effects. Creative ideas and resource sharing helped alleviate a lot of the problems.

Seed Sowing

That year in Afghanistan was marked by the emerging independence of the ANA Medical Stocks

Command. Borrowing from the Afghan practice of creating metaphors and proverbs, I will explain our efforts to guide the ANA toward independence using a farming metaphor. As mentors, our team sowed seeds for future development and accomplishment in the ANA medical community. Our success at seed sowing can be measured by the fruits of the medical logistics ETT and our Afghan colleagues’ labor. We planted many seeds for future success, like when we opened the regional medical depots and the regional

military hospitals. The most strategic measures—nation-building measures—are focused on outcome rather than input.

The Mazar-e-Sharif Regional Medical Depot and Military Hospital were opened in March 2007. The medical logistics ETT fielded hospital furniture, medical equipment, and supplies (including consumables) valued at \$6.5 million for the hospital. They also established and trained the Afghan commander and quartermasters on their first-ever property book and key control system for their \$2 million inventory. Within the depot, the quartermasters were trained in establishing supply accountability and hand-receipt management.

The Kandahar Regional Medical Depot became operational in June 2007. In preparation for the opening, the medical logistics ETT also established a property book with corresponding hand receipts for \$2 million worth of inventory. As in Mazar, Kandahar's \$6.5 million fielding package consisted of furniture, medical equipment, and consumable medical supplies. The Kandahar Regional Military Hospital also opened a few months later.

Numerous clinics throughout Afghanistan were fielded that year. The National Military Hospital received its first-ever computed tomography (CT) scanner, valued at \$1.1 million. The biomedical maintenance experts from the medical logistics ETT facilitated its installation. The Medical Stocks Command depot received pallet risers for the "clamshell" shelter (see photos on page 29) and shelving for CONEX (container express) containers.

In addition to the medical supplies and equipment required for garrison support, we continued to field corps medical equipment sets (MESs) throughout the year. Together with the Medical Stocks Command, the medical logistics ETT received, segregated, and shipped 400 combat medic bags for the 5 ANA corps across Afghanistan. The ANA went from having 32 percent of the required authorized sets on hand to 100 percent. Another 939 MESs, made up of dental, ground ambulance, patient holding, preventive medicine, sick call, and trauma supplies, were ordered and scheduled for delivery in the next fiscal year. These sets would fill the remaining requirements for each ANA corps and separate commando battalion so that they would have 100 percent of the authorized sets on hand.

The ETT also launched training classes held every other Thursday at the Medical Stocks Command headquarters. The classes covered fundamentals of materiel management and inventory control. These courses became the model for further local training at regional hospitals throughout the Medical Command.

Blossoming Fruit

The most important changes that occurred that year involved the ANA's independence from its U.S. and coalition partners. The ANA no longer depends on its partners to coordinate many common tasks. For example, cold-chain-managed items (such as blood, vaccines, and lab reagents) can now be rapidly distributed using fixed- and rotary-wing assets from the ANA Air Corps. Responsibilities like scheduling and

Five-ton vehicles are parked outside the Medical Stocks Command headquarters.



coordinating deliveries and palletizing equipment for air shipment have been passed from U.S. and coalition forces to the ANA.

The ANA now handles ground deliveries as well. All medical supplies and equipment are routinely coordinated and shipped using the ANA Logistics Command's (LOGCOM's) Central Movement Agency vehicles, which pick up the supplies and transport them in LOGCOM convoys to each regional medical depot and forward supply depot.

Routine vehicle services and special coordination for contracted maintenance teams are now arranged between the ANA maintenance contractor and the Medical Stocks Command transportation officer. ANA Medical Stocks Command staff members coordinate with contractor personnel to receive, sign for, and distribute equipment and supplies at the off-site overflow warehouse at Camp Dogan. All ANA MESS arriving from the U.S. Army Medical Materiel Center-Europe in Germany are accounted for and distributed to each corps within ANA channels.

The medical logistics ETT made nine specific recommendations for medical logistics improvements within the ANA Medical Command. On 9 October 2007, the ANA Surgeon General approved the following recommendations to revamp class VIII (medical materiel) management within the Medical Command—

- Appoint wardmasters on orders, and train them on logistics procedures.
- Create pre-approved stockage lists of items and quantities at the ward level within each hospital, and review them quarterly.
- Differentiate the duties of the pharmacists and medical logistics officer.
- Establish document numbers, a signature card system, and a customer dueout system according to the Ministry of Defense (MOD) Logistics Decree 4.0.
- Track customer order history, and establish 30 days of supply at each hospital and 60 days of supply at each depot.
- Approve and distribute standing operating procedures for the Medical Stocks Command.
- Use the newly formed Medical Support Command's vehicles to pick up and deliver medical supplies within the Kabul area on a weekly basis.
- Designate the ANA Surgeon General to either assume management of the class VIII depot at LOGCOM or rebuild the Medical Stocks Command (which is currently just a clamshell and a few CONEXs) so that it can function as a true warehouse operation.
- Designate the ANA Office of the Surgeon General's Directorate of Medical Logistics as the approving authority for MOD Form 14, a materiel and request



The Afghan National Army is responsible for cleaning up “the pit,” which has become a dumping ground for unsalvageable materiel.

document, and MOD Form 9, an issuing and turn in document. Give the surgeon general oversight through the annual command inspection program. MOD Form 9s should be signed and reviewed quarterly.

The emerging independence of the ANA is significant. The process was painstaking, but future generations will benefit. We often said that our success will be measured by whether or not our children would be in Afghanistan mentoring the ANA. When the ANA can function without our assistance, we can be called successful and my children can be tourists and not mentors.

Strategic Future

The current Medical Stocks Command headquarters has no warehouse on location. The headquarters, which has been storing supplies in a clamshell shelter and CONEXs that have reached their storage capacities, began construction of a warehouse. The new warehouse will accommodate biomedical engineering and materiel management functions and will have administrative and classroom space. The ANA also will remove the materiel from “the pit” that is adjacent to the incomplete structure at the depot. The pit was originally a graveyard that had been excavated by the Soviet Army to build a KGB hospital. The Soviet Army abandoned the construction and left behind their ruined medical equipment, and the construction site became a dumping ground for unsalvageable materiel. (See photo above.)



A U.S. Army officer and Afghan truck drivers take a break while distributing supplies to the Afghan National Army.

A performance work statement (PWS) has been written for the future ANA Medical Logistics Course. The course will consolidate information from current ANA regulations found in MOD Logistics Decrees 4.0 and 4.2 and from the approved program of instruction for the U.S. Army's Health Services Materiel Officer Course. The Biomedical Maintenance Course PWS has also been written. The largest obstacle in this endeavor will be the purchase of training equipment and its subsequent storage.

Our Afghan colleagues were very receptive to recommendations for better business practices. Our mentees have been fighting for the last 30 years. They are tired of fighting and are seeking better ways to manage materiel and distribution. The Medical Stocks Command commander, whom I personally mentored, informed his staff that when I spoke, I spoke with his authority. When my Soldiers spoke, they spoke with my authority. Of course, the Afghan ways were not always our ways. Sometimes the ANA would do something a little differently than we had desired, but the objective was still accomplished. Regarding his work with the Arabs, T. E. Lawrence remarked in *The Arab Bulletin*, 20 August 1917, "Do not try to do too much with your own hands. Better the Arabs do it tolerably than that you do it perfectly. It is their war, and you are to help them, not to win it for them." Even though Lawrence warns in the preface to his "Twenty-Seven Articles" that these words are only meant to apply to that specific context, the spirit of his truth became one of our guides for working with the Afghans. We were not in the United States; we had to remember the phrase, "Ee Afghanistan Ast," which translates to "This is Afghanistan."

I always had an appreciation of how blessed we are as Americans, but seeing the poverty and destruction in a developing country up close every day for an

entire year really hit me. Visions of children standing inside large trash containers and burning refuse to stay warm have stayed with me. I do not remember ever seeing an Afghan building that was not missing a part of its edifice—a roof, a wall, a window, or a door. A satellite television dish attached to the outside of a store that used only kerosene lanterns for light seemed ironic at first, but I got used to it.

Most of our strength came from the maturity of the ETT; the lowest ranking members were staff sergeants. The team was hand-picked because of the special skill sets we each possessed. The independent and self-motivated nature of each member was a testimony to his personal devotion to duty and the team. Frankly, we envisioned working ourselves out of a job. Our mantra was the old proverb, "Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime." Serving on an ETT was the best job I have ever had. The combination of the team, our Afghan colleagues, and the results we reaped together was extraordinary.

ALOG

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THE AUTHOR DEDICATES THIS ARTICLE TO THE MEDICAL LOGISTICS EMBEDDED TRAINING TEAM PERSONNEL WITH WHOM HE HAD THE PRIVILEGE OF SERVING AND THOSE IN THE COMBINED SECURITY TRANSITION COMMAND-AFGHANISTAN WHO WERE WOUNDED OR PAID THE ULTIMATE SACRIFICE WHILE DEPLOYED.

Sense and Respond: Logistics on the Insurgent Battlefield

BY MAJOR MICHAEL F. HAMMOND

This article, the second in a series of three on sense and respond logistics, focuses on how logisticians can support a counterinsurgency most effectively by being flexible and responsive.

Insurgencies are a blend of political maneuvering and military tactics and operations. They have taken place on many occasions throughout history. Before World War I, insurgencies were instigated mainly to overthrow a particular monarchy or colonial power. Religious and ethnic differences were catalysts for the insurgencies of that era. After World War I, insurgencies revolved around the overthrow of democratically elected governments and occupying powers through subversive efforts of many kinds.

Insurgencies are well-documented in history. British officer T.E. Lawrence used subversive and guerilla tactics to help overthrow the Ottoman Turks and establish the first modern Arab states. In the early 1900s, Vladimir Lenin and Leon Trotsky led the Bolshevik revolution in Russia. Mao Zedong led an insurgency against the Chinese Nationalist Party. Viet Cong guerrillas battled French, South Vietnamese, and U.S. troops in a long and protracted war for over 2 decades. These individuals are the forefathers of modern day insurgencies like Al Qaeda in Iraq and the Taliban in Afghanistan.

What is an insurgency? Joint military doctrine defines an insurgency as an organized movement that aims to overthrow a constituted government through the use of subversion and armed conflict. An insurgency is a military and political struggle to weaken a legitimately established government or an occupying power. A counterinsurgency involves military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat an insurgency. Logisticians should understand the complexities of operating in an insurgent environment and the operational logistics requirements of counterinsurgency operations, such as Operations Iraqi Freedom and Enduring Freedom.

Today's Insurgencies

Insurgent forces in Iraq and Afghanistan view the U.S. military as an invading force and are willing to engage in a protracted war to rid their countries of the "foreign invader." The U.S. military cannot be defeated in open conventional warfare—a fact that insurgents

The array of vehicles in a brigade support battalion motor pool is an example of the type of assets that a support operations officer has at his disposal to remain adaptive and flexible on an insurgent battlefield that changes frequently.



know—and so the insurgents will engage in unconventional guerrilla tactics to achieve their goals. The logistician must realize that, although the tactics used by insurgents are as old as warfare itself, conventional logistics planning techniques will not work on such a volatile battlefield.

The elements and dynamics of insurgent movements in Iraq and Afghanistan greatly affect the abilities of military logisticians to plan and execute seamless logistics. An insurgency is not just violence; it is directed violence designed to achieve a political purpose. Directed violence against soft targets, such as resupply convoys or lucrative stationary logistics targets, has taken many lives during Operation Iraqi Freedom.

Leaders of an insurgency provide strategic guidance to its members. Enemy combatants are often mistaken for the insurgent movement itself. However, they are merely foot soldiers who are used to accomplish the political objective of the insurgent group. The active followers and mass base are members of the local populace who either support the insurgency indirectly by agreeing with its political objectives or directly by providing support that is noncombat related. The political cadres, the ideologists of the insurgency, are actively involved in the movement itself. Their political message is carefully crafted and disseminated to the public in narrative form by religious officials at the local places of worship or through local media outlets.

Counterinsurgencies and Logistics

Insurgencies and counterinsurgencies create non-traditional battlefields that require a logistician to have excellent planning skills and the ability to adapt. Traditional concepts of building supply bases before operations commence are outdated and will not work.

For a logistician, the most critical element of an insurgency is certainly the geographical environment in which it takes place. Areas that are remote with primitive or destroyed infrastructures will make logistics planning and execution much more difficult. External support and sanctuaries that the local populace provides to insurgent groups make it easier for insurgent forces to operate within proximity of logistics targets and bases.

In a counterinsurgency environment, support units provide conventional and host nation support. In many cases, support units are no longer located in the rear areas of the conventional battlefield; they conduct operations in tandem with combat forces. Ground commanders should keep in mind that support forces provide some of the most nonlethal weaponry in a counterinsurgency on the battlefield. Combat forces engaged in counterinsurgency operations should

understand that every action has the ability to influence the political, economic, social, and religious institutions of the area. They must be flexible and understand that the tactical situation can change from street to street and block to block. Likewise, logisticians must provide the ground commander with the same level of adaptability and flexibility. The logistician will only be successful through a sense and respond application of logistics planning.

Sense and Respond and Counterinsurgencies

Sense and respond logistics is a network-centric concept that enables logistics planners to provide precise logistics support to the warfighter. The sense and respond framework of operations is an adaptive and responsive approach to logistics for environments that are characterized by constant change. Failure in any form in such an environment can lead to serious obstacles to the success of a counterinsurgency. Effective sense and respond frameworks include systems designs that ensure that every member understands the duties and roles required in that framework. An organization that reflects sense and respond will be a collection of modular capabilities managed as an adaptive system that is responsive to changing demand. Logistics organizations must employ modular assets that can respond quickly to changes. Adaptability and speed of delivery of support assets increases the effectiveness of logisticians and support units. The integration of theater-and-below supply lines also can be tantamount to success in counterinsurgency operations.

Configuring assets well before
the operation is critical to success
and provides support units and ground
commanders with a dimensional
approach to meeting demands.

Why is sense and respond important to the ground commander and logistician? Counterinsurgency logistics operations are markedly different from conventional combat and require adaptability, flexibility, and effective planning. In addition to combat and civil security operations, ground commanders conducting counterinsurgency operations must focus on training and employing host nation and security forces. They must assist in the establishment and restoration of essential services and support the development of the local government. The key to the success of any counterinsurgency operation is the ability to support economic development.



The M88 recovery vehicle is another asset that logisticians can use to respond to an insurgent battlefield. It allows the logistics planner to adapt to terrain conditions, be effective and flexible, and support the maneuver unit in the field.

Supporting a Counterinsurgency

How do logisticians support the ground commander in a counterinsurgency? Logisticians and support unit commanders must exercise their responsibilities within the sense and respond framework. First, logisticians must realize the importance of their role in the counterinsurgency. Each member of the support unit must understand his role, which is based on what he should do as a member and who he should interact with, rather than what he can achieve. In his book, *Adaptive Enterprises*, Stephan Haeckel says—

Without clarity about purpose, bounds, relationships, and measurements . . . people will have to make their own interpretation, thus increasing the chances that these choices will be inconsistent both with one another and with the organizational purposes.

Logisticians who understand their roles in the counterinsurgency realize that they are accountable for the consequences of their actions.

Second, logisticians must understand the significance of what is happening “now.” They should focus on knowing why something is happening as opposed to knowing how it happened, which can be gleaned later from after-action reviews. Counterinsurgencies produce enormous amounts of data, and military planners are notorious for collecting huge amounts of data that may not pertain to a supply issue. Because counterinsurgencies are run from both political and military platforms, information batches contain social, political, and military data. Logisticians must sort and filter this information properly and quickly before it becomes obsolete. Establishing guidelines for filtering information will make the decisionmaking process more effective. A support organization that has developed internal systems designs, such as a systematic ability to interpret a large stream of

information, will succeed in its support endeavors.

Third, logisticians and support unit commanders must be able to dispatch support capabilities as required. The ground commander needs flexibility in logistics support to meet the demands of his operation. The logistician and the support unit commander should maintain internal and external flexibility to dispatch assets. Support units contain multiple internal assets, which need only a modular configuration to be capable of responding to changes in an operation. Configuring assets well before the operation is critical to success and provides support units and ground commanders with a dimensional approach to meeting demands. The support unit commander must be prepared to answer unit demands in both short- and long-term timeframes.

Insurgency and counterinsurgency environments require adaptable support units and sense and respond logisticians to meet the unpredictable support requirements of the Soldiers in the field. Conventional warfare, although not impossible today, seems unlikely, and so the Army requires a new type of military planner. When unit requirements are unpredictable, logisticians must shift from a planned response to a customized response.

Support units and logisticians that operate within the sense and respond framework will succeed in a military setting. Why? The military is based on systems, policies, and techniques that need little reconfiguration to fit inside the sense and respond framework. Many logisticians plan according to a military planning system that at times runs counter to sense and respond. Creating a chain of command that is horizontal and not vertical, as it is traditionally, will produce planners and support units that are adaptable and flexible and can provide support in a counterinsurgent environment.

ALOG

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SETAF Mechanics Train Botswanan Soldiers

A three-man joint contact team from the Southern European Task Force (SETAF) Maintenance Division in Vicenza, Italy, went to Gaborone, Botswana, last winter to instruct members of the Botswana Defense Force (BDF) on the roles and

responsibilities of a maintenance soldier. This training mission was part of the U.S. European Command's Theater Security Cooperation Plan. The team provided training in maintenance and maintenance management.





At left, a SETAF Maintenance Division Soldier instructs a group of Botswana Defense Force soldiers on the proper procedures for recovering a disabled vehicle during the hands-on portion of the group's training. The training was provided by a joint contact team that traveled to Botswana.

Above, a Botswana Defense Force Soldier receives instruction on equipment used when preparing a disabled vehicle for removal. (Photos by SFC Michael Johnson, SETAF Maintenance Division)

This was the first maintenance training for many of the Botswanan soldiers, so the skills that the U.S. Soldiers presented were very basic. However, the SETAF team saw potential for more in-depth, hands-on, and face-to-face training. The team found it interesting to compare the way a foreign military handles its logistics to the way U.S. units handle theirs and discovered that it could learn from the students as well as teach them.

Unsure about what to expect when they arrived in Botswana, the team was surprised by the wide mixture of equipment the Botswanan mechanics had to work on. They found the Botswanan soldiers,



A SETAF Maintenance Division Soldier and a Botswana Defense Force Soldier work together to prepare a cable for vehicle recovery.
(Photos by MSG George Duenas, SETAF Maintenance Division)

whose ranks included warrant officers (who are the equivalent of U.S. sergeants major), majors, captains, lieutenants, and staff sergeants, to be receptive to instructions and on their way to a more streamlined organization of their vehicle equipment.

Although it only had about a week to conduct the training, the team managed to cover a wide range of maintenance basics, including—

- Levels of maintenance.
- Daily operations of a brigade or battalion maintenance officer or technician and maintenance noncommissioned officer.
- Proper safety standards as prescribed by Army regulations.
- Hazardous waste disposal procedures.
- Proper fleet configurations to best meet mission requirements.
- Unique considerations for tracked versus wheeled vehicle maintenance.
- Parts procurement.
- Minimum essential repairs.
- Budget and finance.
- Management of salvaged vehicles.
- Sources of spare parts.

The team found that the BDF officers were also interested in the purpose, function, and operation of



the Defense Reutilization and Marketing Office and the equipment lifecycle management concept. When BDF soldiers expressed an interest in vehicle recovery, the SETAF team conducted an impromptu, hands-on exercise in recovery operations.

The BDF soldiers were also interested in the U.S. Army in general and in the rank progression of its Soldiers. The team met one corporal who had been in the BDF for 30 years and several captains who had been in for over 20 years. These BDF soldiers were very interested in the U.S. Army's promotion process.

SETAF mechanics do not normally conduct this type of training mission, but the team lead, Chief Warrant Officer Robert Pitts, believes that this could be a building stone for future training opportunities. "We definitely have the skill sets to do this again, and I would in a heartbeat," said Pitts. "It was a great exchange of ideas between soldiers and served as a great opportunity to train some of Botswana's professional, motivated soldiers." **ALOG**

ARMY LOGISTICIAN THANKS SERGEANT JUSTIN P. NIETO, FORMERLY WITH THE SETAF PUBLIC AFFAIRS OFFICE, FOR PROVIDING THE STORY AND PHOTOS FOR THIS FEATURE.

The Nature of Knowledge in the Profession of Military Logistics

BY DR. CHRISTOPHER R. PAPANONE

How does the Department of Defense best educate and develop its logisticians? The author looks at how to frame military logistics knowledge holistically.

Last year I participated in a professional forum in which educators and practitioners came together to discuss how best to educate and develop Department of Defense (DOD) logisticians, be they military or civilian. The dominant theory of effectiveness seemed to be centered on the concept of “competency mapping,” where standardized abilities are superimposed on a hierarchy of professional growth and competencies become more sophisticated as one moves up the chain. On the surface, this seems a logical proposition that would drive DOD and civilian colleges to develop programs that would meet the needs (expressed in measurable competencies) of the field. Rather than critiquing the overall idea of competency mapping (my colleagues and I already published an extensive critique in the autumn 2004 issue of *Parameters*), I want to examine the idea from a philosophical perspective.

Professor Don M. Snider of the United States Military Academy has written extensively on how to analyze the military as a profession. His descriptive model of expert knowledge asserts that professions generate abstract knowledge that is applied to new situations and that the application of this knowledge is ultimately judged by the profession’s clientele. However, missing from his model has been a discussion of the philosophical nature of that knowledge, namely an absence of ontological and epistemological considerations.

Ontology is the study of being or existence (explanations of being a being) that one can interpret as the “objective-subjective” continuum. Aspects of knowledge of being fall somewhere on the line between that which is concrete (witnessed “objectively” by our five senses) and that which is conceptually created (things that we have “subjectively” constructed in abstract ways to make sense of the world). For example, while a manual requisition exists objectively as a piece of paper, it also exists through subjective meaning because we agree in our professional community that it is a request for delivery of supplies.

Epistemology (explanations of the origins of knowledge) involves examining the assumptions of generating knowledge that one construes along the

“simple-complex” continuum. For example, is knowledge best formed by breaking aspects of military logistics down into manageable pieces (the object of analysis) or by taking holistic approaches to appreciate the complexity of the entire logistics system (the object of synthesis)?

Rather than choosing which philosophical views are more advantageous for the professional knowledge of military logistics, my intent is to unify these otherwise competing philosophies—that is, to provide a macro-philosophy of knowledge that I believe will serve the profession well. This integrated view is formed by crossing the ontological continuum with the epistemological continuum. (See the chart on page 40.)

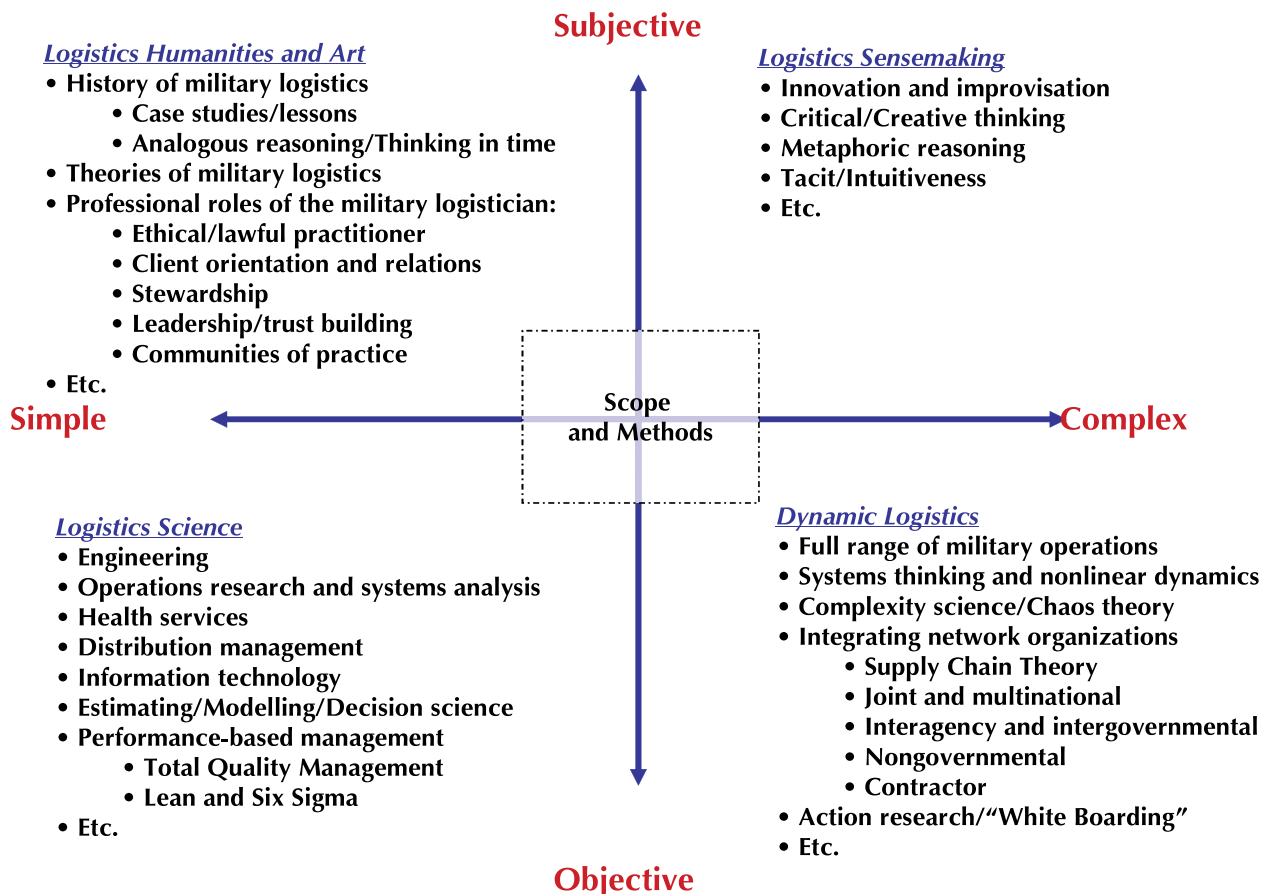
The resulting four ideal types of military logistics knowledge help us to see educational and developmental issues in a more holistic way. Let us now examine each ideal type separately—temporarily suspending the interconnectedness of the whole—before returning to discussion of the synthetic view.

Logistics Science

The lower-left quadrant of the chart depicts military logistics as a management science. As the scientific method demands, conducting logistics as a management science involves knowledge associated with breaking logistics problems down into simpler chunks that can be addressed with technically rational decisionmaking processes (such as isolating and defining the problem, developing alternatives, comparing them to “objective” criteria, and then selecting the best alternative). For example, the systems engineering science associated with developing the Standard Army Retail Supply System would create this sort of knowledge.

Knowledge based on the scientific method is very attractive to educators and budget programmers because curricula and programs can be rationalized with high degrees of precision and justified using pre-engineered “best” practices, even those borrowed from private organizations. This form of knowledge should be most familiar to institutions that train or educate for certainty (teaching facts rather than encouraging critical reasoning), where high reliability can be designed

Integrated Model of Military Logistics Knowledge



An integrated view of military logistics knowledge is created by crossing the ontological continuum (objective-subjective) with the epistemological continuum (simple-complex). Quadrants indicate four ideal types of knowledge. The upper-right quadrant signifies where the other three knowledge types are blended so that the professional logistician can make sense of a situation while operating under conditions of high complexity and subjectivity. The “scope and methods” of the field of military logistics require this integrative view.

into the science of military logistics. Logistics educators can be seduced by this idea of logistics knowledge that can be broken down into simpler “known knowns.” Some might relate this ideal type to “tactical logistics”; however, I do not agree for reasons explained later.

Logistics Humanities and Art

The upper-left quadrant of the chart represents the knowledge and creative spirit of the humanities and fine arts and how these disciplines may be applied to military logistics. The “art of logistics” would include examples of experiential learning accumulated by creatively crafting performance work statements for contracts, studying and extracting “what if” knowledge from historic case studies, and developing a moral sense of right and wrong when it comes to practicing military logistics.

Like a performing artist, the logistician strives to master the multifaceted roles of the military logistician by researching, reading, interpreting, rehearsing,

acting, and soliciting critical reviews from peers and the “audience.” Esprit de corps is also embedded in this type of knowledge and may be enhanced by cultural activities such as rituals, rites of passage, ceremonies, and the like.

Dynamic Logistics

The lower-right quadrant on the chart represents knowledge associated with logistics interplay among organizations and other functions. The blend of organizations and activities is a complex adaptive system that has a trajectory that is neither reproducible nor predictable. For example, when we form networks of interagency, nongovernmental, and intergovernmental organizations to cope with specific natural disasters in the United States, it is difficult to generalize whole learning from one situation to the next because each is unique.

In the case of Katrina relief operations, no preset organizational solution existed. Processes and relationships

had to be adapted into a workable interorganizational network to provide logistics as an ongoing learning-while-doing project. Knowledge is less stable here because, unlike science, there is no such thing as “best practice” resulting from one experience that can be generalized to others. As the ancient philosopher Heraclitus might have put it, logisticians cannot step into the same river twice. In that regard, action research (dynamic experimentation) may be the appropriate methodology.

Action research is a concept developed in the 1940s by the late Massachusetts Institute of Technology social-psychology professor Kurt Lewin. He turned the field away from solving complex problems with a best-practice approach, which is the idea behind military concept development, doctrine, and lessons-learned programs. Instead, he demonstrated a dynamic, real-time method of theorizing-while-practicing (analogous to today’s “white boarding”), resulting in continuous personal and (inter-) organizational development.

Prosecuting the simultaneity and complexity of the full range of military operations would require more of an action research approach to logistics. Variations on this methodology have included action science, cooperative and collaborative inquiry, action learning, and interactive science.

Logistics Sensemaking

The upper-right section represents the integration of old and the creation of new knowledge developed as the professional logistician borrows and mixes knowledge from the other three quadrants. Sensemaking about military logistics becomes more clinical and intuitive as the situation is viewed as more subjective and complex. It is difficult to capture this type of knowledge for two reasons. First, the knowledge is fleeting. It is developed experientially as the logistician deals with making sense of the complex situation at hand. As the situation quickly changes, the knowledge is rendered obsolete. Second, the knowledge is tacit. Tacit knowledge is difficult to share. This is knowledge that, according to Michael Polanyi in his book *The Tacit Dimension*, is experienced when “we know more than we can tell.” The inability to describe what they know helps explain why combatant commanders often have difficulty telling DOD and service school houses what they need and want in their logisticians (but they will “know it when they see it”).

Synthetic Views

Various knowledge perspectives can be synthesized from this framework. The quadrants on the left indicate that many aspects of school learning can be transferred from the field, based on the assumption of generalizable knowledge. The quadrants on the right signify the need for innovative logisticians who can work their

way through complexity. The upper quadrants reveal the need for military logisticians to have well-honed interpretation and explanation skills. (Professor Karl E. Weick at the University of Michigan refers to this as the ability to create “rich description.”) The lower quadrants demonstrate that the physical aspects of complicated dealings can be arranged by appreciating both traditional science and complexity science at the same time. The scope and methods of logistics involve learning associated with blending all knowledge approaches until something is workable (like explaining the difference between an “immature” and a “mature” theater of operations in the same way that improvisational jazz is compared to orchestral sheet music).

Competency Mapping Issues

With the integrated model in place, we now can see some of the inherent weaknesses of competency mapping. In situations of high complexity that require subjective judgment, we tend to seek lower-left knowledge solutions despite the danger that the preconceived competencies found or developed there can become “solutions looking for problems.” Competency mapping is equivalent to focusing only on the left quadrants of knowledge, where simplification is the dominant value. At the very least, proponents of competency mapping wish to document narrative stories into an upper-left quadrant type of knowledge, such as “history,” “best practices,” or “lessons learned.”

In many cases, such as in our military training and organizational design models, we are tempted to objectify and simplify learning to the point that the complex interplay of variables is lost. In the quest for simplification by reducing knowledge to tasks, conditions, and standards, we tend to force knowledge produced in the right quadrants into one of the left quadrants (for example, tactics, techniques, and procedures; doctrine, organization, training, materiel, leadership and education, personnel, and facilities [DOTMLPF] solutions; or case studies) when this may be inappropriate to the type of knowledge at work.

Competency mapping signals a propensity to want to attach competency levels to organizational and positional levels in order to promote the logisticians we need in a more “objective” way. Hence, we have ill-conceived notions of tactical, operational, and strategic logistics knowledge (associated with the lower-left quadrant) that drives our educational processes along the lines of developing people engineered to a corresponding rank and position.

The integrated framework presented in this article should give us pause because determining whether or not knowledge is strategic, operational, or tactical should depend on its contribution to the achievement of theater or national objectives and should not be confused with

positional or organizational levels. Given the complex nature of the right-quadrant types of knowledge, we cannot predetermine what is strategic, operational, or tactical in that regard. So, our education and development concepts are better tuned to applying the scope and methods of the four types of knowledge than trying to apply the levels of war as levels of organization or positional development.

The unstructured aspects of dynamic logistics and logistics sensemaking are very challenging because military institutions cannot pre-engineer their training and education programs around them (as they can do with logistics humanities and art and logistics science types). Nevertheless, the challenge has to be met, perhaps through “structuring the unstructured” by placing units, trainees, and students in as near free-play, highly complex situations as we can simulate or create through sophisticated “real-world” action research opportunities. The traditional “best practice” approach is replaced with a “reflective practice” approach.

As discussed extensively in the published works of Major Don Vandergriff, USA (Ret.), with his groundbreaking work on the Army Basic Officer Leadership Course II, the Army is capable of training and educating Soldiers to deal with dynamic and sensemaking opportunities and to be judged on their decisions in near-real time.

The movement toward network centricity in military organizational design and concept development also makes a lot of sense. Systems theory holds that

networked organizations are more highly adaptive, enabling the flexibility required in highly fluid situations. The reason is that all members of the network organization can be engaged in making sense of chaotic situations. This sensemaking through high quality human network connections can facilitate improvisation among the members of the logistics community (perhaps this is the principal task of the postmodern logistician). Finally, military logistics professionals have an obligation to pursue self-development in view of all of these types of knowledge.

In this article, I have attempted to offer a more holistic way of framing the nature of professional military logistics knowledge. It is my hope that the community of military logistics educators and practitioners can apply this framework when collaborating. I believe the framework, while limited in its specificity about what to do, is unlimited in its capacity to frame how to think about our abstract body of knowledge. I challenge the field to incorporate the framework in future discussions about the education and development of our profession or at least argue why not.

ALOG

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Robert D. Paulus, 4 September 2008.

Delivering Value Through Logistics

BY MAJOR JENNIFER M. STEPHENS

The most dynamic and diverse functional element on the Army battlefield is logistics. The effectiveness of this element determines the success or failure of the battle. For the maneuver commander to be successful, logistics must deliver value through its management. Furthermore, logistics is successful when the industrial base extends its assets into the hands of individual Soldiers located worldwide. To create long-term growth and success, the global market must play a role in the theater of operations. This relationship will allow Soldiers and battlefield sustainment systems to focus on achieving combat success.

The two topics discussed here are delivering value through logistics management in the Army and creating long-term growth by tapping into global markets. These topics go hand in hand because, regardless of the product or service, global enterprising will require logistics management. The Army is transforming itself into a business organization that creates efficiency in its marketing of assets and management of logistics. To be successful, the Army must deliver value through the management of Army logistics and create long-term growth by accessing global markets.

Value Creation

The article “Implications of the Revised Definition of Marketing: From Exchange to Value Creation,” in the *Journal of Public Policy and Marketing*, discusses how to “deliver value through customer relationships.”¹ The premise of the article is that more market value is created by developing consistent and meaningful customer relationships than by developing an exchange program using intermediary buyers and sellers of a product. By developing a good customer relationship, a business will maximize efforts and minimize time wasted in the supply train.

This value creation is developed “when two individuals/institutions with complementary resources are connected. Marketing functions (e.g., marketing-mix activities, selling, marketing research) all inherently strive for value creation”² and become an integral part of business. Applying this marketing philosophy to the Army logistics systems is no different than applying it to civilian business systems. The Army is a business, and part of that business is logistics and the marketing of new equipment.

Transforming Cold War Logistics

The end of the Cold War had profound effects on the philosophy of military logistics and the way the modern U.S. Army markets its capabilities. Former Army Chief of Staff General Gordon R. Sullivan began to “revamp our powerful but sluggish post-Cold War Army into a responsive, sustainable force capable of projecting, sustaining, and protecting our Nation's interest while fighting our wars well into the 21st century.”³

The restructure was a direct result of Operations Desert Shield and Desert Storm in 1990 and 1991. Stockpiling weapons, ammunition, and vehicles at various strategic sites around the theater of operations was a popular approach, especially on a linear battlefield. During the Cold War, it was possible to position supplies close to the theater of operations when the threat and the location of the attack forces were known. This is no longer the optimum method of providing logistics in this new era of force projection on the battlefield.⁴ The current battlefield is not clearly defined, nor is it linear, which requires logistics forces to be adaptable and flexible.

During the Cold War, forces were sustained through various lines of support; but now, with force projection and modern maneuver warfare, first, second, and third lines of support do not exist. Instead, forward support companies (FSCs) are attached to maneuver units. The FSCs maintain ties to the sustainment brigades, linking the tactical supply chain to the logistics base.

With pressure on defense budgets and the need to be able to undertake a larger number of operational tasks than had previously been considered, there has been a closer examination of how commercial organizations approach logistics and how to deliver value to Soldiers. Commercial businesses succeed through strategic marketing of resources and total-process views of the supply chain. The Army is now internalizing these processes within its daily operations. As a direct result of streamlining the logistics chain, the Department of Defense (DOD) adopted initiatives like “lean logistics” and “focused logistics” and acknowledged that they are smart ways of procuring, marketing, and distributing equipment for the fighting force.

¹ J. Sheth and C. Usley, “Implications of the Revised Definition of Marketing: From Exchange to Value Creation.” *Journal of Public Policy and Marketing* 26(2), 2007, p. 302. Retrieved from EBSCOHost Research Database; accessed 10 April 2008.

² *Ibid.*, p. 303.

³ T. Juskowiak, “Better, Stronger, Faster: Army Transformation and Early Entry Operations,” *Army Logistician* (November–December 2001). Online at <http://www.almc.army.mil/alog/issues/NovDec01/MS737.htm>; accessed 14 April 2008.

⁴ Juskowiak, p. 1.

Relevance of Marketing in the Army

In any business plan, the subject matter must be relevant to delivering value in an effective and efficient manner. In today's Global War on Terrorism, Army logisticians are on the front lines throughout the world. Logisticians' work, while difficult and often dangerous, ensures that warfighters have the supplies and mobility required to engage and defeat the enemy. Logisticians not only enable rapid deployment, effective execution, and long-term sustainment of agile, lethal, and mobile warfighting forces; they also act in conjunction with the civilian market to introduce new products to the Army and enable it to meet the challenges of the current security environment.

The need for strategic marketing for Army logistics capabilities is imperative. Companies waste large segments of their marketing budgets on communicating generic messages to a broad and undifferentiated target market. An organization must identify its unique value proposition and market niche and target messages toward prospective customers who most likely need what it is offering. Army logisticians are responsible for bringing civilian products to the Army market, and they share in the success or failure of that process.

Value Engineering

A strength of Army logistics is value engineering. Value engineering is a systematic process of analyzing functions to identify actions that reduce cost, increase quality, and improve mission capabilities across DOD systems, processes, and organizations. The DOD Value Engineering Program continues to be an incentive for the Government and its industry counterparts to improve the joint value proposition by promoting innovation and creativity.⁵ These innovative proposals seek best-value solutions as part of a successful business relationship. During fiscal year 2004, "1,723 in-house value engineering proposals and contractor-initiated value engineering change proposals were accepted with projected savings/cost avoidance in excess of \$1 billion."⁶ Adopting value engineering has saved the United States time, money, and Soldiers' time that would have been spent fielding ineffective or nonessential equipment.

Weaknesses

Logisticians are always dealing with things that are broken and problems that have to be solved. The Army is no different than any other organization. With the explosion of military globalization, getting the right equipment to the right Soldier at the right time can be slightly more than difficult. Marketing current capabilities to

the Soldier on the battlefield is limited by the quality of communications in remote areas. This can be a significant weakness in Army logistics. Early in Operation Iraqi Freedom, Soldiers in the Anbar Province of Iraq were operating in an area where Internet connectivity was nearly nonexistent. The Soldiers had to trek to a supporting forward operating base (FOB) to find current information on what was available for their use. As the years progressed, the Army attempted to use technology to correct this weakness. With web-based systems, such as the Logistics Support Agency's Integrated Logistics Analysis Program, it is easier for Soldiers in the field to see which pieces of equipment are in depot-level warehouses awaiting delivery to the theater. However, an Internet connection is required to successfully use such systems.

Current Trends

The military has begun to recognize the importance of logistics within a "cradle to grave" perspective.⁷ This means relying less on internal supply and transportation systems and relying more on contract logistics support to military operations. Currently in Iraq, this contract logistics support is performed through the Army's Logistics Civil Augmentation Program (LOGCAP). LOGCAP has an increasingly important role in sustaining operations around the world⁸ and has been a valuable marketing tool for the armed forces. Marketing and distributing timely logistics equipment and support "is critical in providing support for the Soldiers in our ongoing Global War on Terror and Army transformation efforts. Our Soldiers' effectiveness depends upon a sustained but flexible national commitment to equip and support them properly."⁹

One great thing about the Army is that it is in a constant stage of change. But one bad thing about constant change is having to market new technology to users on the battlefield. Information flow and internal marketing systems are crucial to mission success. Contractors that develop new pieces of equipment are doing their part and sending out representatives to take equipment to Soldiers in remote locations instead of expecting the Soldiers to find the contractor. Some contractors also provide ongoing training and maintenance support for their equipment. This is valuable in the contracting stage of new equipment and is part of the marketing plans of competitive organizations.

Tapping Into Global Markets

Business planning helps to manage the "effects of uncontrollable external factors on business strengths,

⁵ American Forces Press Service, "Department of Defense Value Engineering Achievement Awards" (June 2005). Online at <http://www.defenselink.mil/Releases/Release.aspx?ReleaseID=8595>; accessed 10 April 2008.

⁶ E. Cramer and W. Thurmond, *Acquisition and Logistics Excellence* 34(5), (September-October 2005) p. 84. Retrieved from EBSCOhost Research Database; accessed 19 March 2008.

⁷ Army Posture Statement 2008. Online at www.army.mil/aps/08/information_papers/transform/Army_G-4_Lean_Six_Sigma.html; accessed 14 April 2008.

⁸ C. Baldwin, "LOGCAP and the Warfighter: Army Material Command Seeks 'On the Ground' Perspectives." *Quartermaster Professional Bulletin* (2004). Online at http://www.quartermaster.army.mil/oqmg/Professional_Bulletin/2004/Winter04; accessed 14 April 2008.

⁹ Army Posture Statement 2008, p. 1.

weaknesses, and goals. However, the biggest difference in planning for global markets . . . [is] the degree of localization [required] to market a product or service.”¹⁰ In the case of operations in Iraq, localization is an important consideration. Localization of the intended service is paramount to successful product placement. Anbar Province, for example, has rudimentary technology, so it requires high amounts of individual man-hours to get the product to the user—in this case the Soldier.

The Department of the Army G-4 manages the provision of materiel for Soldiers worldwide—a task that has remained the same for years. Today’s operational environment has changed; the United States is a nation at war, and the Army is the primary force that must be relevant and ready. The most critical tasks of the G-4 are to sustain the combat readiness of the deployed force and to maintain the operational readiness of the current force in the United States. The current force provides the warfighting readiness that serves our Nation, and the deployed force is replaced on a rotational basis. The fundamental challenge within the G-4 is to enhance the current capabilities and bring new and effective equipment to market. The G-4 must simultaneously transform Army logistics for tomorrow with effective marketing and distribution plans for future equipment.

NATO’s Role

The Army logistics program is strengthened by involving the Nation’s allied forces. Getting equipment to the Soldier on a large scale requires global procurement, marketing, and distribution efforts. As a result of this need, the North Atlantic Treaty Organization (NATO) devised principles of logistics for the companies that market and distribute equipment to its member nations. Some of the main principles of logistics accepted by NATO are the “design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel.”¹¹ Allied forces are “making moves towards improved distribution and inventory.”¹²

The NATO principles of logistics are also standards of the U.S. Army. The current military environment in which they are applied can be seen in current operations in Iraq, where marketing and distribution companies are adapting their business models to military logistics.

Contractors’ Role

During Operation Desert Storm, the Army’s concern was focused on significant deficiencies in force readiness and the ability to rapidly mobilize, deploy, and fight.

Correcting the many problems presented a broad challenge to those responsible for logistics support. While materiel readiness remained a very important part of this challenge, it became apparent that the ability to receive units into the theater, integrate them into the operation, and sustain them as long as necessary was vital to successful support of the Army. Decisions in recent years to reduce supporting forces, thereby increasing the combat-to-support ratio and providing more initial fighting punch, have made maintaining this ability more difficult.

So the Army has increasingly turned to contractors to market, procure, distribute, and maintain equipment and provide services to Soldiers through programs such as LOGCAP. According to Marine Corps Major General Walter E. Gaskin, the commanding general of Multinational Force West in Anbar Province, “the building of logistics capability across the Iraqi forces continues to be a challenging, but doable task.”¹³ General Gaskin recognizes some progress but also a need for continued growth. The past years have seen some improvement in many of the Army’s logistics programs in the area. Among logisticians, there has been a heightened awareness that improvement must not only continue but also expand and accelerate to help ensure a sufficient level of force readiness in the future.

Logistics Improvements for the Army

What is being done in the areas needing improvement? First and foremost, there must be a link from Army logistics management to the global market. At Logistics Support Area Anaconda in Iraq, one unit is rising to the task and adapting to the new modular Army. The 316th Expeditionary Sustainment Command (ESC) assumed authority of the logistics support mission for the Iraqi theater from the 13th Sustainment Command (Expeditionary) in 2007. The 316th ESC was “the first command to use the Army’s new modular force logistics structure. This structure changes the way we provide logistics support on the battlefields today.”¹⁴ The transition of bringing logistics in modular form to maneuver forces marked a new chapter for the Army.

Another example of a current trend in Iraq is the use of signal-jamming improvised explosive device (IED) countermeasure equipment (ICE). ICE is a radio-controlled IED countermeasure that is completely made up of commercial-off-the-shelf technology marketed by civilian companies contracted to work with DOD. ICE is identified as a preventive solution to IED casualties, and the Army has adopted the system because of its continued

¹⁰ L. Delaney, “Global Local Color.” *Entrepreneur* (December 2007), p. 104. Retrieved from EBSCOhost Research Database; accessed 11 April 2008.

¹¹ The NATO Logistics Handbook, Third Edition, October 1997. Online at <http://www.otan.nato.int/docu/logi-en/logist97.htm>; accessed 11 April 2008.

¹² C. Price-White, “NATO Faces a New Supply Front.” *Frontline Solutions Europe* 11(7), (2002) pp. 56–57. Retrieved from EBSCOHost Research Database; accessed 14 April 2008.

¹³ G. Gilmore, “Anbar Situation Has ‘Turned the Corner,’ U.S. General Says,” American Forces Press Service (July 2007). Online at <http://www.defenselink.mil/news/newsarticle.aspx?id=46792>; accessed 14 April 2008.

¹⁴ Army News Service, “Army Logistics Beginning New Chapter in Iraq.” *Defense AT & L* 36(6), (August 9, 2007), pp. 47–48. Retrieved from EBSCOHost Research Database; accessed 1 April 2008.

proven success in reducing serious casualties.¹⁵ ICE is a jamming system mounted on military vehicles and uses low-power radio frequency energy to block the signals of radio-controlled explosives initiators, such as cell phones, satellite phones, and long-range cordless telephones.¹⁶ The number of casualties on the battlefield has decreased through the use of this countermeasure.

Another piece of relatively new equipment for the Soldier is the Army combat uniform (ACU). This uniform increases performance capabilities through the application of new camouflage technologies, functional fabric finishes, and design engineering. It also reduces sustainment costs. Bringing this uniform to market required scientists to fuse a variety of terrain environments into a single visual camouflage design by analyzing terrain types and then incorporating the results into an acceptable digitized pattern. The ACU includes a coat, trousers, a moisture-wicking t-shirt, a rigger-style belt, improved moisture-wicking anti-blister socks, and no-shine tan combat boots. The Chief of Staff of the Army approved the ACU to replace the battle dress uniform and the desert camouflage uniform in 2005. Ultimately, the uniform is designed to reduce maintenance costs and increase functionality on the battlefield.¹⁷

Finally, the Global Combat Support System-Army (Field/Tactical) (GCSS-Army [F/T]) allows combatant commanders to remain relevant and ready in the new modular Army. Getting this system to the field requires a marketing campaign that allows field units to embrace the system as part of their established work routine. The benefits of this system range from high-level advantages, like maximizing Army warfighting readiness and relevance, to low-level advantages that improve how Soldiers perform their daily duties.¹⁸ The system fully automates tactical logistics support of the new modular Army and serves as a major component of the critical cradle-to-grave support philosophy that the Army is trying to achieve. It also reduces uncertainty in logistics marketing and makes logistics distribution more reliable and predictable.

GCSS-Army (F/T) provides asset visibility and enables system and transaction problems to be identified and fixed in near-real time. Commanders in theater can watch their equipment moving from the manufacturer through the depot to the point of delivery at the FOB. GCSS-Army (F/T) brings together Army tactical logistics enterprises and the other services' logistics systems to facilitate joint operations and reduce redundancy. Real knowledge of

supply and movement factors must be the basis of every leader's plan; only with knowledge can he know how and when to take risks. With so much inventory maintained in the Army, taking calculated risks with marketing and delivering products can win battles and wars.

Logistics planners and commanders at all levels now have access to complete, up-to-date, and reliable logistics information for battle preparation and sustainment. The centralized logistics database enables war planners to "see" on-hand equipment and determine its readiness condition. Real-time, universal access to actionable and reliable data will speed the completion of logistics transactions and facilitate shipment processing and flow. The right piece of equipment will get to the right Soldier at the right time, which is the ultimate goal.¹⁹

Building on this success, the Army G-4 has stated that it will supply the force by focusing its efforts on four clear imperatives: Connect Army logisticians, modernize theater marketing and distribution through new tracking systems, improve force reception, and integrate the supply chain. GCSS-Army (F/T) will revolutionize Army logistics in Active and Reserve component units, standardize most logistics business processes, and serve as a primary enabler of Army Forces Generation.²⁰

The Soldier on the battlefield "wants logistics where he needs it, when he needs it, with the right quality and quantity, every time."²¹ Army logisticians will continue to build confidence in the minds of the combatant commanders by delivering sustainment on time every time. Delivering sustainment through effective marketing and distribution can only be done if Army logisticians have the ability to see the requirements and control the distribution to guarantee precise support within the commanders' timeframes. Army logisticians can be part of a global market that increases speed to deliver focused logistics. If the Army logistician is connected, there will most assuredly be improved distribution systems, modernized force reception, and integrated supply management. **ALOG**

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¹⁵ Army Research Laboratories, "Army's Greatest Inventions of 2004." Online at <http://www.dacp16.net/2004ArmyGreatestinv.htm>; accessed 14 April 2008.

¹⁶ C. Wilson, *Improvised Explosive Devices in Iraq: Effects and Countermeasures*. CRS Report for Congress (November 2005), pp. 1–6. Online at <http://ipc.state.gov/documents/organization/57512.pdf>; accessed 14 April 2008.

¹⁷ Army Developmental Test Command, "New Army Combat Uniform" (2005). Online at <http://www.dtc.army.mil/ig/newACU.aspx>; accessed 12 April 2008.

¹⁸ GCSS-Army, *Global Combat Support System-Army (Field/Tactical)* (2008). Online at <https://www.gcssarmy.lee.army.mil/ft/index.html>; accessed 2 April 2008.

¹⁹ *Ibid.*

²⁰ Army logistics white paper. *Defense AT & L 33(2)*, (March–April 2004) pp.48–50. Retrieved from EBSCOhost Research Database; accessed 19 March 2008.

²¹ Juskowiak, p. 1.

ALOG NEWS

DLA TO PURCHASE REPARABLE ITEM "SPARES" FOR ARMY AND OTHER SERVICES

The Defense Logistics Agency (DLA) will now procure depot-level reparable (DLR) items for the Army and the other services. The Army Materiel Command (AMC) previously ordered depot-level reparables, such as new tank engines, radar components, electronics, and helicopter engines, for the Army. The transfer of depot-level reparables procurement to DLA is the result of a Base Closure and Realignment (BRAC) Commission recommendation. DLA's ability to provide "joint acquisitions" allows the agency to purchase similar items for all services at the same time. DLA estimates that the move will save the Department of Defense \$1.9 billion dollars over the next 20 years.

"Each of the services will still be responsible for managing the DLR items, maintaining the inventory, selling the item to the units, etc.," says Gene Duncan, Army Contracting Command deputy director. "The only thing that changes is that, instead of turning to their local acquisition centers, the services will go to DLA to buy them."

Some 68 AMC Acquisition Center employees based at Redstone Arsenal, Alabama, have moved to the new DLA detachment there to handle the mission at the arsenal. The Redstone Arsenal detachment should complete its transition by 2009. BRAC calls for additional DLA acquisition detachments at AMC's life-cycle management commands to be operational by 2011. A total of 188 Army positions will move to DLA. Many will "transfer in place."

NEW CONDITION-BASED MAINTENANCE TOOLS COMING TO ARMY AVIATION

Bell Helicopter and the Army Aviation Applied Technology Directorate have signed a 3-year agreement to develop and improve condition-based

maintenance (CBM) technologies for Army aircraft. The agreement will include an integrated set of diagnostic, prognostic, and system health assessment tools to support Army operations support and sustainment technology objectives. The technologies will include corrosion detection, electrical component prognostics, fatigue damage detection, and various rotor system prognostics. They promise to save the Department of Defense (DOD) money and man-hours by aiding DOD's initiative to transition the maintenance of weapon systems from time-based maintenance to condition-based maintenance plus (CBM+) by 2015.

Currently, aviation maintenance is performed on time schedules that are based on operating hours or a set number of days. The maintenance may or may not be necessary, which can result in unnecessary man-hours and replacement of parts. CBM+ will emplace maintenance processes and capabilities to improve operational availability and reduce the maintenance burden.

By 2010, the Army aims to meet Science and Technology goals (measured against a 2005 fielded aircraft baseline) for aviation that include—

- Reducing inspections per flight-hour by 25 percent.
- Reducing maintenance labor per flight-hour by 8 percent.
- Increasing the component mean time between removals by 10 percent.
- Achieving a less than 10 percent false removal rate.

All of this will be done through advances in CBM technology that allow the reduction of inspections and preventive maintenance, expansion of serviceability criteria, extension of time between overhaul, and prediction of failure with sufficient fidelity to allow scheduling of maintenance.

Open system architecture and data standardization will allow the insertion of new technology into existing aircraft systems. These technologies will be added to the aircraft platforms through revisions and block upgrades and are compatible with the health and usage monitoring systems currently used on Army aircraft.

Army Logistician sadly announces the death of former editor Terry R. Speights on 30 August 2008. A native of Mississippi and an Air Force veteran, Terry joined the staff of *Army Logistician* in 1970, during the magazine's first year of operation. As senior associate editor under *Army Logistician's* first editor, Thomas A. Johnson, and then as editor following Mr. Johnson's

retirement, Terry was the primary person responsible for the magazine's editorial content for over a quarter century. He became editor in 1987 and served until his retirement at the end of 1996. Terry was the consummate journalistic professional. He was always courteous and positive, his contributions to the publication were great, and he will be missed by all who knew him.

TWO ARMY UNITS WIN DEFENSE MAINTENANCE AWARDS

The Army picked up two of six 2008 Secretary of Defense awards for field-level maintenance. The 3d Battalion, 43d Air Defense Artillery Regiment, at Fort Bliss, Texas, received an award in the large unit category. Company B, 610th Brigade Support Battalion, at Fort Riley, Kansas, received honors in the small unit category. The Secretary of Defense field-level maintenance awards recognize outstanding achievement in military equipment and weapon systems maintenance throughout the Department of Defense. The awards were to be presented 29 October in Denver, Colorado, at the 2008 Maintenance Symposium and Exhibition.

An Army medic accesses medical records using the MC4 handheld device. The technology gives medical providers the ability to record, store, retrieve, and transfer patient records.



The Secretary of the Army recognized both Army recipients earlier this year.

MORE THAN 5 MILLION BATTLEFIELD MEDICAL RECORDS GO DIGITAL

The Medical Communications for Combat Casualty Care (MC4) system has collected more than 5 million electronic medical records since its inception in 2003. Currently, Army and Air Force medical facilities in Sinai, Egypt, as well as Army Special Forces, Navy, and Marine providers throughout Southwest Asia, use MC4's handheld devices and laptops to digitally document patient care in combat zones. (See related story on page 20.)

More than 24,000 systems have deployed to medical units in Iraq and 13 other countries, and more than 26,000 field medics, doctors, nurses, and commanders have been trained to use the systems in combat support hospitals and battalion aid stations.

The technology and the digital records have provided increased continuity of care, given providers up-to-date information resulting in fewer repeat procedures, and improved medical situational awareness for commanders so that medical resources and personnel are better placed on the battlefield.

MC4 is the Army's response to Presidential and Congressional mandates to adjust how the Department of Defense tracks medical records. The system was chosen after thousands of Gulf War veterans returned from duty without records of combat-related illnesses and injuries. This lack of records resulted in the loss of benefits for some veterans.

Information recorded using MC4 is available to service members when they return home and can obtain healthcare benefits from the Department of Veterans Affairs.



The environmentally controlled MIRCS system is self-sustainable for 24 to 72 hours and features a refrigerated remains storage compartment (inset) that can continuously cool 16 remains. Technicians can use this height-adjustable gurney to retrieve remains from storage.

NEW MORTUARY AFFAIRS TECHNOLOGY TO PROVIDE GREATER BATTLEFIELD MOBILITY

The Army Combined Arms Support Command and Product Manager Force Sustainment Systems have developed a new system for processing and handling remains on the battlefield. The mobile integrated remains collection system (MIRCS) will decrease the time a mortuary affairs team needs to process remains by being easy to transport and setup.

The MIRCS is an expandable International Organization for Standardization shelter that contains a receiving and processing area, a refrigerated storage area for up to 16 remains, an administrative area, and storage for required operational supplies. The environmentally controlled system can operate in extreme temperatures. The air is changed 12 times per hour in the work areas to protect personnel from airborne pathogens. An on-board 15-kilowatt generator provides power to run all onboard systems. An onboard fuel tank allows for self-sustaining operations for 24 to 72 hours.

The MIRCS and its associated equipment provide a more sanitary environment to mortuary affairs teams, overcoming an existing problem with the current system. The MIRCS provides running hot and

cold water, pumped from external sources, for use in sanitizing personnel and equipment. The system has the capability to store wastewater, and a separate specifically designed collapsible shelter protects up to 24 remains (awaiting processing) from the elements.

The MIRCS eliminates cumbersome frame tents used with the current mortuary affairs collection point gear, which comprises two 5-ton tractors, a 20-foot refrigerated container, three frame tents, a 10-kilowatt generator, a 30-foot flatbed trailer, 300-gallon water trailer, and 12 sets of camouflage.

The current mortuary affairs collection point equipment requires two C-17 aircraft for transport. One C-17 can transport the MIRCS. The new collection point equipment will consist of one heavy expanded mobility tactical truck (or a similar vehicle with a load handling system), a high mobility multipurpose-wheeled vehicle (to move additional team members), and the MIRCS.

The MIRCS can also be airlifted by a CH-47 Chinook helicopter—a feature not available with current equipment. Sling-loading will allow use of the equipment in more remote locations on the battlefield or in a disaster scenario.

The change in configuration reduces setup time from 4 hours to 1 hour, allowing the forward collection

platoon personnel of a mortuary affairs collection company to more rapidly receive, store, process, and evacuate remains and personal effects at the collection point. Mortuary affairs units will begin receiving the MIRCS in late 2009.

REALIGNMENTS SWITCH ARMY DEPOT SUPPLY FUNCTIONS TO DLA

The Army will transfer the management of supply, storage, and distribution (SS&D) functions at three of its maintenance depots to the Defense Logistics Agency (DLA) by 15 September 2011. The affected Army depots are Anniston, Alabama; Corpus Christi, Texas; and Tobyhanna, Pennsylvania.

The transfer, directed by the 2005 Base Closure and Realignment Commission, is part of a larger consolidation of SS&D functions and associated inventories with those of the supporting military services' industrial activities. While SS&D management of the Army maintenance depots' inventories will transfer to DLA, the Army will continue to procure and maintain ownership of materials for use in depot maintenance missions.

The transfer will support the Army's efforts to develop a collaborative, integrated, "end-to-end" Army and DLA supply chain. The Army will be

the last service to go through the transition since it is in the process of converting legacy maintenance depot automated management information systems to the Logistics Modernization Program enterprise resource plan. The Air Force is shifting its SS&D functions to DLA during fiscal year 2008, followed by the Navy in late 2008 and 2009, the Marine Corps in 2009 and 2010, and Army in 2010 and 2011.

EMERGENCY VEHICLES TO BE DELIVERED TO AFGHANISTAN IN DECEMBER

The Army Tank-automotive and Armaments Command has awarded a 3-year contract to Pierce Manufacturing Inc., an Oshkosh Corporation company, to build emergency response vehicles. The company will initially build 68 Pierce minipumper fire emergency vehicles for use in Operation Enduring Freedom by U.S. Soldiers and the Afghan National Police. The first vehicles are scheduled for delivery to Kabul, Afghanistan, in December.

The vehicles are designed for emergency medical services, fire response, and rescue operations in the mountainous Afghan terrain. The vehicles are built on Ford Super Duty F550XL frames and have 325-horsepower engines. Each vehicle is equipped with a side-mounted control panel that manages a



General Dynamics Land System employees strip slat armor off a Stryker vehicle from the 4th Stryker Brigade Combat Team, 2d Infantry Division. Five thousand pounds of slat armor had been installed on the brigade's 280 Stryker vehicles in preparation for its surge north in Iraq last year. The 4th BCT saw extensive combat in the province of Diyala. The deslating, which occurred in June at Camp Arifjan, Kuwait, prepared the vehicles to be refurbished and further employed under the Army Reset Program. (Photo by Jim Hinnant, 401st Army Field Support Brigade)



The Green Springs, an Army vessel from the 10th Support Group, 8th Theater Sustainment Command, in Okinawa, Japan, leads a convoy of tugs, landing craft mechanized, and landing craft utility during Exercise Pacific Reach '08. The exercise near Yokohama provided training to more than 200 Army mariners, civilians, and Department of Defense contractors. It also provided an opportunity for the 403d Army Field Support Brigade to validate activation procedures and readiness of select Army pre-positioned stocks 4 watercraft. (Photo by Corey Horn.)

250-gallon per-minute water pump and has 54 cubic feet of storage space.

TRANSCOM TESTING CARGO TRACKING ABILITY OF SATELLITE TECHNOLOGY

The U.S. Transportation Command (TRANSCOM) and Numerex Corporation of Atlanta, Georgia, signed a cooperative research and development agreement in May to determine the ability of Numerex's satellite tracking device, the Orbit One SX1, to monitor military cargo. As part of the agreement, Numerex will test its military-grade tracking module against a range of operational environments, making sure that it is suitable for use in Iraq and Afghanistan. The company also will test the device to ensure that it meets the certification requirements for hazards of electromagnetic radiation to ordnance.

The reliable satellite technology could provide logisticians with real-time visibility throughout the distribution process—an imperative of the Army Deputy Chief of Staff, G-4, set in 2003. The SX1 is expected to be able provide visibility of supplies en route to forward operating bases—technology that has yet to be developed for the active radio frequency identification device (RFID) tag and interrogator system currently used by the Army. Right now, once

supplies leave the RFID interrogator infrastructure, visibility is lost.

The SX1 research and development testing is taking place at UNICOR, a Defense Logistics Agency-certified testing facility in Colorado run by Federal Prisons Industries, Inc. Once testing is completed, a national stock number will be issued and the devices will be placed on the military's qualified product list.

DEFENSE LOGISTICS AGENCY WANTS HELP GOING GREEN

A new Green Products team at the Defense Logistics Agency (DLA) is locating green products to include in the supply system. Green products are those that are energy saving or nontoxic or contain recycled content or low levels of volatile organic compounds. In order to make the process more efficient, DLA is asking customers to identify high-demand and hard-to-find green products. Customers who know of locally-purchased products they would like to see available through the supply system or of a green alternative to a hazardous material can contact the Green Products team by email at GreenProducts@dla.mil, by phone at (804) 279-5226, or via their web-based form at www.dscr.dla.mil/userweb/aviationengineering/BUY_GREEN/buygreen_form.asp.

PROFESSIONAL DEVELOPMENT

TLog GRADUATES TO RECEIVE “P1” SKILL IDENTIFIER

The Army Deputy Chief of Staff, G-1, has approved a proposal from the Army Combined Arms Support Command to create a skill identifier for personnel who have attended the Theater Logistics Studies Program (TLog) and to code positions in the force structure for those graduates. Logistics officers who receive the new skill identifier, P1, will be slotted into logistics positions in operational logistics units, such as theater sustainment commands, expeditionary sustainment commands, and sustainment brigades, or on joint and multinational staffs.

Establishment of the skill identifier will allow effective tracking of graduates and position requirements, ensuring career-long use of the graduates' knowledge, skills, and abilities.

The Army Logistics Management College at Fort Lee, Virginia, offers TLog to logistics officers in the ranks of O-3 and above who have at least 7 years of service and civilians in the grades of GS-13 and above with at least 5 years of logistics experience. Warrant officers can attend TLog by exception. For more information, view the ALMC course catalog online at www.almc.army.mil/ALMC_CATALOG.PDF.

ASSESSMENT AND FEEDBACK PROGRAM TO IMPROVE LEADERSHIP TRAINING

The Multi-Source Assessment and Feedback (MSAF) Program is a new Army tool that assesses individual and organizational leadership strengths and weaknesses through a 360-degree assessment. The program gives peers, subordinates, and supervisors (at all levels) the opportunity to honestly assess each other's performance without fear of reprisal because the information in MSAF is confidential. MSAF also provides individual feedback related to the eight leader competencies described in Field Manual 6-22, Army Leadership.

MSAF started as a pilot program in 2004 to raise self-awareness and guide skill improvement for Army leaders. MSAF will continue this mission by assessing the training and education of officers, warrant officers, noncommissioned officers, and Army civilians in all components.

Individuals may use MSAF at any time for self-development. Professional Military Education (PME) and Civilian Education System (CES) courses now require participants to initiate a self-assessment before attending class. PME students will receive notification through the Army Training Requirements and Resources System. CES students will be notified through the Civilian Human Resources Training Application System.

Students will select individuals they served with at their last assignments to evaluate their leadership skills. Once the assessment is complete, students will receive an individual feedback report. Students can then meet with an instructor and use the results to construct an individual development plan.

Only the person who initiated the assessment will have access to the feedback it provides. Commanders will not have access to individual feedback reports for their subordinate leaders, but they will receive a cumulative report for their organizations that contains no information identifying individuals.

The Officer Education System (OES) Intermediate Level Education (ILE) was the first to use MSAF. The Sergeants Major Course is next. The other PME schools will follow in the first half of fiscal year 2009. The CES will phase in MSAF, starting with the Advanced Course in the first quarter of fiscal year 2009 and ending with the Basic Course in the third quarter of fiscal year 2009.

MSAF assessment tools and feedback are available through the My Leader Development section of Army Knowledge Online or by logging onto <https://msaf.army.mil>.

COUNSELING CLASS AVAILABLE ON LINE

A new online developmental counseling course is available to Army leaders. The Center for Army Leadership at Fort Leavenworth, Kansas, released the course, which covers types of counseling, leaders as counselors, and the counseling process. The 11 hours of instruction are based on the Army's newest leadership doctrine, Field Manual (FM) 6-22, Army Leadership. The course and its accompanying FM are available on the Combined Arms Center website at <http://usacac.army.mil/cac2/digitalpublications.asp>.

Writing for *Army Logistician*

If you are interested in submitting an article to *Army Logistician*, here are a few suggestions that may be helpful. Before you begin writing, review a past issue of *Army Logistician*; 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 Logistician's* readership is broad; do not assume that those reading your article are necessarily Soldiers or that they have background knowledge of your subject.

Do not worry too much about length; just tell your story, and we will work with you if length is a problem. However, if your article is more than 4,000 words, you can expect some cutting.

The word limit does not apply to *Spectrum* articles. *Spectrum* is a department of *Army Logistician* intended to present researched, referenced articles typical of a scholarly journal. *Spectrum* articles can be longer than standard feature articles and are published with footnotes.

Instructions for Submitting an Article

Do not submit your article in a layout format. A simple Word document is best. Do not embed photos, charts, or other graphics in your text. Any graphics you think will work well in illustrating your article should be submitted as separate files. Make sure that all graphics can be opened for editing by the *Army Logistician* staff.

Photos are a great asset for most articles, so we strongly encourage them. Photos may be in color or black and white. Photos submitted electronically must have a resolution of at least 300 dpi (.jpg or .tif). Make sure to include a description of what each photo depicts. Please try to minimize use of PowerPoint charts; they usually do not reproduce well, and we seldom have the space to make them as large as they should be.

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Submit your article by email to leealog@conus.army.mil or by mail to EDITOR ARMY LOGISTICIAN/ALMC/2401 QUARTERS RD/FT LEE VA 23801-1705. If you send your article by mail, please include a copy on floppy disk if possible. We look forward to hearing from you.

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- **The 3d Sustainment Brigade in Iraq**
- **Sense and Respond Logistics at the Unit Level**
- **United States-United Kingdom Interoperability**
- **Army Logistics Knowledge Management and the SALE**
- **Protecting Our Logistics Assets**
- **Army Fuel and Lubricant Contributions**
- **Added Combat Multipliers**
- **21st Theater Sustainment Command RSOI**
- **The Logistics Transition Team**
- **Improving Materiel Readiness for the Joint Warfighter**
- **Preparing for the Stryker Brigade Blue to Green Transition**

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