ARMY LOGISTICIAN

JANUARY–FEBRUARY 2008

Logistics in OEF VII:
The 710th BSB

Also in this issue:

**An Interview With the Army's Senior
 Enlisted Logistician**

**Five Key Areas of the 4th Sustainment
 Brigade's Success**

ARMY LOGISTICIAN

PROFESSIONAL BULLETIN OF UNITED STATES ARMY LOGISTICS

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0729703

Email address:
leeealog@conus.army.mil

World Wide Web address:
www.almc.army.mil/alog

This issue of *Army Logistician* marks the debut of **_Spectrum_**, a new department devoted to carefully researched and referenced articles that are intended to be thought provoking and intellectually challenging. The first **_Spectrum_** article begins on page **34**.

Cover: On the cover, Soldiers hook up sling loads to a CH–47 Chinook helicopter at Forward Operating Base Blessing in Afghanistan. Because logisticians in Operation Enduring Freedom must sustain widely dispersed units while contending with poor or nonexistent roads, mountainous terrain, and a treacherous enemy, aerial resupply has become a critical facet of logistics operations, as the 710th Brigade Support Battalion (BSB) learned during its deployment. Articles beginning on page **12** examine aspects of the 710th BSB's experience. *(Photo by SSG Marcus J. Quarterman, 982d Combat Camera Company.)*

R–CAATs: Bridging the Information Gap

BY MAJOR GENERAL MITCHELL H. STEVENSON

As the Army continues to prosecute the Global War on Terrorism, it is simultaneously undertaking some of the most far-reaching changes in its history. In this period of both war and transformation, the current operations in Iraq and Afghanistan provide Army logisticians with the opportunity to see how well new concepts, new organizations, and new tactics, techniques, and procedures perform under actual combat conditions. Our logistics warriors are learning lessons each day about what works and what doesn't work in the field, and we need to capture that information for our doctrine, concepts, and training developers, as well as our schoolhouse instructors and educators. We cannot afford to have an information gap between what we are teaching (the generating force) and what is being learned in the field (the operating force).

However, amassing information from units deployed in theater is harder than it sounds. Our solution has been to take a well-established process for gathering information and developing lessons learned—the Collection and Analysis Team (CAAT) program used by the Center for Army Lessons Learned (CALL) at Fort Leavenworth, Kansas—and reverse it. The result is the Reverse-Collection and Analysis Team (R–CAAT) program.

What do I mean by "reversing" the CAAT process? Simply put, instead of taking a limited number of data collectors to the unit to bring back information and try to pass it on to those who need to work with it without losing anything in translation, an R–CAAT event brings recently redeployed sustainment commanders and key personnel from the unit to our Army Combined Arms Support Command (CASCOM) staff and schools.

The R–CAAT program was initiated in May 2006. Commanders of recently redeployed logistics organizations in theater and some of their direct support staff are invited to visit CASCOM and update senior leaders and Army Logistics Management College (ALMC) and Quartermaster School students and instructors on observations, insights, and lessons (OILs) collected during their deployments. CASCOM and school personnel, working closely with CALL, then can turn this information into lessons learned that can be used to change behavior and adjust sustainment products across the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) domains.

For example, over a series of four R–CAAT sessions with sustainment brigade command teams, it became clear that the mounted crew gunnery skills of convoy escort teams needed to be enhanced. The brigade leaders gave us a good picture of the current operational requirement for sustainment forces to defend themselves, and we have incorporated their feedback into a new gunnery strategy, complete with gunnery tables and associated doctrine for convoy protection.

R–CAATs also help to verify if doctrine—written largely based on concepts—actually works. The "lessons learned" challenge has always been trying to determine what is truly a lesson learned and what is just someone's opinion gleaned from written reports. R–CAATs are an information collection flagship for us because they allow the *entire* CASCOM staff—combat and training developers—to hear it *from the source* and, more importantly, to discuss and debate with those who know what they actually experienced.

Partnering with CALL, the R–CAAT program pairs CASCOM staff members with leaders from redeployed combat service support units to bridge the information gap between the generating and operating forces. Over 2 or 3 days, the recently redeployed leaders describe their OILs to the CASCOM staff through professional development and directorate roundtable sessions. The staff members of the individual directorates engage the R–CAAT teams in depth, conducting discussions with the command teams on concepts, training, doctrine, tactics, and unit design.

No method of learning lessons from the field is more valuable than having experienced commanders and leaders who have been there—in the theater—exchange their views and ideas directly with the subject-matter experts who develop logistics training and doctrine. That kind of dialog cannot be replicated on paper. You've got to have them sit across the table from each other and talk face to face.

We also videotape R–CAAT sessions and then catalog and upload them to CALL and to CASCOM's Sustainment Knowledge Network so they will be available across the Army. Each leader professional development briefing is transcribed, along with the unit's briefing slides, into an R–CAAT series for CALL to distribute to an Army-wide audience. That's what knowledge management is about: slicing and dicing and packaging knowledge so customers Army-wide—generating force and operating force—can use the information to meet their needs.

The cumulative knowledge provided by the R–CAATs has been invaluable to doctrine, training, and combat developers in CASCOM and to junior leaders at ALMC and the Quartermaster School (and soon also the Ordnance and Transportation Schools), allowing them to analyze and scrutinize battle-tested best practices. The result of the R–CAAT process is an improved ability to make doctrinal manuals and platform instruction more effective and relevant to the rapidly changing wartime environment. For those of you who are now deployed or about to deploy, keep us in mind. We look forward to hearing from you and making you a part of the doctrine, training, organization design, and materiel requirements for our future!

MAJOR GENERAL MITCHELL H. STEVENSON IS THE COMMANDING GENERAL OF THE ARMY COMBINED ARMS SUPPORT COMMAND AND FORT LEE, VIRGINIA.

An Interview With the Army's Senior Enlisted Logistician

by Command Sergeant Major Daniel K. Elder and Diana Dawa

Command Sergeant Major Daniel K. Elder is the 12th command sergeant major of the Army Materiel Command (AMC) at Fort Belvoir, Virginia. Considered the top enlisted logistics Soldier in the Army, Command Sergeant Major Elder travels throughout the command, visiting commanders and troops and gaining feedback on equipment, Soldier development, and the way ahead for AMC. In this interview, he shares his views on three topics: the multifunctional logistics Soldier, the pentathlete, and transformation.

What do you see as the changing nature of the duties of the logistics Soldier?

One of the things that has been apparent to me since the beginning of the Global War on Terrorism—particularly as we have had high deployments—is the changing nature in warfare and how noncommissioned officer [NCO] logisticians participate.

It has been obvious over the last 10 to 15 years that, in the changing nature of the modern battlefield, there are no front lines or rear areas. In past Army doctrine, logisticians operated behind enemy lines. Because of that [change in the battlefield], the way that we trained, the way that we equipped, and the way that we funded logistics units have had to change. Warfare has changed so there are no front lines. Our logistics Soldiers—in general, I'm talking about those in maintenance (whether it's mechanical, automotive, aircraft, or electronic maintenance), supply, quartermaster, or transportation support—that support the combat services and the way that we operated have changed and continue to have a need to evolve over time.

What are multifunctional logistics Soldiers?

There has been a lot of discussion about multifunctional logisticians. I've been a part of this discussion as the senior enlisted logistician of the Army—it is important we have the dialogue. It is not a foregone conclusion that there will be multifunctional logistics NCOs, but let me tell you that Dan Elder's personal opinion is we really have to look favorably at this. We really have to consider it.

It is obvious in the 90A career field in the officer corps that the Army has long been on a path to develop a multifunctional logistician. But [the need for multifunctional logistics NCOs] depends on which camp you talk with. Some will tell you NCOs should never be multifunctional; we need specialists. I think that is "old think," especially if you look at how Army logistics has transformed. When we had purely maintenance, quartermaster, and transportation battalions, there was a lot of sense behind that. In recent times, we have had support battalions—the forward support battalions and main support battalions—and they were multifunctional.

Now we've changed the way we are operating at the centerpiece of our formations—the brigade combat team—where we have replaced forward support battalions [FSBs] and division support commands (and also corps support groups and area support groups), and we reorganized and gave more capability to brigade support battalions [BSBs]. A BSB is not just a renamed FSB; it has a lot of capability resident in that outfit. If you look at it, it is multifunctional.

So, where do you get the enlisted leaders to manage a BSB? Where we are getting them today is from the pure career fields, the pure branches. In the [logistics] NCO corps, the first sergeant is from one of the three branches: Quartermaster, Transportation, or Ordnance. That's probably okay for the company leadership. Now, let's look at the battalion staff. Where are we getting the folks that run the battalion staff? I'm focusing on the enlisted side.

I think in the officer corps they're figuring that out, and the [Army] Combined Arms Support Command [CASCOM] has taken the lead on that. But who is the support operations sergeant for the enlisted side? Support operations is not one particular career field; it is not particularly quartermaster or ordnance. The support operations sergeant needs to be multifunctional.

What about the battalion sergeant major, the senior enlisted advisor to the commander? Right now, we are taking them from the pure branches, but that sergeant major needs to be skilled a little bit in ordnance, transportation, quartermaster, and all the other things that go along with that. What I submit is that we need to have some cadre of senior NCOs who are skilled beyond our branch schools.

The good news is that, through the Base Realignment and Closure decision, the Army is forming the Logistics University and supercenter at Fort Lee,

Command Sergeant Major Elder instructs the 2007 Army Materiel Command Noncommissioned Officer and Soldier of the Year participants on how to present to the president of the board.

There was an NCO leadership course called the NCO Logistics Program, but it was rolled into the operations/intelligence course and became the Battle Staff NCO Course. NCOs should go to the battle staff course, but that teaches them to serve on a staff. Although the course includes some discussion about logistics reports and how to run a tactical operations center, it does not specialize in logistics.

A good example is learning the technology systems out there: how to run Standard Army Maintenance System-Enhanced and how to run Standard Army Retail Supply System. What are the reports that come out of those; what do they mean to me; and how can I use them? What are the systems like very small aperture terminal or wireless CAISI [Combat Service Support Automated Information Systems Interface]? What is a CULT [common-user land transportation] report in the transportation arena? That is not a part of the Battle Staff NCO course. Should or could it be added? Well, when you add to a plan of instruction, it is always up for debate. We need a multifunctional enlisted force to perform those functions.

What is your opinion of battle-focused Soldiers who are skilled in logistics specialties?

I suggest that we need a corps of folks who are proficient in using the logistics tools that are out there and know how to employ them on a logistics staff.

I visited the 299th Brigade Support Battalion, one of the brigade combat team's logistics units in the 1st Infantry Division. The 299th served alongside my corps support command in 2004. Then, they were an air/land/battle support battalion that deployed with the 1st Infantry Division, who had recent service in the Balkans. They were operating under the previous doctrine when they deployed—kind of what they knew. This unit, a number of years later, had gone through its own transformation, and you could see where it was doing things differently. One of the things they took me to see that somewhat surprised me was the detention center run by the brigade support battalion.

Virginia. What a great idea. We're bringing in the Ordnance Center and Schools out of Aberdeen Proving Ground, Maryland, and Redstone Arsenal, Alabama. Those two schools have always been separate but together, but now we're going to collocate them. We did not go far enough, though; the decision did not bring in all the rest, and it's probably because of time, space, and money. But we didn't finish the job, as far as I'm concerned. We did not bring in the wheeled vehicle guys out of Fort Jackson, South Carolina.

The centerpiece of our formation is the brigade combat team, but we left the armor (now at Fort Knox, Kentucky, but going to Fort Benning, Georgia) and the infantry guys out, and the engineers, and the explosive ordnance disposal Soldiers. We still got a lot of pieces lying out there, including the human resources component, which remains at Fort Jackson, so we aren't there yet. I think that the Army is going to have to take a long-term look and decide if we need to bring them in at another time.

By bringing these Soldiers together, we are going to have some synergy that is going to allow us to develop our NCO corps, warrant officer corps, and officer corps. We are going to develop them more jointly and across the branches to be more cohesive. That is an important step, but I'm not sure that we've gone as far as we need to in a cadre of multifunctional enlisted Soldiers.

Maintenance in the Brigade Special Troops Battalion

by Major James W. Craft and Chief Warrant Officer (W–3) Louis Watkins

The brigade special troops battalion (BSTB) is designed to provide command and control and logistics support to combat support elements, namely the military intelligence and signal companies that were once attached to brigades from division-level assets. Doctrinally, the BSTB also provides logistics support to the brigade headquarters and command and control and sustainment for all of the nonorganic units operating in the brigade combat team's (BCT's) area of operations. Each of these nonorganic units can have a different command relationship with the BCT, making the support role a bit complicated. The BSTB concept is a success on many levels and provides the brigade commander with flexibility; but, with a few modifications, the BSTB can become an even more valuable asset and a true combat multiplier for the brigade commander.

The BSTB can adequately support its organic companies, but it struggles to sustain all of the nonorganic units in the BCT's area of operations. Formed in late 2004, the 2d BSTB of the 2d BCT, 4th Infantry Division, was a blend of Soldiers with 54 different military occupational specialties (MOSs). The unit deployed to Iraq in November 2005 and was located on a remote forward operating base (FOB) with the closest support battalion over 90 kilometers away. The BSTB was responsible for supporting itself, a military transition team located 70 kilometers away, and 16 additional company-sized elements that directly supported the brigade but lacked organic support elements.

The BSTB, operating as it was doctrinally designed, struggled to handle all of the requirements with its organic capabilities. The battalion had to maintain too many generators, air conditioners, and vehicles to operate without using spares or augmentation. The BSTB's intelligence and electronic warfare (IEW) repair section and the signal maintenance section—despite being ill-equipped and short on manpower—performed heroically, maintaining numerous newly fielded intelligence and signal systems. But the sections struggled with reporting the mission-capable status of commercial off-the-shelf (COTS) items and with the flow of repair parts. The tactical unmanned aerial vehicle (TUAV) platoon, with its organic maintainers, also struggled to maintain their air vehicles and ground equipment because of the extraordinary operating tempo.

This article will explore three areas—mechanical maintenance, IEW and signal maintenance, and TUAV maintenance—and provide suggestions on how to realize the full potential of the BSTB.

Mechanical Maintenance

Maintenance capability in the BSTB resided primarily within the headquarters company and was made up of 1 unit maintenance technician warrant officer, 6 noncommissioned officers, and 18 mechanics. This was entirely too few mechanics to maintain the fleet of over 150 vehicles, 100 generators, and 60 environmental control units (ECUs) owned by the BSTB, the brigade headquarters, and the additional units directly supporting the BCT.

The BSTB overcame the shortages and succeeded for several reasons. First, one particular maneuver battalion's forward support company (FSC) was able to assist with vehicle maintenance. The battalion also was extremely aggressive with its power generation and air conditioner cross-training, and they enjoyed access to forward repair activities near Baghdad. Finally, the battalion was able to avoid tasking mechanics for guard detail since the brigade did not operate a tactical command post.

The Army relies on the manpower requirements criteria (MARC) system to develop unit authorizations. Either the formulas for determining manning authorizations are incorrect or someone decided that our current manning levels are acceptable and ignored the criteria. The MARC system cannot predict which units will be attached to any given unit, and the BSTB is not designed as a tailorable organization. Units directly supporting the brigade should have arrived with their own support slice; however, only one unit, a military police company, arrived with its own logistics support. Commands must develop a way to enforce the responsibilities associated with each type of command relationship, or units like the BSTB should be manned so that they can properly support attached and assigned units.

Organizational problems (probably related to the stovepipe systems previously found in the military intelligence and signal battalions) surfaced once the BSTB deployed. The signal company owned the Standard Army Maintenance System-1 (SAMS–1) but was not authorized any automated logistical specialists

Welding is a critical skill for maintenance. To meet the need for welding on regular repairs and on up-armored high-mobility multipurpose wheeled vehicles, the 2d Brigade Special Troops Battalion had to cross-train two Soldiers who had some welding experience in civilian life. (Photo by Specialist Alexis Harrison.)

(MOS 92A) to operate the system. The military intelligence company, on the other hand, was authorized one 92A but not any automated maintenance systems. Since the headquarters and headquarters company also did not have a SAMS–1 box, we merged the motor pool, the IEW repair section, and the signal maintenance section to form a mini-FSC, with the battalion maintenance technician acting as the shop officer. This reorganization, which was later submitted as a recommended change to the unit's modification table of organization and equipment, greatly improved the unit's ability to track and report statuses and order repair parts.

The BSTB struggled with connectivity and had to scrounge a very small aperture terminal (VSAT) for dedicated logistics communications. The VSAT was eventually used to link all maintenance activities to the logistics support activity using SAMS–2 (the command-level version of SAMS) and also to link the brigade S–4 and company supply rooms using the Standard Army Retail Supply System and Property Book Unit Supply Enhanced.

The BSTB needs an authorized welder with appropriate equipment. We cross-trained two Soldiers who deployed with limited civilian welding experience but were barely able to maintain our systems. It was a constant challenge to balance the welders' time between regular repairs and the upgrades that we were required to install on the up-armored high-mobility multipurpose wheeled vehicles. Additional mechanics and welders would have made it much easier to keep pace with repairs and upgrades and ultimately would have kept our Soldiers safer while they conducted missions.

The biggest maintenance concern in the BSTB was the operational readiness of our ECUs and generators—items that were critical to the accomplishment of the battalion's primary mission. The number of power generation equipment repairers (MOS 52D) and utilities equipment repairers (MOS 52C) was not sufficient. The BSTB is authorized two 52Ds and one 52C to maintain the brigade headquarters' two command posts, the signal company's Joint Network Node (JNN) system, and the plethora of heat-sensitive equipment owned by the military intelligence company. The BSTB used an extremely aggressive cross-training program to train additional Soldiers to help with these two critical areas. Through a combination of cross-training, a heavy reliance on contractors and spares located over an hour away, and much luck, the BSTB was able to maintain the ECUs and generators that sustained the communications network. Had we experienced failures and not been able to travel the main supply routes, the brigade may have experienced blackout periods and operations could have come to a halt.

Automotive maintenance was less of a problem, but that activity succeeded only through long hours, great leaders, and outstanding repair parts supply efforts from the support battalion. The additional company-sized units did not experience an exceptionally high operational tempo, so we were able to keep the units at a fairly high state of readiness. But, without assistance from the nearby maneuver battalion's FSC, we would not have been able to sustain them for much longer than 60 days.

IEW and Signal Maintenance

The IEW repair section was led by an IEW equipment technician. We were lucky to have an experienced and knowledgeable officer who coordinated the cooperation of the IEW repair section and the signal company's special electronic devices repairer

Repair of tactical unmanned aerial vehicles was a major challenge for the 2d Brigade Special Troops Battalion in Iraq. (Photo by SGT Brandon Aird.)

capable of augmenting this effort. Unfortunately, established procedures prevented us from fully assisting with this mission, and there was sometimes a delay in getting systems installed or repaired.

One additional issue that must be addressed is the need to report the maintenance issues of systems unique to the military intelligence and signal companies. Many military intelligence and signal systems are COTS systems that are not in

(MOS 94F). This collaboration, made possible through the Combat Service Support Automated Information System Interface and SAMS–1, was invaluable. The section completed over 1,200 work orders on equipment ranging from intelligence systems to radios and night vision devices.

Many of the military intelligence and signal companies' systems were COTS items and were under contracted maintenance programs. Unfortunately, because of the centralization of the contractors at the forward repair area, the dangerous roads in Iraq, and the limited number of seats on helicopters, the contractors' response time was often inadequate. Instead of waiting for those contractors, our maintainers were able to read wire diagrams and schematics and complete the repairs in hours. Surprisingly, repair parts were obtained fairly easily through normal supply channels.

The IEW repair section obtained certification to repair Dell computers and became the "go to" unit when computers and printers malfunctioned. They coordinated directly with Dell for repair parts that were still under warranty and saved countless hours that would have been spent sending the equipment to the centralized repair facility.

The section's work with counter remote control improvised explosive device electronic warfare systems was one of the unit's most important accomplishments. The brigade received invaluable support from naval electronic warfare officers and field service representatives as these systems were installed and maintained. The IEW repair section worked hand in hand with these personnel and were quite

the Army's maintenance master data file (MMDF) and cannot be reported through normal maintenance channels. The BSTB conducted an internal 4-week study of readiness reporting patterns and discovered that maintenance reporting for military intelligence systems Army-wide was quite irregular and sometimes non-existent. Since the Army does not appear to track certain military intelligence and signal systems using a current Standard Army Management Information System (STAMIS), brigade- and division-level maintenance managers must record maintenance issues on spreadsheets, which, unlike the STAMISs, do not provide any visibility to commanders on the battlefield.

Within the brigade, we were able to change parameters on our STAMISs either to load pacing items into the MMDF or to tag the equipment as maintenance significant. By changing the system parameters, we could view these systems on the brigade's deadline report from the SAMS–2 box. Unfortunately, that vision did not extend any higher than our brigade, so neither the division nor the contractors could assist without an email or telephone notification. The second effect of not having the right items loaded into the MMDF was the inability to capture historical data on these systems. Repair part histories are needed to develop shop stocks, and manhour records are critical to force design. Those data from our unit would be beneficial for designing and improving organizations, but they are not available.

TUAV Maintenance

The TUAV platoon was truly the eyes of the brigade, flying over 1,900 hours during approximately 600 missions. The platoon's maintenance section is authorized

four UAV repairers, but we had three UAV repairers and three 52Ds with the additional skill identifier U2, which qualified them as unmanned aerial vehicle-short range repair technicians. These Soldiers, all with limited experience and below the rank of sergeant, were responsible for all preflight, postflight, scheduled, and unscheduled maintenance on the aerial vehicles. Each preflight and postflight sequence took 1 to 2 hours and added up to consume a majority of their available time. This required the motor pool to help maintain the platoon's generators, further adding to their burden and sometimes causing the commander to have to choose which piece of equipment was going to be repaired first: a TUAV, a signal generator, or the tactical operations center's generator.

Further adding to the stress was the lack of maintenance management training provided to these repairers. They had no training from the schoolhouse and lacked the knowledge and experience—through no fault of their own—to properly manage maintenance and repair parts. Assistance from the battalion maintenance technician and IEW technicians helped, but only after we experienced several setbacks. The platoon's embedded field service representative was a conduit to the forward repair area located 2 hours away and made great contributions to the unit's operational readiness.

TUAVs were supported by Aviation, Avionics and Instrument Corporation. Maintenance and readiness were tracked using the Enhanced Logbook Automation System, which, like the spreadsheets used to track other unique equipment, did not link with the Army's STAMISs. Again, the BSTB was able to establish visibility using our organic STAMISs by creating a TUAV repair shop in SAMS–1 and putting the system into the MMDF. Using the Unit Level Logistics System-Air was one possible solution, but that entailed configuring the SAMS–1 box to accept data from both air and ground systems. SAMS–1 has since been replaced by SAMS–Enhanced (SAMS–E), but there would be no significant difference between configuring SAMS–E and SAMS–1 for this purpose.

The BSTB is a unique and adaptable organization that can provide great flexibility and help a maneuver commander get the most out of the military intelligence company, the signal company, and all of the attached and assigned slices that arrive once a BCT is deployed. To fully capitalize on this asset, the Army Training and Doctrine Command's force designers should complete a thorough review of the BSTB's requirements versus their capabilities and should reorganize maintenance personnel to form a mini-FSC. This idea grows even more important as the Army is moving the brigade's two engineer companies from the combined arms battalions to the BSTB in the near future.

The 2d BSTB successfully provided signal and military intelligence support to the 2d BCT during its deployment to Operation Iraqi Freedom 05–07 by adapting and changing its organizational structure to meet the demands of the battlefield. The 2d BSTB supported 20 different elements thanks to a laudable performance from the Soldiers and junior leaders of the battalion. The maintainers of the BSTB were primarily aided by aggressive contractors and a sister battalion's FSC, but many other people, units, and factors played a role in their success. Had the battalion experienced a higher intensity conflict or been required to relocate regularly, it would not have enjoyed such success because the lines of communication and the readily available spares would probably not have been as accessible.

The Army's logistics leaders, along with the intelligence and signal communities' leaders, must make sure that the vital COTS systems that provide commanders with the information and ability to shape the battlespace are properly loaded into MMDF. The increased visibility of the operational readiness of these systems will allow logisticians at tactical, operational, and strategic levels to resupply, repair, or replace these important systems so that we can continue to push the enemy and keep our Soldiers safe. A few minor tweaks to this dynamic organization will greatly increase the BSTB's value as a combat multiplier and will provide commanders with the necessary information to continue to fight the enemy on our terms, using the technological advantages that help make our Army the best in the world.   **ALOG**

Major James W. Craft was the Executive Officer of the 2d Brigade Special Troops Battalion, 2d Brigade Combat Team, 4th Infantry Division, in Operation Iraqi Freedom 05–07. Commissioned as an ordnance officer, he has served as a combat developer and a maintenance company commander and in various logistics positions in assignments both in the continental United States and abroad.

Chief Warrant Officer (W–3) Louis Watkins was an intelligence and electronic warfare (IEW) maintenance technician for the 2d Brigade Special Troops Battalion during Operation Iraqi Freedom 05–07. He has served as an electronic systems maintenance technician in various units across the Army Forces Command, the Army Special Operations Command, and the Army Training and Doctrine Command. He has deployed to Iraq four times and is currently an IEW maintenance technician in the 3d Armored Cavalry Regiment.

Five Key Areas of the 4th Sustainment Brigade's Success

by Staff Sergeant Joshua Salmons

In a 4th Sustainment Brigade officer professional development session, Colonel Gustave Perna, the brigade commander, spoke to a group of captains new to his formation about what the unit had done in its previous Operation Iraqi Freedom (OIF) deployment. Not only had the brigade served in combat as a fully modular sustainment unit of action, accomplishing its mission of providing supplies for over 70,000 coalition Soldiers in the Baghdad area of operations; it had done so without losing a single Soldier.

Logging 3½ million miles on 5,000 combat logistics patrols without losing a Soldier had never been done before. This accomplishment has a tendency to pique interest, and one captain asked Colonel Perna, "How did you do it?"

He answered, "I never take God out of the equation. I thank God everyday for bringing everyone home." He went on to say, "Specifically, however, I believe our success is owed to five areas of leadership involvement: the AAR [after-action review] process, intelligence-driven operations, creating logistics flexibility, standards and discipline, and equipment maintenance."

These areas, Colonel Perna explained, contributed to the unit becoming proactive versus reactive, which is a term used daily in the military, typically in a good versus bad or prepared versus taken-by-surprise context. For the 4th Sustainment Brigade, proactive verses reactive means success at implementing the five aspects of leadership involvement that catalyze a new system of logistics execution. When the brigade embraced and practiced these areas in Iraq, they transcended some old ways of thinking with unprecedented success.

Building the Foundation

The foundation of this new logistics system was built on organizational changes. In the months leading up to deployment, the battalions of the 4th Infantry Division Support Command were stripped away and the Army drafted a new modification table of organization and equipment (MTOE) for the remaining headquarters element to create the fully modular 4th Sustainment Brigade. The idea was to plug battalions from throughout the Active Army, Army National Guard, and Army Reserve into the 4th Sustainment Brigade once in theater. These units would work with the brigade to provide supplies, maintenance, and transportation support to coalition forces in the area of operations.

Although the brigade's subordinate battalions would not be in place until deployment, the Fort Hood, Texas-based headquarters element began its internal transformation with guidance from the commander. Colonel Perna wanted three sections within his staff—future operations, current operations, and administration.

In a break from normal doctrine, the support operations officer's (SPO's) role would change from handling day-to-day operations to planning future operations—tracking repair orders, researching future missions, scanning fragmentary orders for future taskings, and looking for ways to improve storage capacity on forward operating bases (FOBs). The S–3's role then would be moved to the forefront and greatly expanded to handling current operations—overseeing all missions once planning was completed, managing all transportation movement requests, interfacing with battalions, informing battalions of changing conditions, and modifying requirements.

The original breakout split responsibilities equally between the S–3 and SPO. This approach, while the simplest, gave both the S–3 and SPO unneeded personnel. Materiel management office Soldiers, for example, were not fully utilized in the current operations section; likewise, transportation personnel were underutilized in future operations. As planning continued, swap-outs were made to improve productivity and refine the new structure.

Other changes to the future operations section included moving all MTOE-assigned S–3 personnel to current operations, moving the effects section from S–3 to SPO, and moving the host nation personnel into the general supply office. Current operations also underwent further changes, such as moving the field service section to future operation's general supply office, combining distribution with transportation, and transferring the property book office to the S–4 section over in administration's group. The brigade continued to adjust the organization while in Iraq.

With the structure more firmly in place, the 4th Sustainment Brigade, once in Iraq, could shift its efforts to focus on the five leadership involvement areas that would make it effective.

The AAR Process

Learning from the past and gaining feedback from convoys as they accomplished their missions were integral to improving effectiveness at FOBs and adjusting to changing enemy tactics, techniques, and procedures. The brigade corresponded with commanders from up to two rotations before OIF 05–07 to

find out what they had learned. While not all that they learned was relevant for the 4th Sustainment Brigade's time in Iraq, the practice of being open to feedback and flexible to change was the attitude Colonel Perna wanted to cultivate. The brigade used the AAR comments from the previous rotations as a starting point and built from there.

The relief-in-place/transfer-of-authority element was also very important to the AAR process—not only for the brigade's headquarters element, but also for the battalions as they entered and left the theater during the year. If outgoing and incoming battalion commanders took the proper amount of time to share how to conduct elements of operation, the incoming battalion would have a far easier time adapting to the 4th Sustainment Brigade operating tempo.

To help integrate battalions into the larger brigade picture, Colonel Perna had each of his battalion commanders give him an update briefing as a part of his daily update brief for brigade operations. The commander's update allowed battalion commanders to respond with questions or concerns to the guidance put out by the brigade staff. It also gave them a chance to share information related to their mission effectiveness and allowed Colonel Perna to monitor the progress of correcting or improving situations for his battalions. The AAR process continued throughout the year.

The AAR process transcended boundaries through the common operating picture that the brigade had with the Command Post of the Future and its relationship with the 4th Infantry Division. Hearing what people had experienced and turning those lessons into training and execution helped the brigade adapt to the changing enemy.

To keep the preponderance of good ideas from overwhelming the company commanders, Colonel Perna acted as the filter for good ideas. He wanted to ensure that Soldiers were focused on doing the basics well and benefitting from the core lessons learned.

Intelligence-Driven Operations

One of the main differences between the 4th Sustainment Brigade and logistics units of the past was the fact that it behaved far more like a maneuver unit, with its integration of intelligence into all aspects of operations. Logisticians of the past were located in the rear with little danger; that is not the case with OIF.

Logistics units in the past were only concerned with moving things from one supply yard to another, usually both in the rear where there were no direct-fire threats. The modern, more asymmetrical style of warfare now experienced by the U.S. military is forcing a change in the way even logistics units operate. They now travel the same roads as the maneuver units, requiring them to be more alert to enemy threats.

The old MTOE gave the S–2 just enough personnel to perform basic administrative duties, such as updating security clearances and managing the safe. However, the new MTOE expanded the section to allow for a more thorough analysis of operations and dissemination of intelligence products to the subordinate battalions. The S–2 shop in OIF had to stay on top of the situation—maintaining the status of every route at all times—and keep leaders informed of all potential or expected changes.

Another challenge for the brigade and battalion S–2 shops was having to start from scratch. No units, not even maneuver units, had been tracking the specific threats that would affect brigade combat logistics patrols (CLPs). The S–2 shop had to start using pattern analysis to determine the best courses of action. Although pattern analysis was conducted by others, the information that they considered was different from that needed by the sustainment brigade. Brigade support battalions, for example, would look at five or six roads since they only ran from FOB to nearby FOB. The sustainment brigade, however, had to look at the entire Multi-National Division-Baghdad area of operations, as well as camps and FOBs far outside of that area of operations for frequent external missions. So, the S–2 shop had to start from scratch developing a database to use for the analysis.

Battalions, however, needed more-detailed views of specific intersections and strips of roads. While the brigade S–2 focused on tracking emerging patterns for types of improvised explosive devices (IEDs) and for the frequency and times of attacks, the battalions began to glean from the larger picture specific areas of interest that would affect their CLPs, normally relegated to known routes.

Keeping Soldiers on routes they were familiar with was a way to make further benefit of the intelligence gathering. The brigade shortened lines of communication so that Soldiers would not have to travel as far and could become more familiar with their routes and be more aware of changes that could portend potential hazards. By narrowing their focus to frequently traveled routes, battalions could follow the enemy's patterns and tactics, techniques, and procedures, as put out by the brigade S–2, and customize their own intelligence products so that their CLPs could be equipped with the proper equipment to counter known local threats.

The S–2's patterns were derived from more than just brigade operations. They also incorporated corps and division assets into their observations in a way that helped them pattern U.S. forces as well. By looking at as many missions and assets on the roads as possible, a clearer and more complete picture of when and where the enemy was planting roadside bombs came into

focus. All of it was used to plan missions along the safest routes at the safest times possible.

Creating Logistics Flexibility

In the fluid and changing Iraq war environment, maintaining a level of flexibility was necessary to adapting and overcoming challenges. Logistics was no exception, and brigade and battalion staffs made great strides at reaching this goal. Of course, these strides were intended not to avoid risk but to mitigate it.

Throughout the year, the 4th Sustainment Brigade spearheaded several initiatives to change the environment and protect brigade assets from the enemy. Although each notable change could be attributed to common sense, when taken as a whole, their effect on how the formation conducted operations was significant. Each of the areas of success helped lead to the brigade creating logistics flexibility.

Because the brigade was conducting operations day and night, the effect on CLPs of changes to road conditions or other significant events could quickly be ascertained, and appropriate changes to missions were quickly relayed to the subsequently departing battalions.

Establishing central receiving and shipping points (CRSPs) at Camp Taji and Camp Victory added a tremendous amount of flexibility to the brigade. Acting as staging areas for all classes of supply, CRSP yards shortened lines of travel and added regular runs, allowing planners to foresee when and where supplies would arrive.
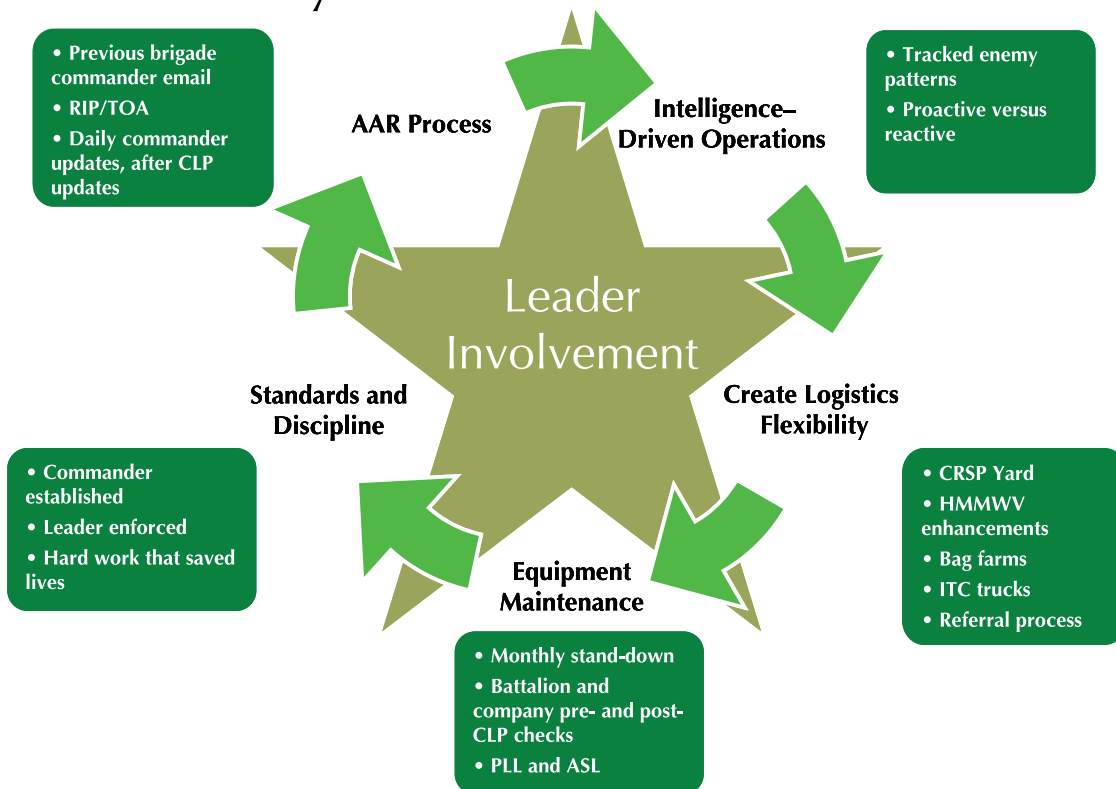
To reduce the number of trucks on the road and thus reduce the number of Soldiers in danger on the road, CLPs were not allowed to leave empty after delivering a load. That meant CLPs sometimes would delay departure for a day, waiting for a scheduled piece of cargo to arrive for them to take to the next stop. However, although rest over nights did occur, the short, regular runs from FOB to CRSP, CRSP to CRSP, and CRSP to FOB meant that a flow of supplies was always available for transport. Some units looked at rest over nights as a bad thing—as an ineffective use of brigade assets. However, in the larger picture, an occasional rest over night allowed the brigade to minimize the number of trucks on the road and, most importantly, to change patterns of operation.

Another aspect of creating flexibility lay with the level of autonomy given to the battalions. Battalion commanders could cancel CLPs if they felt it was necessary for safety. Afterward, decisions could be scrutinized and corrected if the commander's intent was not fully realized.

The brigade worked to create Iraqi transportation companies on certain FOBs, employing Iraqi civilian trucks and truck drivers to move various loads. This allowed the battalions to push more supplies to more locations while employing local Iraqis.

Enhancing the safety of high-mobility multipurpose wheeled vehicles was a large issue tackled by the brigade. Installing gunner harnesses, improved locks, and various armor upgrades became a significant priority for the shops within the formation since each enhancement would save Soldiers' lives. However, instead of requiring customers to arrive at specific shop locations, the brigade created fly-away teams that went out to

Why We Were Successful

AAR Process
- Previous brigade commander email
- RIP/TOA
- Daily commander updates, after CLP updates

Intelligence–Driven Operations
- Tracked enemy patterns
- Proactive versus reactive

Create Logistics Flexibility
- CRSP Yard
- HMMWV enhancements
- Bag farms
- ITC trucks
- Referral process

Equipment Maintenance
- Monthly stand-down
- Battalion and company pre- and post-CLP checks
- PLL and ASL

Standards and Discipline
- Commander established
- Leader enforced
- Hard work that saved lives

Leader Involvement

Legend
AAR = After-action review
ASL = Authorized stockage list
CLP = Combat logistics patrol
CRSP = Central receiving and shipping point
HMMWV = High-mobility multipurpose wheeled vehicle
ITC = Iraqi transportation company
PLL = Prescribed load list
RIP/TOA = Relief-in-place/transfer-of-authority

FOBs across the area of operations. This minimized the negative operational impact on maneuver units and maximized the number of total enhancements installed by the brigade. This ensured that the warfighters lost fewer hours to maintenance and kept more brigade personnel fully employed to meet the high demand for these life-saving enhancements.

During the first few months of OIF 05–07, the 4th Sustainment Brigade started communicating with the 4th Infantry Division's Aviation Brigade to explore the possibility of using air mobility assets to transport certain classes of supply and mail. The intent was to minimize ground-based convoys as much as possible, using the less-vulnerable and faster air assets to keep trucks off the road. The structure of the brigade allowed the current operations section to focus on missions at hand while future operations could dedicate significant effort to working through the details of the new arrangement. At the close of the deployment, aviation brigade CH–47 Chinook helicopters had delivered 8,700 pallets of supplies and mail and Air Force fixed-wing assets had moved 2,300 pallets, keeping 2,900 trucks off the road.

Standards and Discipline

"All the training in the world doesn't amount to anything if the Soldier on the ground isn't doing what he should be doing," Colonel Perna said.

Relying on leaders at all levels, the brigade commander constantly emphasized the need for high standards and discipline within the formation. In the opening weeks of the deployment, Colonel Perna traveled on convoys from the various battalions to ascertain where further guidance and attention were needed. After his initial assessment, he directed his commanders to continue enforcing standards and guidance.

The standards that needed to be maintained included lowering convoy speeds, which is needed to effectively spot hidden IEDs; minimizing collateral damage through the use of warning shots; positively identifying hostile enemies to reduce the chance of civilian deaths; and aggressively moving on FOBs, maximizing effectiveness by quick downloads and uploads.

Equipment Maintenance

The brigade conducted safety stand-downs monthly. For a couple of days each month, the brigade required its battalions to cease missions in order to conduct extensive maintenance on their equipment. The brigade allowed the battalions to choose the exact days (although no two battalions on the same day) to facilitate their specific operational needs; but the stand-downs were mandatory.

With an endless number of pallets and containers to move, 70,000 Soldiers to supply, and a war going on, the first reaction to the region's only logistics unit stopping operations each month for "safety stand-downs" might be skeptical. However, these periods of focused maintenance, when coupled with the logistics flexibility already in place, actually allowed the brigade to deliver more supplies because their trucks and equipment stayed operational.

The regularity provided by the CRSP yards and effective operations allowed the brigade's future operations section to foresee mission requirements and the current operations section to dole out taskings for the battalions, giving the subordinate units time to conduct this maintenance. Although the stand-downs provided some challenges, the brigade eventually adapted to the rhythm.

Moreover, having all of a battalion's trucks and equipment at camps allowed the units' mechanics and chief warrant officers to conduct extensive repairs. Planning these periods of maintenance also gave battalions a chance to coordinate the arrival of repair parts with the scheduling of more involved repairs.

In addition to the stand-downs, the brigade involved the battalion commanders in extensive pre- and post-CLP checks. As a part of their daily reports to Colonel Perna, battalion commanders gave status reports on the previous day's missions and any outstanding maintenance issues that might affect mission readiness. The stream of daily information allowed the brigade commander to see any new issues, issues that were being resolved, and any areas that might need his guidance.

Of the five areas of leadership involvement—the AAR process, intelligence-driven operations, creating logistics flexibility, standards and discipline, and equipment maintenance—none can be minimized or understated. Each aspect of operations led to the other.

The brigade put great effort into conducting effective operations, maximizing effect while minimizing waste—all to save Soldier's lives. Through staff realignment, careful planning, attention to trends and lessons learned, foresight, and enforcing high standards, the leaders and Soldiers of the 4th Sustainment Brigade fulfilled their mission to the uttermost. They employed a new system of logistics to adapt to the ever-changing battlefield and left a legacy of exemplary execution for other logistics units to imitate and adopt for future deployments. **ALOG**

Staff Sergeant Joshua Salmons is a journalism instructor at the Defense Information School at Fort Meade, Maryland. He has a bachelor's degree in communications from Cedarville University and is pursuing a master's degree in business administration from Baker Business College in Michigan.

Operation Mountain Thrust

BY CAPTAIN CAROLYN TRIAS-DERYDER

If anyone had told me before I deployed from Fort Drum, New York, for Operation Enduring Freedom VII that, as the commander of the Headquarters and Headquarters Company, 710th Brigade Support Battalion (BSB), 3d Infantry Brigade Combat Team (IBCT), 10th Mountain Division, I would one day be simultaneously commanding a forward support company (FSC) in an infantry battalion for a major offensive operation, I would have laughed and said they were crazy. But it happened.

Phase I: Planning

In the summer of 2006, the 3d IBCT was tasked to conduct Operation Mountain Thrust in the Musa Qalah district of Afghanistan's Helmand Province. Operation Mountain Thrust was to be the largest offensive operation conducted in Afghanistan since 2001.

The units tasked to complete this mission, the 2d Battalion of the 87th Infantry Regiment (2–87) and the 710th BSB, immediately sent battle staffs to their war rooms to conduct their military decisionmaking processes. They had one important question: Would the 3d IBCT have forces readily available to execute Operation Mountain Thrust? The 3d IBCT was already spread throughout Regional Command (RC) East, their primary area of operations, and Operation

Mountain Thrust would require transferring an array of forces first to Khandahar Airfield (KAF) and then to Musa Qalah in RC South. And although RC South was the 4th IBCT's area of operations, that brigade was to redeploy to Fort Polk, Louisiana, sooner than expected to prepare for another upcoming deployment to Iraq.

Gathering available forces to conduct Operation Mountain Thrust undoubtedly tested the 2–87 and 710th BSB leaders' ability to adapt and overcome obstacles. The 2–87's infantry companies were spread over five forward operating bases (FOBs), while Fox Company, the 2–87's FSC, was busy providing logistics support and force protection for FOB Orgun-E. Meanwhile, the 710th BSB was conducting split operations between Bagram Airfield and FOB Salerno while executing logistics support and force protection missions. The 710th BSB also had Soldiers operating in Jalalabad for Operation Mountain Lion, which was still underway.

Taking advantage of being the first modularized brigade to operate in Afghanistan, the 2–87 and the 710th BSB drew up an ingenious plan that would lead to the unequivocal success of Operation Mountain Thrust. The 2–87 combined leaders and Soldiers from their companies to form teams and received augmentation

Located between a small hill and a larger mountain in a remote part of Afghanistan, Forward Operating Base Little Round Top was easily defendable with excellent fields of fire.
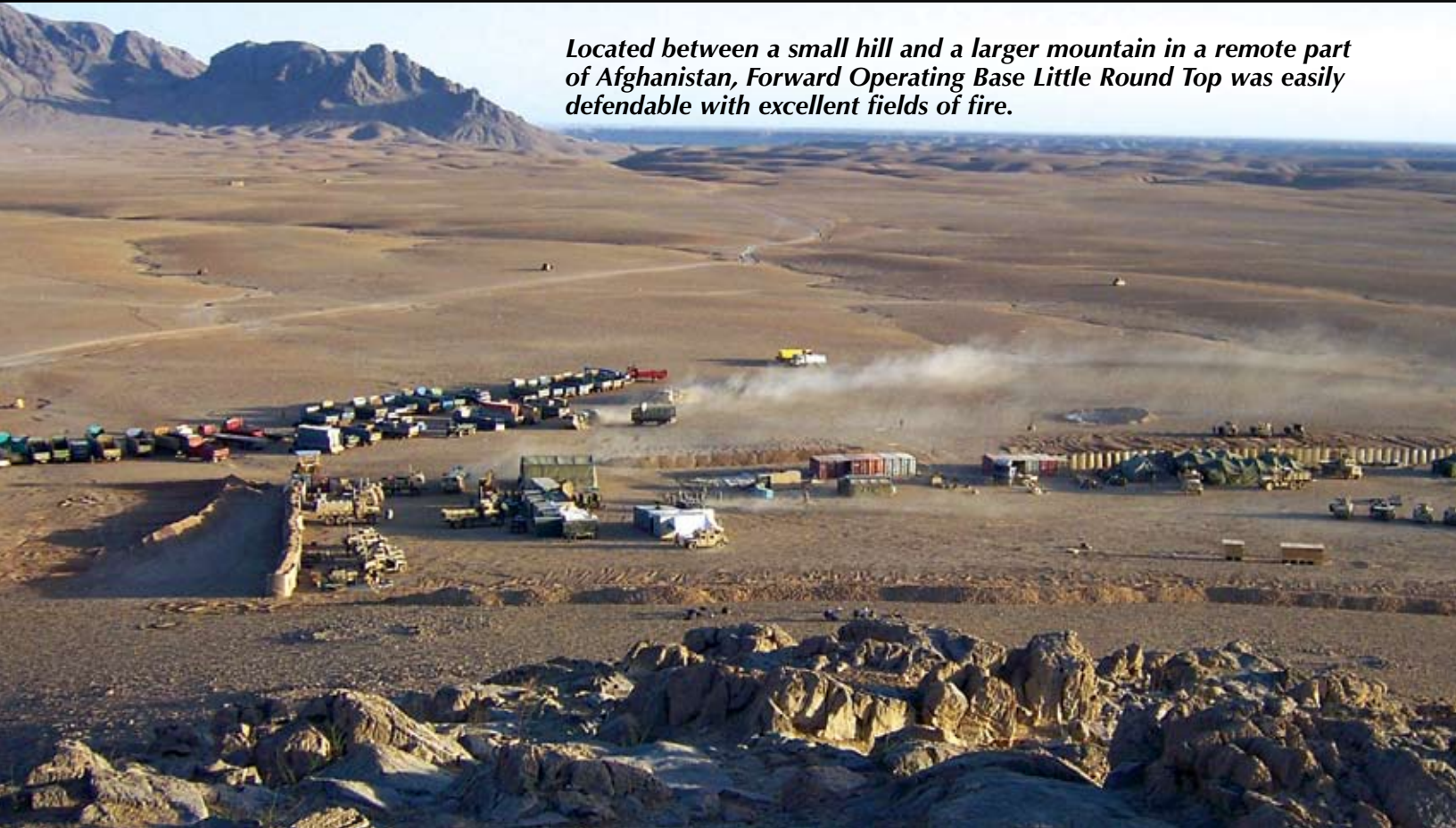
from a newly formed FSC, Hotel Company (also known as Team Hotel). Team Hotel was a conglomeration of approximately 120 leaders and Soldiers from the 710th BSB's headquarters, distribution, maintenance, and medical companies.

Forming an ad hoc FSC was an unprecedented feat for the 710th BSB and the 3d IBCT. The original mission for the FSC was to conduct combat logistics patrols and aerial drops to deliver critical and sensitive materials and supplies, conduct fuel operations, and maintain the combat power of the 2–87. The goal was to provide responsive support and enable operational flexibility in RC South for the 2–87 during Operation Mountain Thrust.

Team Hotel was responsible for—
• Establishing a forward logistics element.
• Transporting supplies.
• Conducting field maintenance.
• Conducting recovery operations.
• Conducting aerial resupply operations.
• Defending the unit.

Never having worked together as a company, Hotel Company's personnel quickly had to learn how to be a team. They presented a plan to gain the 2–87's confidence and provide the best logistics support the 2–87 had ever had so that they could focus on the heavy tactical fight that was to take place in the Baghran Valley and surrounding Musa Qalah areas. This was a logistician's dream mission.

Preliminary logistics support requirements had already been identified by the 710th BSB leaders and staff at FOB Salerno and the 94th BSB of the 4th IBCT at KAF. But, as expected, requirements were modified, the location of the forward logistics element changed, and the operation orders were written, trashed, and rewritten as the enemy threat in Helmand Province continued to intensify.

Phase II: Movement

To prepare for the move to Musa Qalah, Team Hotel ensured that preventive maintenance checks and services were conducted and that each vehicle carried no less than a Duke (an improvised explosive device [IED] anti-detonation device), an M2 .50-caliber machinegun, an M249G squad automatic weapon, an MK19 40-millimeter machinegun, and an M240B machinegun. Our heavy expanded mobility tactical truck (HEMTT) fuelers and HEMTT wrecker were strategically dispersed in convoys between heavily armed combat vehicles. The convoys were separated into two main serials, each consisting of at least 80 vehicles, including U.S. trucks and host nation "jingle" trucks.

This was the first time many of the infantry elements had ever convoyed with such a huge number of vehicles. Typically, when infantry units conduct operations, they only have high-mobility multipurpose wheeled vehicles (HMMWVs), which enable them to maneuver quickly through an area. For our combat logistics patrol, the 37th Engineer Battalion provided a route clearing package, which consisted of an RG–31 Nyala mine-protected vehicle and a Buffalo armored vehicle for IED and mine detection capabilities. We were also equipped with a long-range advanced scout surveillance system from the reconnaissance and surveillance element, enabling us to monitor possible enemy activity from afar. Team Hotel brought a majority of the vehicles, including HMMWVs, HEMTT fuelers, medium tactical vehicles, and a HEMTT wrecker.

Phase III: FOB Establishment

When we arrived at Musa Qalah on 11 June 2006, we were amazed at the barrenness of the land. We were really in the middle of nowhere. With just a 1,200-foot hill for cover and concealment, we began construction of FOB Little Round Top, which would be our home for the next 30 days.

Field hygiene was addressed immediately. We could not afford to lose Soldiers to poor field hygiene. We dug trenches and used them for the first 24 hours, and burnout latrines were constructed within 72 hours of arrival. Using a 20,000-gallon water bag that was connected to a tactical water purification system, we also constructed a shower point by the second week of occupation.

While Team Hotel was tasked with FOB establishment, our combat arms elements created an outer security ring within which we could securely build the perimeter. Berms were built first so that the bucket loader could easily push and dump dirt into the HESCO Concertainer units, which were manually set up by the Soldiers. The initial plan for perimeter setup failed because the bulldozer and bucket loader broke down every couple of hours and severely hampered meeting our timeline. The locally hired operators were not equipped with the proper tools to repair the equipment, so our maintenance platoon became proficient at jury rigging the local materials-handling equipment throughout the operation.

Instead of being able to complete the perimeter within the first 48 hours, the perimeter became a week-long project. When the bucket loader became not mission capable, approximately 100 meters of 7-foot HESCOs had to be filled by hand.

An incoming helicopter stirs up dry sand and debris, causing a brownout. Because the base was dependent on rotary resupply, and because water was scarce, dangerous brownouts were a common occurrence. Brownouts can be avoided by wetting down the landing zone.

As the perimeter was constructed, military vans, containers, and tents that would become living and working areas were strategically placed around the FOB. Four guard towers, prefabricated in Khandahar, were placed on top of military vans on all four corners of the FOB to provide us with visibility on all sectors of fire in the area. Within 2 weeks of occupying the FOB, the entry control point, the battalion tactical operations center, the company command post, the maintenance bay and work areas, the dining facility area, the shower point, a fuel point, the ammunition supply point, the landing zone and drop zone (LZ/DZ), and living areas were all established. Perimeter enhancements and security procedures were improved daily.

Team Hotel set up its security force to run the tower guards, the listening and observation point, and the FOB's quick reaction force. The quick reaction force consistently had to go out of the perimeter to patrol the area, provide security for the LZ/DZ and containerized delivery system (CDS) recovery teams, and handle several encounters with the locals from nearby villages that were known to accommodate the Taliban. Guards controlled incoming and outgoing traffic at the entry control point and ensured that only our 58 jingle truck drivers, who were staged directly outside of our perimeter, were entering and exiting the FOB. The quick reaction force established a FOB defense plan and conducted rehearsals to prepare for enemy attack.

Maintenance

Considering the scope of counterinsurgency operations that were to be conducted in Musa Qalah and the Baghran Valley, Team Hotel was equipped with more maintenance assets than a normal FSC.

The forward repair system (FRS) significantly increased Team Hotel's ability to assess and repair onsite in such a remote area. The FRS was like a mobile, heavily enhanced Jiffy Lube. At 24,600 pounds, the FRS was equipped with a crane with a 10,000-pound lifting capability, a 35-kilowatt/60Hertz generator, an air compressor, air jacks capable of lifting 40,000 pounds up to 15 inches off the ground, welding and cutting equipment, and 690 different tools.

Critical class IX (repair parts) requests were sent to our supply support activity clerks positioned at KAF. The very small aperture terminal (VSAT) gave us the connectivity needed to operate our Standard Army Management System-Enhanced computers. We also used a satellite phone and a secure phone once the command post node (CPN) was set up. Our assistant support operations officer, also located at KAF, ensured that maintenance reports and air mission requests had high visibility. He kept a close

relationship with Task Force Knighthawk (an aviation brigade in RC South) because we relied heavily on air assets to deliver repair parts. The number of damaged HMMWVs and weapons that would come back after a firefight kept our maintenance platoon busy day and night, and they became very creative at fixing civilian equipment. The maintenance platoon also aided our Afghanistan National Army augmentation by repairing a not-mission-capable Ford Ranger that they used for transportation.

In 2 months, the maintenance platoon had completed more than 800 jobs, consisting of 182 automotive repairs, 107 ground support equipment repairs, 149 armament repairs, 122 communications and electronics repairs, and 248 jobs related to stabilization and reconstruction. Our combat arms leaders were very impressed and satisfied with the service they received.

Lessons Learned

Any unit that is preparing for a mission in an area as remote as Musa Qalah can benefit from the lessons that Team Hotel learned, especially about CDS drops and recoveries, VSAT and CPN, and accountability and logistics status reports.

CDS drops and recoveries. Make sure you have both a noncommissioned officer and a Soldier pathfinder-qualified before deploying, or at least have a team that is very competent and familiar with running an LZ/DZ. Practice LZ/DZ procedures and have a standing operating procedure for operations in remote areas and under extreme conditions, such as dust storms and hot temperatures. I cannot praise the efforts of Staff Sergeant Robert Masher and Staff Sergeant Jose Richter enough. Through sheer pride in being noncommissioned officers, they took control of the CDS and rotary resupply recovery missions 24 hours a day, 7 days a week. They had many sleepless nights but never complained about what they did.

VSAT and CPN. Two things you definitely must have in a remote area are VSAT and CPN. The VSAT gave us all we needed for connectivity, enabling us to requisition supplies and parts and follow up on their status. The CPN gave us phone and Internet capability, which was a morale booster at the FOB. Although phone time was strictly limited and monitored, it gave many of the infantry Soldiers who were not able to call home often an opportunity to tell their families that they were okay.

Accountability and logistics status reports. If consumption and forecasting are not monitored properly, you can be fully stocked on an important commodity (such as water) one day and then be understocked the next. The S–4 should be proficient at planning and forecasting using the logistics status reports submitted by the FSC. Our consumption of bottled water was rather high at 3 cases (12 one-liter bottles per case) per person per day because we had to use bottled water for laundry and for heating unitized group ration-As. With temperatures above 140 degrees Fahrenheit, the 2–87 had to stock their vehicles with 3 days of supply of water every time they came back from conducting offensive operations. The distribution platoon was required to check water status twice—and sometimes three times—per day. When rotary or CDS drops were canceled because of weather, safety stand downs, or some other reason, we severely minimized laundry and Soldiers were allowed to shower once every 2 to 3 days.

Not many Soldiers are ever given the opportunity to be a part of such a large mission as Operation Mountain Thrust. When we were initially presented with the task, the mission seemed impossible to support with too many obstacles to overcome. However, Team Hotel and the 710th BSB became a part of history that summer. As the future leaders of the Army, their stories and experiences will serve the Soldiers under their leadership well. In my mind, the mark of Team Hotel's success in Operation Mountain Thrust was for us to return to FOB Salerno alive and safe. That mission was accomplished. **ALOG**

Captain Carolyn Trias-DeRyder was the Commander of the Headquarters and Headquarters Company of the 710th Brigade Support Battalion. She graduated with a B.A. degree in English from Old Dominion University and a B.A. degree in communications from De La Salle University in Manila, Philippines. She is a graduate of the Quartermaster Officer Basic Course and the Combined Logistics Captains Career Course.

Supplying Forward Operating Bases

by Captain Kristie Richardson

Positioning critical supplies as far forward as possible
is the best way to resupply distant forward operating bases.
One company led an effort to build up the capability
to store supplies and distribute them to distant bases in Afghanistan.

Every logistician tries to answer this one basic question: How do I quickly and consistently provide more supplies to the Soldiers who are operating farthest from the supply hubs? The simple solution is to store larger quantities of all classes of supply at a forward operating base (FOB) that is closer to the maneuver units.

In Operation Enduring Freedom, Jalalabad Airfield (JAF) in Afghanistan is being built up so that supplies can be positioned forward of the main supply hub, Bagram Airfield (BAF). Three key projects will allow JAF to function as a forward supply hub. The first critical task, building a new supply support activity (SSA), has already been completed; the SSA opened at JAF in June 2007. The second project is the creation of an ammunition supply point (ASP), and the final task is building the combat logistics patrol capability at JAF. Each of these key projects is spearheaded by Alpha Company, the distribution company of the 710th Brigade Support Battalion, 3d Infantry Brigade Combat Team, 10th Mountain Division.

The completion of the SSA at JAF makes this base one step closer to being a functional supply hub. The JAF SSA stores classes I (subsistence), IV (construction and barrier materials), and IX (repair parts), and it also receives and issues classes II (clothing and individual equipment) and IV. This warehouse is resupplied primarily by host nation "jingle" trucks that bring parts from BAF. The storage of classes I, IV, and IX at JAF decreases customer wait time for parts and increases customer satisfaction. For example, if a transmission is needed at a firebase located 50 miles north of JAF, it can be shipped directly from the JAF SSA instead of from the BAF SSA, which would be 200 miles away.

A new ASP is the next critical project that must be completed in order to transform JAF into a main supply hub. As of June 2007, a new construction project was underway to improve the ammunition holding area at JAF because it does not have enough storage capacity or meet the safety standards to be qualified as an ASP. After construction is complete, JAF will be able to store enough ammunition to resupply an entire brigade with a basic load of ammunition. JAF has an airstrip that can accommodate a C–130 aircraft and will be used to resupply the ASP. When units located near JAF need a class V (ammunition) delivery, they will be able to pull ammunition quickly from JAF. If a small FOB 50 miles north of JAF becomes critically short on 155-millimeter projectiles, for example, it will be much easier to resupply the FOB by combat logistics patrol or rotary-wing movement from JAF instead of from BAF.

Building the combat logistics patrol capability at JAF is the final task necessary to transform JAF into a fully functional supply hub. With an ASP and an SSA at JAF, classes I, II, IV, V, VII (major end items), and IX will be available in large quantities at a moment's notice. Positioning a combat logistics patrol capability at JAF will allow FOBs that are far forward to be resupplied quickly. Using Alpha Company to conduct combat logistics patrols for this mission will allow the forward support companies to be available to move supplies to even more remote firebases. Overall, placing a combat logistics patrol capability at JAF to move supplies from the SSA and ASP will provide better support to the brigade that is maneuvering in that area of operations.

The fastest, most consistent way to resupply distant FOBs is simple: Position critical classes of supply as far forward as possible. In Afghanistan, JAF must be developed into a key supply hub. The result of building JAF into a supply hub is better customer support, and that is the goal of Army logisticians. **ALOG**

Captain Kristie Richardson is the distribution company commander of the 710th Brigade Support Battalion, 3d Infantry Brigade Combat Team, 10th Mountain Division. Captain Richardson deployed to Operation Enduring Freedom VII, where she earned the Army Bronze Star. She received a B.S. degree from the U.S. Military Academy with a major in American politics and a field of study in systems engineering. She is a graduate of the Quartermaster Officer Basic Course.

The Need for Cross-Training at the Company Level

BY CAPTAIN CHARLES L. ARNOLD

In times when the number of Soldiers needed to complete the mission is not available, cross-training personnel enables maintenance sections to repair equipment more quickly, thus helping keep maneuver units functional.

I t is said that the new modular brigade combat team was designed to be self-sufficient at the battalion level without needing outside support. This is true if the brigade is operating in the manner for which it was conceived. However, we all have seen deviations from the modular design and the push to "do more with less." This is why cross-training battalion personnel is more essential now than ever.

During previous rotations to Afghanistan, one maintenance support team was sent to support each forward maneuver battalion. However, when the 710th Brigade Support Battalion (BSB) deployed to Afghanistan in 2006, it had to support four organic maneuver battalions—and even the brigade special troops battalion acting as a maneuver battalion—and attached battalions, covering over 30 forward operating bases (FOBs). Each of the new forward support companies can support its respective battalion at one or two different locations, but when spread over four or five FOBs each, their small numbers of Soldiers with low-density military occupational specialties (MOSs) were stretched to the breaking point.

Defining the Problem

While in Afghanistan, G Company, 710th BSB, was responsible for providing direct support to the 4–25 Field Artillery Battalion, so it trained automotive mechanics to assess and repair howitzers, which were located at seven different locations. This was one of the simpler tasks, albeit still difficult. In B Company, which is the BSB's maintenance company, we decided to send out our ground support equipment maintenance technician (a chief warrant officer) and a Soldier to assess and repair the air conditioning (A/C) and materials-handling equipment (MHE) at each FOB. The MOSs responsible for repairing this equipment (62B, construction equipment repairer, and 52C, utilities equipment repairer) are some of the most critical shortage MOSs in the modular brigade combat team design used in Afghanistan.

My unit had only three A/C mechanics. However, one of those was attached to a maintenance support team and one was assigned as a platoon sergeant. I was left with one A/C mechanic, one generator mechanic cross-trained to do A/C work, one engineer equipment mechanic, one quartermaster equipment repairer cross-trained for MHE, and my equipment maintenance technician to provide support to the entire Regional Command East.

Solving the Problem

To solve this problem, we established a mobile maintenance team consisting of the above-mentioned warrant officer and Soldier. This team spent over 5½ months traveling to the FOBs and repairing A/C units in high-mobility multipurpose wheeled vehicles, the need for which had increased sharply as the temperatures began to rise during the spring.

Regardless of the temperature, MHE was in constant use, and the only authorized engineering mechanics who worked on hydraulics were assigned to the support platoon of the brigade special troops battalion. However, we had managed to retain one engineering mechanic during our transformation from the Army of Excellence to the modular brigade and had a quartermaster equipment repairer cross-trained to repair MHE. Between the two of them, they had constant work at FOB Salerno. They also were sent out to provide MHE maintenance support at other FOBs since most of them had MHE but no one who could repair it.

Although the mobile maintenance team did a lot of great work, the need to send them out could have been alleviated with better cross-training before deployment. Many mechanics had received a quick A/C familiarization before deploying, but, without real systems to work on and obtain hands-on experience, they quickly forgot what they had been told. Almost no mechanics received any type of training on MHE. If more time could be spent on cross-training and hands-on experience, the need to send such teams out for extended lengths of time could be avoided. **ALOG**

CAPTAIN CHARLES L. ARNOLD IS THE COMMANDER OF B COMPANY, 710TH BRIGADE SUPPORT BATTALION, 3D INFANTRY BRIGADE COMBAT TEAM, 10TH MOUNTAIN DIVISION, AT FORT DRUM, NEW YORK. HE HOLDS A B.S. DEGREE IN CHEMICAL ENGINEERING FROM CASE WESTERN RESERVE UNIVERSITY AND IS A GRADUATE OF THE ORDNANCE OFFICER BASIC COURSE AND THE COMBINED LOGISTICS CAPTAINS CAREER COURSE.

Female Medics in Line Units

BY CAPTAIN LISA M. DENNIS

Operation Enduring Freedom (OEF) VII has seen many firsts, one of which was the deployment of a modular brigade, the 3d Infantry Brigade Combat Team (IBCT), to the Afghanistan theater. Forward support companies (FSCs) were brand new organization and came out of the modular brigade. However, before their creation, many discussions were conducted concerning which military occupational specialties (MOSs) these companies would require and if medics would be a part of their overall makeup.

Before modularity, female Soldiers were not part of the modification table of organization and equipment (MTOE) for a maneuver element. But female Soldiers would realistically have to be part of FSCs since this type of unit would consist of combat service support MOSs. So, why not have female medics? The historical argument has been that female medics should not be in line units because they would distract infantry Soldiers and would not be able to keep up physically. But during OEF VII, female medics became invaluable to the maneuver elements and were key to the information operations campaign.

During OEF VII, C Company, 710th Brigade Support Battalion (BSB), 3d IBCT, sent 24 of its 27 female medics on missions with maneuver elements. Five of these female medics were attached to the 1st Battalion, 32d Infantry Regiment (1–32 Infantry) and the 2d Battalion, 87th Infantry Regiment (2–87 Infantry) for the duration of the deployment. During the last 3 months of the rotation, two other female medics augmented the 3d Battalion, 71st Cavalry Regiment (3–71 Cavalry), and two were with the 1st Battalion, 102d Infantry Regiment (1–102 Infantry).

These medics performed missions such as—
• Running a battalion aid station.
• Providing medical support for other Government agency missions.
• Providing battalion tactical medical support.
• Providing medical civil assistance programs (MEDCAPS).
• Operating tailgate medicine.
• Conducting liaison missions with local national midwives.
• Visiting the non-Government organization clinics in the area.
• Assisting with births of local nationals.
• Providing medical care to other female Soldiers on the forward operating bases.

Female medics were called on during every major operation for Task Force Spartan, which included Operations Mountain Lion, Mountain Thrust, and Mountain Fury. They also supported combat logistics patrols for the 710th BSB, route-clearing missions with engineers and military police, security and reconnaissance missions with the 4th Battalion, 25th Field Artillery Regiment (4–25 Field Artillery), and dozens of MEDCAPs

Providing Care to Females

It was clear early on that female medics would provide maneuver units with some medical capabilities that could not be provided using only male medics. The female medics were able to provide medical care to hundreds of local national women and children that male medics would not have been able to provide because of the local populace's strong cultural beliefs about protecting women. These female medics helped the 3d IBCT make great strides with their information operations campaign. Although the missions could have been accomplished with male medics, showing the local populace that we cared about their customs and respected their culture made a difference.

In the Afghan culture, females are not allowed to receive medical care from males unless a male family member is present. Because of this, females are dying in childbirth and from treatable diseases. This situation makes our female medics an even greater lifesaving force in Afghanistan. They provide Afghan females with the care their country will not provide except under specific rules. Having the female medics enables Afghan females with serious medical problems to come out and receive the care we can provide.

By working in the 3–71 Cavalry Battalion aid station in Naray, female medics made it possible for local females to be seen in the clinic. Before the female medics arrived, fathers, husbands, and brothers refused to allow their wives, mothers, or sisters to be seen by males. Female medics helped break this barrier, but they did not just treat local females; they also treated the males. This showed the locals that, in American culture, women have equal standing to men and are treated with the same respect.

Information Gathering

In one example of how our female medics supported our mission during OEF VII, a local national woman turned her son in to the 4–25 Field Artillery Battalion because he was a manufacturer of suicide bombs. She was willing to turn in her son in order to get medical care from a female medic. It is small things like this that

A female medic examines an Afghan child. Note the woman and little girl in the background awaiting care. These females would not come for treatment by a male medic.

make a vital difference in achieving victory in this enduring mission. These female medics in Regional Command East have been featured in information operations fliers, newspapers, and radio messages. The great contributions made by these Soldier medics are simply remarkable.

When units can set up a MEDCAP with one side for males, treated by males, and one side for females, treated by females, our Soldiers are able to reach a large part of the population and gain information that may not have been provided otherwise. When women can be separated from the men, they have been known to verify information with more accurate reports.

Female Shuras

Some village councils, known as shuras, which traditionally consisted of only male elders, are starting to add women. Some of these female elders are midwives who are working to improve medical care. Female shuras are selected by their own communities, and they provide health messages to their communities. They improve the use of health services by raising awareness about health issues. These women have been supporters of using our female medics to help provide their communities with care.

Pros and Cons of Female Medics on the MTOE

So, should maneuver units in an IBCT have female medics as part of their MTOE? The benefits they provided during the OEF VII deployment were unmatched.

Pros. Medics are medics. They train together and work together—one team, one fight. Having female medics on the MTOE would provide the maneuver units the opportunity to get used to working with both male and female medics. In this way, during a deployment, they are fully mission capable.

Cons. The potential fraternization issues and doubts that a female medic is up to the physical standard of a male medic have been used as arguments against having female medics on the MTOE.

Pros and Cons of Female Medics in the FSC

Pros. Females already serve in FSCs, which have dual chains of command through both the maneuver unit and the BSB. Being part of an FSC allows the medics to train with both the medical company in the BSB and the medical platoon in the maneuver element. It also provides medical support to the FSC.

Cons. With female medics being a part of the FSC and not the medical platoon, they may not get the training with the medical platoon and the integration with the maneuver Soldiers that they need to function as required.

This is an argument that can go back and forth with no true solution. But, to have female medics as part of the FSC with other females, with the understanding that they train with the medics in the medical platoon within a maneuver element, would be ideal. Four to six female medics, with ranks of specialist and sergeant, could provide the maneuver elements with the needed maturity and capability to treat both female Soldiers in the FSC and local national females.

Planners should consider the number of male and female medics in a medical company in the BSB. In an IBCT with six battalions, only two battalions are authorized female medics. A medical company in a BSB is authorized 38 medics; these are not gender specific. Currently, C Company, 710th BSB, has 13 male medics and 25 female medics.

Based on different mission requirements, consideration should be given to setting a gender quantity for these medics. I recommend 17 male medics and 21 female medics. During our OEF VII rotation, we had both forward treatment teams sent forward along with many requests for medics during other missions. These requests were for both female and male medics, depending on what type of support they would be providing. Without limiting the number of females in a medical company, these requests may not always be filled, which could limit mission accomplishment. **ALOG**

Captain Lisa M. Dennis is an instructor for the Army Medical Department Captains Career Course at Fort Sam Houston, Texas. She was the commander of C Company, 710th Brigade Support Battalion, 3d Infantry Brigade Combat Team, 10th Mountain Division (Light Infantry), at Fort Drum, New York, when she wrote this article. She holds a bachelor's degree in journalism from Stephen F. Austin State University and is a graduate of the Army Medical Department Officer Basic Course and the Army Medical Department Captains Career Course.

Adapted Missions for Petroleum Liaison Detachments

by Colonel Mark Asbury

Petroleum liaison detachments are adapting to perform new missions in the field. The author recommends some ways the detachments can prepare for their new duties.

Extended sustainment operations in a mature theater are offering petroleum liaison detachments the opportunity to conduct adapted missions. In particular, detachment personnel are managing fuel operations at several Government-owned, contractor-operated tactical petroleum terminals (TPTs) throughout the U.S. Central Command (CENTCOM) area of responsibility. The increased need for this type of unit resulted in both the Navy and the Air Force providing petroleum liaison detachments for the 2007–2008 deployment rotation. This article briefly highlights the roles of detachment members working at TPTs and suggests predeployment training that unit leaders should consider to ramp up for this adapted mission. It will not address training for specific military occupational specialties (MOSs) unless that training is associated with a refresher course or subsequent enhancement course.

Organization and Roles

The ability of the petroleum liaison detachment to perform the adapted TPT mission depends on the ability of its personnel to provide quality assurance and quality surveillance of bulk petroleum, oils, and lubricants at general support TPTs. (See definitions below.) However, the TPT mission increases the importance of the quality assurance task because that task is now associated with operations at "capitalized" TPTs, which are called Defense fuel support points (DFSPs) by the Defense Logistics Agency's Defense Energy Support Center (DESC). In simple terms, a capitalized TPT is a DFSP site that manages fuel inventories that are financed from the Defense-Wide Working Capital Fund; the capitalized TPT manages the inventories from reception to delivery to a DESC-registered customer, who then is charged for the fuel.

Detachment personnel working at TPTs also perform accountability and inventory functions using the Business Systems Modernization-Energy (BSM–E) system, which was formerly called the Fuels Automated System (FAS). Supplementary tasks key to this mission include refining duties as a responsible officer (RO), serving as the DFSP-level accountable officer for DESC, reporting quality deficiencies on petroleum systems components through the Army Petroleum Center to the TACOM Life Cycle Management Command, and managing a petroleum pilferage control program. (See MOS 92F, petroleum supply specialist, skill level 3, task 101–92F–3156.)

The proposed composition of the petroleum liaison detachment operating in the CENTCOM area of responsibility is illustrated in the organizational chart at right. It has a command and control element and three TPT management teams of two or three Soldiers each, based on complexity of the TPT's mission and its distance from the detachment headquarters element. One 92F Soldier with a minimum rank of E–7 or warrant officer (W–1) and who meets the DESC-specified training requirements acts as the RO. [For more information on the appointment of ROs, see DESC–P–7,

---

Quality assurance. Military petroleum products are usually procured under Federal or military specifications. Quality assurance is a contract administration function performed by the Government to determine if contractors have fulfilled contract requirements and specifications for petroleum products and related services. Quality assurance ends and quality surveillance begins when the quality assurance representative accepts the product. Acceptance of the product represents the transfer of ownership of the product from the contractor to the Government.

Quality surveillance. Quality surveillance includes all of the measures used to determine and maintain the quality of Government-owned petroleum products to the degree needed to ensure that the products are suitable for their intended use. The purpose of quality surveillance is to ensure that products meet quality standards after acceptance from the contractor and still meet those quality standards after the products are transferred between Government agencies or issued to users. Quality surveillance is complete when the product is consumed or transferred to another agency or service. Until the product is transferred or consumed, it is the responsibility of the owning service or agency to ensure product quality.

Adapted from Field Manual 10–67.2, Petroleum Laboratory Testing and Operations.

Accountability and Custodial Responsibilities For Defense Working Capital Fund (DWCF) Inventory and Government Property, paragraph 3.1.1.]

The other 92F qualified Soldiers function as contracting officer's technical representatives (COTRs) or quality assurance representatives. Their basic job is to ensure that the contractors are meeting their contractual obligations as specified in the fuel delivery orders and contracts. They also ensure that the contractors, depending on their location, remain in compliance with DESC–I–11, Standard Operating Procedures for Defense Working Capital Fund (DWCF) Owned Fuel at Defense Fuel Supply Points in Afghanistan, or DESC–I–29, Standard Operating Instruction for Defense Working Capital Fund (DWCF) Owned Fuels at Iraq and Kuwait Operating Locations; the first-in/first-out product rotation schedule; and the TPT's petroleum pilferage control program. (All of these DESC documents can be accessed at www.desc.dla.mil/DCM/DCMPage.asp?pageid=479.)

Information about the functional responsibilities of ROs can be found in DESC–P–7 and in DOD 4140.25–M, DOD Management of Bulk Petroleum Products, Natural Gas, and Coal, volume II, chapter 10, paragraph B. Some good general information on the responsibilities of a contracting officer's representative (COR) or COTR is presented in Captain Christopher M. McCreery's article, "Roles of the Contracting Officer's Representative and the Technical Representative," in the winter 2001 issue of *Quartermaster Professional Bulletin*. A more definitive explanation of duties is stated in the Defense Federal Acquisition Regulation and in the contracts for the specific TPTs that CORs and COTRs support.

A follow-on task that stems from the detachment personnel's quality surveillance duties concerns quality deficiency reporting of Government-owned equipment to TACOM through the Army Petroleum Center. This is an important task when one considers the large volume of fuel received and stored at and shipped from TPT sites in the harsh CENTCOM environment. These conditions significantly challenge equipment life-cycle specifications and equipment use expectations. Close quality surveillance and quality deficiency reporting to TACOM allow the fuel sustainment community to implement equipment improvements more quickly, especially in the manufacturing of bulk fuel storage bags.

Predeployment Training

Several different agencies offer unit training beyond duty MOS qualified (DMOSQ)-specific training that will aid in successfully accomplishing the new TPT adapted missions. Each of these courses has significant value, ranging from reducing loses to the Government to understanding the complexities of managing fuel in a joint operating environment. It is worth noting that most of these courses are not listed in the Army Training Requirements and Resources System (ATTRS). While this article focuses on training geared for petroleum liaison detachments, some of these courses are useful to deploying Soldiers and leaders who anticipate that they will assume petroleum management roles in the theater, especially those who will interact with capitalized fuel storage sites.

DESC offers several courses that can greatly enhance mission performance. Information on these courses, as well as the online form to request training support, is available at DESC's website (www.desc.dla.mil) under the "Supply Chain Management" tab. It is worth noting that the training menu option cannot be accessed from outside the ".mil" or ".gov" domains. DESC personnel have a strong customer service ethic and will make the effort to tailor training for specific customer needs.

One beneficial course is DESC's Responsible Officer/Property Administrator (RO/PA)

Petroleum Liaison Detachment

Command and Control Element OIC and NCOIC

TPT Management Team 1

TPT Management Team 2

TPT Management Team 3

Responsible Officer

Responsible Officer

Responsible Officer

Contracting Officer's Technical Representative

Contracting Officer's Technical Representative

Contracting Officer's Technical Representative

A petroleum liaison detachment operating in the CENTCOM area of responsibility should have a command and control element and three tactical petroleum terminal (TPT) management teams of two or three Soldiers each.
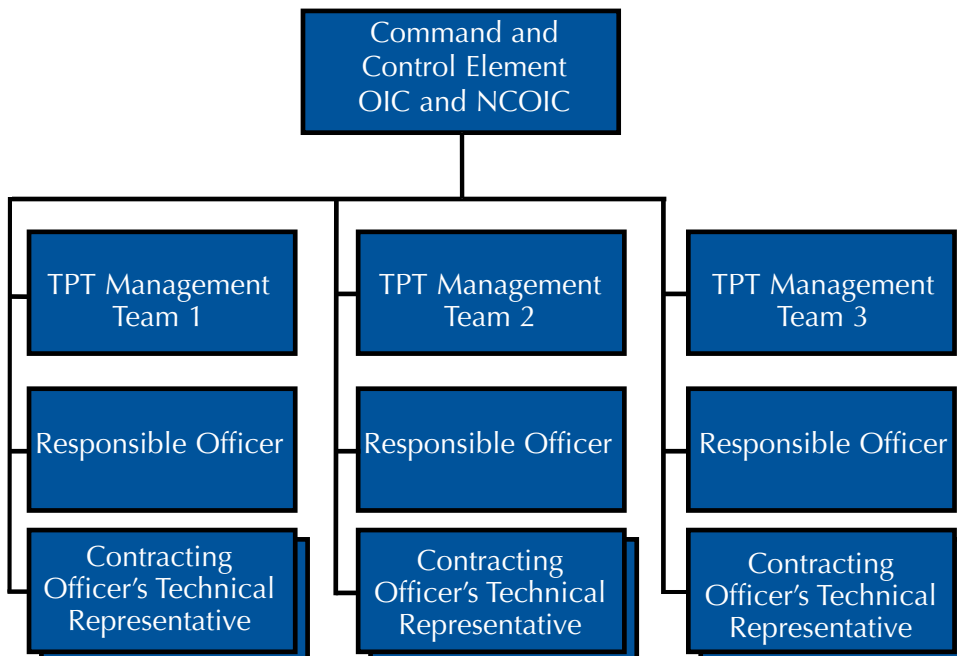
Training Course. Other essential courses focus on FAS operator and manager training associated with the BSM–E application. Another excellent training opportunity from DESC that should be considered is a tailored DESC Overview course.

DESC Overview is a 1-week course that DESC offers almost monthly at a DESC training center or at the customer's location. This course provides an overview of DESC's missions, organizational structure, services, and business processes. It also describes how DESC supports sustainment efforts in a theater and the status of its capitalization effort in theater, with discussions on how capitalization interacts with the operation of the inland petroleum distribution system (IPDS). When DESC trainers bring the course to the customer, they will tailor it to the specific mission the unit is about to accomplish. The customer also should coordinate to have a representative of the Army Petroleum Center assist in presenting this seminar and request the presence of a representative from the currently deployed CENTCOM petroleum group. Note that the theater-specific topics discussed may reference classified material. All unit members should take this course, and it is highly recommended that the course be conducted on site and tailored to unit needs.

The RO/PA Training Course offered by DESC provides critical training for personnel serving as an RO or PA. It also serves as a valuable resource for seasoned ROs and PAs who want to refresh their knowledge of basic concepts and requirements associated with these accountable positions. The course is a computer-based presentation offered through DESC's website. DESC recommends this course for all prospective ROs and PAs. It is a must for personnel anticipating an assignment as an RO.

The Petroleum Quality Assurance Course-J20 offered by DESC provides unit members the opportunity to learn how DESC's quality assurance and quality surveillance programs are applied to the purchase programs used to procure bulk petroleum. Quality assurance and quality surveillance are paramount to the successful accomplishment of petroleum procurement. The course involves lectures, conferences, and performance-based,

Personnel at a Government-owned, contractor-operated Defense fuel support point fill a contracted fuel truck for an upcoming convoy.

hands-on training both in and outside the classroom. This course will be key training for any unit member projected to be part of a TPT management team.

The Joint BSM–E 1-Week Managers Course will provide the commander of the petroleum liaison detachment and fuel management personnel with an understanding of the "joint perspective" of different DESC applications. They also will learn how to use the BSM–E application to identify process flows, monitor inventory control, and navigate into other DESC interfacing applications to obtain other management information, and they will become familiar with the functions needed to perform other mission tasks. The course also addresses service-unique applications and their interfaces. This course is tailored to each unit's specific needs as an onsite training event. While the target group is the command leadership that oversees the fuel management reporting of TPTs to the CENTCOM petroleum group, a tailored course is worthwhile for all unit members because the instructor will discuss the DESC standing operating procedures for the unit's upcoming mission and show the BSM–E inventories for the TPTs they will manage.

The Joint BSM–E 1-Week Inventory Accounting Course is a 1-week course for any Soldier who will be entering inventory and accountability transactions into BSM–E. It is designed to train Soldiers designated to conduct Department of Defense (DOD) base-level fuels accounting to perform duties associated with the day-to-day inventory management of a DESC fuels account. The training focuses on the processing and maintenance of a DESC fuels inventory account, including identifying requirements, placing fuel orders, receiving the product, processing inventory transactions, correcting errors within the account, and reconciling the account, all while adhering to the policies and procedures put forth by DESC. The 92F

Soldiers selected to perform duties as COTRs or as task order monitors over property accountability are prime candidates for this course.

The **Joint Petroleum Seminar** is a 4-day DESC course designed to train unit personnel in the joint procedures currently in operation in their projected theater. Seminar topics include petroleum characteristics; DOD and joint fuel organization; joint doctrine; integrated materiel management; fuel pricing; DESC business processes; war and peacetime requirements determination; contracting; contingency contracting; tanker operations; IPDS and the offshore petroleum discharge system; BSM–E; sustainment, restoration, and maintenance and military construction; the inventory management plan; deliberate planning; integrated consumable item support; joint total asset visibility; the joint quarterly readiness report; and other topical issues as needed. The great advantage of this seminar is the opportunity attendees have to interact with key leaders of the petroleum community. The unit commander and noncommissioned officer in charge should consider attending this seminar.

The Army Logistics Management College (ALMC) at Fort Lee, Virginia, offers the **Contracting Officer's Representative Course**, which is perhaps the most important course needed by all personnel of the petroleum liaison detachment. This is a 1-week course designed for personnel who anticipate being designated as a COR or COTR; it also is recommended for individuals who will regularly work with contractors. The course provides an overall view of the statutory laws and regulations that govern the contracting process as specified in the Federal Acquisition Regulation and the Defense Federal Acquisition Regulation. COR and COTR candidates must complete this course before a contracting officer can issue them a letter of designation as a COR or COTR. ALMC provides three training options to assist deploying units in receiving this essential training: The COR course can be taught at ALMC, on site by an ALMC instructor, or over the ALMC Teletraining/Satellite Education Network. All members of the unit should take this training. Recently, ALMC has deployed trainers into the theater to conduct the course for Soldiers who were unable to take it before deploying.

DRS Radian, under contract to the Army and in partnership with the Army Forces Command (FORSCOM), offers a variety of petroleum training topics, including customized courses. Besides assisting petroleum units with improving their technical proficiency on the IPDS or providing sustainment training for MOS 92L (petroleum laboratory specialist) Soldiers, DRS Radian offers onsite, tailored training to deploying units to refresh their knowledge of current operating equipment and procedures as used in the theater. They also offer hands-on training at the petroleum and water training facility at Fort Pickett, Virginia, to refresh 92F and 92L Soldiers in critical tasks they will be required to observe contractors perform once they are deployed in the theater. More information can be accessed by checking at www.radianinc.com/elts/forscom_ petroleum_training.htm.

With the breadth of training options available, petroleum liaison detachments anticipating duty within the CENTCOM area of responsibility can gain the knowledge of procedures and tasks needed to successfully accomplish required quality assurance, quality surveillance, quality deficiency reporting, and property accountability missions. The courses that lend themselves to preparing personnel to monitor quality assurance include the Petroleum Quality Assurance Course-J20, the Contracting Officer's Representative Course, and the Joint BSM–E 1-Week Inventory Accounting Course. Courses that lend themselves to preparing personnel to monitor quality surveillance are the Petroleum Quality Assurance Course-J20, the Joint BSM–E 1-Week Managers Course, and tailored topic training from DRS Radian. Courses that lend themselves to preparing personnel to perform RO duties are the Responsible Officer/Property Administrator Training Course and the Joint BSM–E 1-Week Inventory Accounting Course.

Petroleum liaison detachments are now being used to perform the adapted petroleum mission of managing fuel operations at TPTs in the CENTCOM area of responsibility. The predeployment training to perform these missions is now available to ensure that petroleum logisticians sustain fluidity on the battlefield. The efforts of ALMC, DESC, and FORSCOM to enhance unit knowledge and skills on these new missions now offers petroleum liaison detachments improved opportunities to enhance their understanding of their upcoming missions. Units anticipating deployment to perform these new missions should coordinate with these agencies to schedule the necessary training to posture their units for mission success—

- ALMC: (804) 765–4373 or DSN 539–4373.
- DESC: (703) 767–8516 or DSN 427–8516.
- FORSCOM: (404) 464–8086 or DSN 367–8086, extension 6706 or 6236. **ALOG**

COLONEL MARK ASBURY IS THE COMMANDER OF THE 164TH QUARTERMASTER GROUP, THE PETROLEUM GROUP CURRENTLY OPERATING IN THE U.S. CENTRAL COMMAND AREA OF RESPONSIBILITY. HE HAS SERVED IN VARIOUS ASSIGNMENTS AS A SUSTAINER, LOGISTICIAN, EDUCATOR, TRAINER, AND COMMANDER. HE IS A GRADUATE OF BRIGHAM YOUNG UNIVERSITY AND THE UNIVERSITY OF MISSOURI-KANSAS CITY.

Combat Escort Team Validation

BY STAFF SERGEANT JOSHUA SALMONS

A worn placard posted in the Command Information Center (CIC) of the 4th Sustainment Brigade headquarters in Iraq read, "What have you done to improve our CLPs today?" The message drove home the brigade commander's one unrelenting purpose for his staff while deployed: Everyone should give their utmost effort to figure out how to mitigate tactical risk and implement the safest, most effective combat logistics patrols (CLPs) possible. More than a year, millions of miles driven, and thousands of CLPs later, that placard and its message remains the central focus of the brigade back at Fort Hood, Texas.

Combat Escort Team Exercise Concept

What have the Soldiers and leaders of the 4th Sustainment Brigade done to improve their CLPs today? The brigade answered that question during a recent visit from Major General Mitchell Stevenson, the Commanding General of the Army Combined Arms Support Command, as they presented their new 5-day combat escort team (CET) validation exercise. CETs are the fighting elements of every CLP, tasked with protecting the logistics vehicles while en route from one forward operating base (FOB) to another.

Older, traditional convoy-protection doctrine focused on ambushes, dismounting vehicles, and engaging the enemy with as much firepower as possible. However, that approach is not relevant on the current battlefields in Iraq. In Iraq, armor protects Soldiers from small-arms attacks, which means that improvised explosive devices (IEDs) and vehicle-born IEDs (VBIEDs) are the larger dangers.

Although the typical live-fire exercises provided in combat service support (CSS) Soldier training give troops "trigger time," they do nothing to train Soldiers on how to serve on a CET effectively. The purpose of the new CET exercise is to allow leaders recently returned from Iraq to validate CSS units' CET tactics, techniques, and procedures (TTP).

The 5-day exercise spans multiple phases to ensure that the participating units go through a crawl-walk-run structure in practicing their drills. The current CET validation facilities can accommodate three five-vehicle CETs at a time.

Day 1

CETs begin their Fort Hood validation by meeting at the Phantomdome, a rehearsal site constructed and manned by the brigade's 180th Transportation Battalion. The Phantomdome also serves as the meeting hub for the CETs throughout the week. The site includes projectors for intelligence briefings, IED identification displays, room to display a convoy protection platform (a high-mobility multipurpose wheeled vehicle [HMMWV]) and a 20-foot by 40-foot sand table depicting the routes and terrain of the gunnery tables of the live-fire portion of the exercise. Here the Soldiers familiarize themselves with their roles and the layout of the exercise area.

Activities on the first day focus on teaching the units how to rehearse properly. The units are given the opportunity to conduct proper weapons checks, precombat checks, and precombat inspections. And each CET receives its training set of five HMMWVs equipped with the most current training enablers—all assembled and maintained by the brigade's 553d Combat Service Support Battalion.

From gunner shields to redundant communications, sirens, spotlights, stretchers, towbars, and even simulated counter remote control improvised explosive

Soldiers keep watch from an armored security vehicle and HMMWV during a mission to Abu Ghraib, Iraq, in 2006. The personnel from B Battery, 1st Battalion, 377th Field Artillery Regiment, at Fort Bragg, North Carolina, provided security to civilian trucks assisting with moving cargo from the prison.

At right: One of the static displays at the Phantomdome training site at Fort Hood, Texas, exhibits examples of improvised explosive devices. The static displays are one of many training aids to help Soldiers prepare for upcoming deployments.

Below: Static displays like this one highlight the equipment available to deploying Soldiers and the procedures required for proper use.

device electronic warfare (CREW) devices, each HMMWV has all the equipment needed to allow units to conduct correct and current escalation-of-force, IED reporting, and casualty-evacuation procedures.

Day 2

The second day involves simulated scenarios at either the Fort Hood Warrior Skills Trainer or the Virtual Combat Convoy Trainer. These facilities allow Soldiers from the brigade troops battalion to put the CETs through the paces of an actual mission and observe them as they go through their rehearsed TTP with the added pressures of a simulated battlefield.

The scenarios revolve around engaging targets while on the move. However, more than just target practice is taking place. The simulations serve as the CETs "walk" portion of the validation, where the rehearsed TTP can be implemented and then tweaked during the brigade-led after-action reviews. The unit can identify and address any vulnerability before it enters the range portion of the CET validation.

Days 3 and 4

Days three and four begin the "run" portion of the exercise, where CETs make use of everything they have practiced up to this point.

CETs first arrive at the Phantomdome, where they receive their mission. The CETs conduct troop-leading procedures and use the rehearsal site to prepare for their gunnery tables. After the participating personnel complete their rehearsals, precombat checks, and precombat inspections, they move out to the gunnery range.

The brigade's 2d Chemical Battalion uses multiple ranges on Fort Hood to provide CETs the opportunity to fire in five gunnery tables spread over these 2 days, followed by a sixth capstone table on day 5. These tables expose the CETs to firing at both stationary and moving targets while stationary or moving themselves, along with a night mission.

Although the ranges were designed for use with M2/3 Bradley fighting vehicles, the 2d Chemical Battalion was able to adapt target arrays and add elements to the range to closely simulate battlefield conditions that a CET may face in Iraq. Enough targets are built into the ranges so that, although the CETs might travel down the same routes during their multiple gunnery tables, they will never see the same target twice.
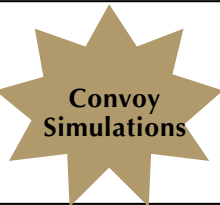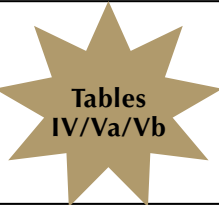
The units also practice executing basic CET drills, such as entering and exiting a FOB, reacting to unexploded ordnance and IEDs, and evacuating casualties. Elements such as IEDs, battlefield debris, friendly forces, and civilians on the battlefield are present to enhance realism and instill positive threat identification and proper rules of engagement. Although the first table uses blanks, the remaining gunnery tables incorporate live rounds.

Day 5

The final day and night of the CET validation involves a capstone gunnery table, where the CET escorts additional logistics vehicles to those used on days 3 and 4. The CET commander must successfully navigate his convoy through a 15-kilometer road march, with the added uncertainty of escorting the additional vehicles.

5-Day Validation Concept

Day 1	Day 2	Day 3	Day 4	Day 5
Rehearsals	Convoy Simulations	Rehearsals/ Move to Range Tables I–III	Tables IV/Va/Vb	Table VI/ AAR at Phantomdome
• CET personnel arrive at the Phantomdome. • Conduct actions at rehearsal site. • Site cadre will issue the mission order. • Conduct TLPs and rehearse using the sand table.	• CET personnel report to the WST/ VCCT. • Execute CET simulated training. • The simulation will be based on table V scenario of the gunnery range.	• CET personnel arrive at the Phantomdome. • Unit will sign for its CET vehicle set. • Site cadre will issue a FRAGO to the mission commander. • Conduct TLPs and rehearse using the sand table. • Conduct PCC/ PCIs. • Move to gunnery range (nontactical). • Fire tables I–III	• CET will report to the gunnery range. • CETs will fire tables IV, Va, and Vb. • CET personnel will remain onsite overnight to fire nightfire and conduct night convoy operations. • Unit will stay overnight at the range.	• Fire table IV with CET and logistics vehicles. • Move back to the Phantomdome and conduct AAR. • Turn in CET vehicle set. • Validate CETs and schedule retraining if required.

Legend
AAR = After-action review
CET = Combat escort team
CLP = Combat logistics patrol
FRAGO = Fragmentary order
PCC = Precombat check
PCI = Precombat inspection
TLP = Troop-leading procedures
VCCT = Virtual Convoy Combat Trainer
WST = Warrior Skills Trainer

Above: A HMMWV sits in the Phantomdome as a part of the display of equipment available for training. Participants use these vehicles, equipped with training aids to reflect the current equipment available to Soldiers in Iraq, during their gunnery tables.

CET Gunnery Evaluation Tables

Table I–Crew Practice I Stationary (blank fire)
This table consists of a single, stationary combat patrol platform on the gunnery range.

Table II–Crew Practice I Stationary (live fire)
This table consists of a single, stationary combat patrol platform on the gunnery range.

Table III–Crew Practice II Moving (live fire)
This table consists of a single CET maneuvering on the gunnery range.

Table IV–CET Qualification Stationary (live fire)
This table consists of a moving CET on the gunnery range.

Table V
Table Va–CET Qualification Moving (day live fire)
Table Vb–CET Qualification Moving (night live fire)

Table VI–CLP Qualification Moving (live fire)
This table consists of a moving combat logistics patrol (CET and logistics vehicles) on the gunnery range.

Upon completion of the final table, the CET then moves back to the Phantomdome, where brigade Soldiers lead an after-action review of the CET's performance. If the CET successfully performed its proposed TTP, the team is validated. If not, areas for retraining are identified and further validations can be scheduled.

The focus of the CET validation exercise is to allow units to form their TTP according to their unique missions and assets and then to validate those TTP using the knowledge of experienced combat veterans.

This exercise shows that pushing logistics is more than just delivering supplies. It shows that CSS troops must be Soldiers first—able to correctly respond to battlefield conditions through correct execution of unit TTP—and logisticians second.

Focusing skills and training time to equip logisticians with the decisionmaking abilities and equipment to effectively serve on a CET is exactly how the 4th Sustainment Brigade hopes to improve its CLPs. What have you done for your CLPs today? **ALOG**

STAFF SERGEANT JOSHUA SALMONS IS A JOURNALISM INSTRUCTOR AT THE DEFENSE INFORMATION SCHOOL AT FORT MEADE, MARYLAND. HE HAS A BACHELOR'S DEGREE IN COMMUNICATIONS FROM CEDARVILLE UNIVERSITY AND IS PURSUING A MASTER'S DEGREE IN BUSINESS ADMINISTRATION FROM BAKER BUSINESS COLLEGE.

Lessons Learned From a Reception, Staging, Onward Movement, and Integration Site

by Major Bryan K. Ouellette, MEARNG

Reception, staging, onward movement, and integration (RSOI) is the process that transitions personnel and equipment arriving in a theater into operationally viable forces. Units that move into and out of operational theaters will most often move through an RSOI site to properly posture themselves for their missions. From the perspective of the RSOI manager, also known as "the mayor," there are considerations for successfully managing an RSOI site, and contingency plans need to include those considerations.

Elements of Combined Task Force Chamberlain, which deployed with the 10th Mountain Division (Light Infantry), built an RSOI site and conducted operations at Forward Operating Base (FOB) Sharana in Afghanistan during Operation Enduring Freedom VII. RSOI sites are designed to stage and integrate personnel for their missions, such as combat preparation, noncombatant evacuation, and humanitarian assistance. During this initial force projection stage, personnel services—including potable water distribution, dining facility (DFAC) operations, trash removal, and sewage removal—are the most vital part of an RSOI operation. The RSOI site at FOB Sharana faced challenges while establishing its initial operating capacity in late 2006 and early 2007. If you will be involved in RSOI management, you can learn many lessons from our experiences.

Potable Water and Sewage

The RSOI site in Sharana depended on potable water being trucked into the site to run its DFAC, showers, and latrines because the well drilled on site had failed to produce water. FOB Sharana had a Force Provider camp, which can consume 25,000 gallons of water per day to support 550 personnel, so potable water storage and distribution became a daily management task.

Liquid sewage disposal was a paramount issue as well. On several occasions, the FOB Sharana RSOI site needed to close the Force Provider latrines because they had reached their maximum sewage storage capacity. In FOB Sharana's situation, no direct sewage line was available to dispose of the sewage easily, so the waste was held in holding tanks until it could be pumped. The local national vendor that was contracted to remove the sewage daily was not able to come everyday because his truck was often inoperable. To mitigate the problem, we positioned additional portable latrines to ensure that we could cover surge periods.

Luckily, the Force Provider equipment set for the 550-man camp contains blackwater trailers to dispose of waste water, so we implemented a backup plan for those times when the local national truck was inoperable. The RSOI mayor cell would still have the vendor come to fulfill its portion of the contract, but the vendor would use our equipment and be paid half of the contracted amount. Sewage disposal and potable water supply are critical to properly maintaining an RSOI site, and they should be made a priority.

Facilities Maintenance

Facilities maintenance at RSOI sites is also paramount. Spare parts needed to properly maintain equipment may not be readily available in theaters where RSOI sites are established, but a good maintenance crew, whether military or contracted, can keep your site in good working order. FOB Sharana had contracted maintenance personnel who were able to maintain the facilities to the minimum standards. However, many trades are needed to maintain an RSOI site completely; workers are needed for heating, ventilation, and air conditioning maintenance, plumbing problems, and general carpentry tasks.

General daily maintenance crews will also be needed for things like tent repairs and grounds maintenance. Civilian contractors and local nationals can be requested to increase capabilities and assist in site maintenance. If these options are not available, a broad team of Soldiers will be needed to perform specialized and general camp maintenance.

Storage

Most locations need clean, dry, and secure storage continuously. An RSOI mayor needs to plan for necessary storage, including dry and frozen food storage. Adequate dry storage usually is easy to obtain with a

The reception, staging, onward movement, and integration site at Forward Operating Base Sharana in Afghanistan depended on Force Provider packages to accommodate the Soldiers transiting the area.

typical Force Provider set; you can use the emptied triple containers that previously held the base camp equipment. Additional frozen and refrigerated storage may be required to store frozen and refrigerated items properly. If refrigerated containers, called "reefers," are hard to obtain, some types of food items should be ordered in reduced amounts to account for the limited storage. Materials-handling equipment will be needed initially to stage and relocate containers as needed. Because of mission requirements, the FOB Sharana RSOI site had an ongoing need to relocate containers and, thus, an ongoing need for equipment to move the containers.

Population Issues

At times, limited transportation will dramatically affect the size of your population and strain RSOI services. Weather and maintenance problems can affect both air and ground transportation going into and out of the camp, potentially resulting in overpopulation of the site. If they are available, cots can be added to expand the limited bed space. However, population surges will increase latrine, DFAC, and shower facility use. If possible, the RSOI mayor will need to contract for additional portable latrines or increased sewage removal services during these times.

To mitigate the impact on the DFAC, dedicated unit feeding times may be established and enforced to cycle personnel through the DFAC more efficiently. Shower times can be established that will allow all camp residents to shower roughly every other day. Doing so will keep greywater discharge and potable water consumption at an acceptable rate. Trash pickups also may need to be increased to prevent rodent problems.

The FOB Sharana RSOI site had the advantage of being located with a movement control team (MCT). The MCT provided visibility of incoming flights and the number of personnel expected to arrive and depart. If an MCT is not collocated with an RSOI site, adequate and responsive communication can help ensure proper population management.

Communications and Automation

To efficiently operate an RSOI site, you will need some dedicated communications and automation equipment. The communications equipment should include both the Unclassified but Sensitive Internet Protocol Router Network and the Secure Internet Protocol Router Network for daily business operations. Secure communication is important. For instance, if you are in a hostile environment and trying to obtain flight information, you obviously want to prevent the enemy from knowing the unit's movement plans.

Morale, welfare, and recreation (MWR) phones and computers should also be available. The MWR center can allow communications for personnel transiting through your site. Having these available will keep personnel from coming to the RSOI mayor's operations area requesting to use the mayor's limited communications assets.

Computers are great resources; however, they require ongoing maintenance to keep them operating. Once computers are established at the MWR center, software should be regularly and properly updated. You may also have peripheral devices that need constant updates, and hardware maintenance issues may arise. If the RSOI site is not collocated with another installation, the RSOI mayor should request a dedicated signal support team to repair and troubleshoot problems as they arise with these systems. Remember that personnel channels (S–1, G–1, and J–1) are responsible for MWR facilities in combat theaters, not the operations or logistics channels.

Planning for the Unexpected

Mayoral cells may need other, unexpected services and items to operate an RSOI site effectively. For example, for proper preventative hygiene, hand-washing stations may be added to your DFAC. Hand-washing stations do not come with the Force Provider set, so they should be ordered as soon as possible if you will be using them. Depending on how your service contracts are written, you may need to supply specific items to vendors or local nationals supporting your site. For example, some local nationals with service vehicles may receive fuel or oil for their vehicles as part of their contract. You may need to coordinate these commodities for them. Where the commodities are located and how long it takes to get them may affect your operations. Expect the unexpected.

You can equate operating an RSOI site with operating a hotel. Like running a hotel, to effectively and safely run an RSOI site, you must consider food and water issues, sewage and trash removal, maintenance, storage capabilities, and communications support while keeping in mind the number of people you expect to accommodate. The process of establishing the RSOI site at FOB Sharana provided many learning opportunities. The most important lesson is that proper planning and the ability to adapt are what make an RSOI site successful.   ALOG

Major Bryan K. Ouellette, MEARNG, is assigned to the 120th Regional Support Group in Augusta, Maine. He served in Combined Task Force Chamberlain, 240th Engineer Group. He has a B.S. degree in business administration from Saint Joseph's College in Maine and an M.S. degree in technology in education from Thomas College in Maine. He is a graduate of the Quartermaster Officer Basic and Advanced Courses, the Combined Arms and Services Staff School, and the Army Command and General Staff College.

Joint Asset Visibility: Why So Hard? The Way Ahead

by Lieutenant Colonel James C. Bates, USA (Ret.)

In the fourth and final article of his series on joint asset visibility, the author looks at some of the problems faced by those trying to provide joint asset visibility and the steps being taken to alleviate those problems.

A thorough logistics analysis of distribution problems experienced during Operations Iraqi Freedom and Enduring Freedom reveals how important joint total asset visibility (JTAV) has become to success in modern warfare and how necessary it is to consider the entire global supply chain when developing JTAV improvements. SOLE—The International Society of Logistics supports this perspective by emphasizing fundamentals like JTAV and advocating that logistics be viewed as a total system.

Obtaining an overarching perspective is a tremendous challenge for the Department of Defense (DOD). DOD is not only enormous, its internal supply chain is truly global. Moreover, tens of thousands of disparate commercial companies, both domestic and foreign, provide supplies, transportation, and logistics communications and information-processing software and equipment to DOD worldwide. Coordinating the physical movement and storage of DOD supplies on such a global scale is incredibly complex. However, capturing the information pertaining to this movement and storage, integrating it within automated information systems, and ensuring that it is accessible to interested stakeholders throughout the global supply chain via wide area networks is far more complicated. With this in mind, DOD has initiated efforts to develop joint logisticians who understand the global supply chain and the logistics management information systems associated with it.

Need for Redesign

Lacking the information technology advancements that are available today, past DOD logistics leaders made far-reaching decisions based on a narrower focus of the supply chain. Stand-alone software systems were fielded without much thought as to how effective they would be in sharing their information with information networks. For instance, tactical Marine Corps asset management systems were not designed to be interoperable with the Army's tactical systems. The plethora of logistics information codes and data elements used by wholesale logistics providers overwhelmed tactical logisticians. Some of these codes were redundant and unnecessarily complex and were designed for a specific software program, not the supply chain as a whole.

To ensure interoperability throughout the DOD global supply chain, the joint asset visibility architecture should be redesigned from the top down. The current systems were designed primarily from the bottom up; this is why many of the automated information systems are not interoperable. An extra effort should be made to ensure that data are not disjointed or systems designed solely from the narrow perspective of an individual service, agency, or functional (supply, transportation, or finance) community.

In Government Accountability Office (GAO) Report 05–345, Better Strategic Planning Can Help Ensure DOD's Successful Implementation of Passive Radio Frequency Identification, William M. Solis recommends a comprehensive DOD approach to JTAV. This GAO report says—

While DOD has taken a number of actions to direct the implementation of passive RFID [radio frequency identification], it has not yet developed a comprehensive strategic management approach. . . .

Officials estimate system interoperability to be the most expensive element of implementation because of the various systems that will need to be integrated to exchange automated shipping and receiving data from the use of passive RFID technology. According to DOD, system interoperability entails the ability of systems, units or forces to provide data, information, materiel and services and to accept the same from other systems, units or forces and to use the data, information, materiel and services so exchanged to enable them to operate effectively together. Interoperability includes both the technical exchange of information and the end-to-end operational effectiveness of that exchange of information as required for mission accomplishment. DOD envisions a seamless integration between passive and active RFID technology; however, such a seamless integration cannot take place unless the

information captured by the RFID technology can flow though interoperable logistics information systems. According to Navy and Army projections, it will be fiscal year 2016—and beyond for the Army—before passive RFID will be fully implemented into supply chain operations.

In turn, the DOD military components are also unable to develop comprehensive plans to support DOD-wide passive RFID implementation due to the lack of an overarching DOD comprehensive strategic management plan.

. . . an Air Force official explained that because DLA [Defense Logistics Agency] and each of the services are developing their own plans to incorporate passive RFID into existing business processes, there is a possibility that implementation in each service could be different, leading to limited interoperability among the services. If passive RFID implementation is not interoperable among the services, this could lead to inefficiencies that could be avoided if interoperability had been built into the services' passive RFID implementation plans as these plans developed.

Understanding Multiple Logistics Systems

Because of the wide scope of DOD, few joint logisticians have a solid understanding of the logistics procedures of all four military services, contracting, and the wholesale and retail sides of supply and transportation. Nor do they understand the complexities involved in moving supplies and (just as importantly) moving information about the supplies. Almost all logisticians holding a rank of sergeant and above are involved in managing information, not physically offloading, storing, issuing, or transporting supplies. Their focus is on obtaining data and converting them into actionable logistics information. This job has been challenging because the software systems that they have been using are not interoperable with other systems, are extremely manpower intensive, and are difficult to understand.

Moreover, the accompanying software manuals are written at levels that are not understandable by the intended users. In fact, large portions of these manuals, which also must be used by privates and corporals, have been written by software engineers. All of this makes the job of logistics managers especially trying. Very few readable manuals are available to teach DOD logisticians about logistics management information systems. Even logistics manuals that are not software related are difficult to read. Military Standard (MIL–STD) 129P, Military Marking for Shipment and Storage, for example, is difficult to comprehend for tactical users, who must follow its guidelines when shipping items from one deployed distribution area to another.

Adequate training is not available to teach logisticians how to operate disparate logistics systems because much of the military logistics field has no civilian counterpart. It is relatively easy to develop military medical doctrine for first aid, for example, because a great deal of information is widely available and has already been published. In comparison, no civilian publications are available that describe how to deploy and sustain large forces over thousands of miles in austere environments.

To write useful, comprehensive doctrine about this type of topic takes a special individual—someone with strategic, operational, and tactical real-world experience and a broad logistics background, who can put the knowledge within a larger context and has the ability to write well. These individuals are rare. In academia, this role is filled by people who have doctoral degrees; they know the topic, they teach it, and they write about it. As a rule, in the military, because of the up-tempo of real-world deployments, adequate time and resources are not always allocated to the task of developing quality logistics information system manuals.

Assessing Stock Levels

Because past logistics leaders were not always able to attain a total system's perspective, less than optimal decisions were made. In some cases, unit and direct support stocks were reduced to dangerously low levels. To prevent future stock outs of critical, life-sustaining items such as ammunition, fuel, food, water, and repair parts, inventories of these items should be maintained at several locations. Safety levels of stock are required whenever demand is inconsistent and transportation can be interrupted by weather, maintenance issues, or enemy action. Frankly, since demand is usually inconsistent and transportation is frequently unreliable, an inventory of safety stock must be kept somewhere and visibility of this stock is crucial.

Before the Internet, legacy systems were designed to stand alone. Without the World Wide Web, stakeholders had no centralized information repository from which they could access logistics information. As a result, many of the different services and agencies designed their own codes or naming conventions; methods were not standardized. However, with the World Wide Web, this has changed. All stakeholders now can visit logistics information repositories, like the Federal Logistics Information System, to find the naming, numbering, and coding conventions for items of supply. DOD activity address code (DODAAC) type address codes (TACs) can be accessed through the Defense Automatic Addressing System Center (DAASC). Approved unit names and home station addresses can be accessed using the Global Status of Resources and Training System (GSORTS) and the

Joint Modular Intermodal Distribution System

16 Joint Modular Intermodal Containers (JMIC)

AIT RFID Tag

Joint Modular Intermodal Platform (JMIP)

The joint modular intermodal distribution system (JMIDS) is an Office of the Secretary of Defense Advanced Systems and Concepts sponsored, Congress approved, $36 million, fiscal year 2006 Joint Capability Technology Demonstration (JCTD). The JCTD participants include the Army, Navy, Air Force, Marine Corps, Defense Logistics Agency, and the United Kingdom's Ministry of Defence. The combatant command sponsor is the U.S. Transportation Command.

JMIDS is comprised of three main components: the joint modular intermodal container (JMIC), the joint modular intermodal platform (JMIP) and integrated automatic identification technology (AIT) that enables users to track and monitor shipments.

JMIC is a joint service modular container that is designed for use with all classes of supply, locks top to bottom for stacking multiple JMICs, and is collapsible for storage and retrograde. In the future, JMICs may be provided to manufacturers for packing purchased items directly in the container for shipment to requesting units. The model of JMIC produced for the demonstration is available now under national stock number 8145–01–551–5311. Other JMIC models, such as open framed, are planned for future development.

JMIP is an intermodal platform that has locking features on its cargo deck for locking JMICs directly to it without the need for banding and strapping. It can be used for land transport of cargo or converted to be air transportable in cargo aircraft without the need of 463L pallets. It is designed to be inserted and extracted directly to and from cargo aircraft by tactical load handling system trucks, eliminating the need for materials-handling equipment at the airfield. JMIP is not yet ready for procurement because of developmental issues that have required its return for further development.

JMIDS will provide the military with seamless intermodal connectivity, which will result in cost savings and faster throughput to the end user.

Defense Readiness Reporting System (DRRS). Now that these system-wide databases are in place, DOD joint logisticians can ensure that only one authoritative source is used for each specific logistics-related data element and that this source is known to the entire DOD community. In effect, all automated information systems now can use the same codes, names, and numbers. This is important because exactness is critical in the sharing and interoperability of databases.

The phrase "the last tactical mile" is misleading. It downplays the difficulties involved in using intra-theater transportation assets for distributing supplies to ground forces scattered across tens of thousands of square miles. It also downplays the difficulty in obtaining and maintaining visibility of these supplies as they are moved and stored. Distribution has been a challenge primarily for ground forces. Their operating environments often have truck shortages, inadequate or overcrowded road and rail networks, and absent or insufficient telecommunications for controlling distribution. By comparison, ships at sea are usually well stocked and can be readily resupplied while underway or in port; moreover, these vessels are usually equipped with sophisticated onboard telecommunications. Similarly, deployed Air Force units usually occupy existing airfields that have lines of communication and life support, such as electrical power, running water, level ground, and some type of communications.

Steps Toward Improving Asset Visibility

To overcome the challenges associated with asset visibility, DOD and its services and agencies are pursuing many initiatives. For instance, DOD has established a combatant command logistics information technology roundtable in order to stay abreast of technological innovations that affect automatic identification technology (AIT) and asset visibility and to develop recommendations on how best to exploit those innovations.

DLA's Defense Logistics Information Service (DLIS) has absorbed the JTAV software system that was previously managed by the U.S. Joint Forces Command, using it as a basis for its new software system called "Asset Visibility." This new program uses commercial off-the-shelf software and has a 231-page user's guide and a computer-based training program offered through its webpage.

To improve the logistics information flow across the DOD supply chain, the U.S. Transportation Command (TRANSCOM) and DLA have established a single program executive office that will oversee TRANSCOM's Global Transportation Network and DLA's Integrated Data Environment. The goal is to provide cohesive information regarding the supply chain, specifically distribution and cargo movement.

To ensure the ever-increasing timeliness of data, DOD is making solid progress in connecting logisticians. With increasing frequency, the logistics data of dispersed tactical-level ground forces are being transmitted using very small aperture terminal (VSAT) technology. This allows direct support-level computers and unit-level computers loaded with logistics software, such as the Unit Level Logistics System (ULLS), the Battle Command Sustainment Support System (BCS3), and the Assessment Tool for Land Systems (ATLAS), to connect to a device that links the computer data to an outdoor, dish-shaped transceiver located nearby. The dish antenna then transmits or receives data to or from an orbiting satellite within the antennae's direct line of sight. The diameters of most legacy antennae dishes are 10 meters wide or more, but the VSATs are only 0.6 to 3.8 meters wide. They can process about 56 kilobytes per second.

The Army is using VSATs in conjunction with its Combat Service Support Automated Information Systems Interface (CAISI). CAISI is a wireless interface that connects VSAT communications with local and wide area networks. The VSAT/CAISI network can be set up in less than 30 minutes. The current combat service support VSAT system weighs about 500 pounds and is transportable in four transit cases.

In addition to the VSAT, DOD is testing the joint modular intermodal distribution system (JMIDS). JMIDS will provide a means to move supplies from DOD depots and vendor locations to the tactical locations of forward-deployed forces. It has three components: a container (the joint modular intermodal container [JMIC]), a platform on which containers are placed for movement or storage (the joint modular intermodal platform [JMIP]), and an AIT device (currently an active RFID tag).

Although DOD has yet to make a decision on the final dimensions of the JMICs, they will be around 52 inches long, 44 inches wide, and 43 inches tall. Some designs show that JMICs will be able to be stacked one atop another. An empty JMIC will weigh about 325 pounds. (The DOD goal is to reduce this to 250 pounds.) Yet it will be capable of holding about 2,500 additional pounds. To save space, the JMIC is being designed to be collapsible when empty; when collapsed, it will consume about 40 percent of the space it would occupy when expanded. (The DOD goal is to reduce this to 25 percent.) Depending on design, JMICs will be forklift accessible from either four or two sides and will be capable of being hauled via sling load by helicopters, such as the UH–60 Black Hawk, CH–53 Sea Stallion, and CH–47 Chinook, as well as the MV–22 Osprey. They also will be transferable at sea from one ship to another via vertical (by helicopter) or horizontal (by cables temporarily connecting two moving ships) replenishment.

The JMIP is a flatrack known as a containerized roll-in/out platform (CROP), which itself weighs about 4,000 pounds. It is being designed for placement on the logistics rail systems of military aircraft without the need for 463L pallets. A JMIP loaded with 8 JMICs will fit within a standard 20-foot container.

The Army is continually improving its procedures for global supply chain asset visibility. The Army Materiel Command's Logistics Support Activity (LOGSA) is working to integrate the Logistics Integrated Data Base (LIDB) and the Integrated Logistics Analysis Program (ILAP) into an overarching logistics database called the Logistics Information Warehouse.

To encourage an understanding of the importance of these logistics management information programs and others like them from a global supply chain perspective, the Department of the Army now recognizes those who achieve the SOLE Certified Professional Logistician designation by adding this to officer record briefs and official military personnel folders. (See the article, "The Certified Professional Logistician Program," published in the March–April 2001 issue of *Army Logistician*.)

By using these innovations, logisticians in the near future will have access to the information they need to determine the whereabouts of supplies and equipment throughout the entire DOD supply chain, whether they are in transit, in storage, or in the process of being requisitioned. **ALOG**

Lieutenant Colonel James C. Bates, USA (Ret.), works for Alion Science and Technology as a senior analyst. He is a certified professional logistician and a graduate of the Army Command and General Staff College and holds an M.B.A. degree from the University of Hawaii. He can be contacted at James.Bates@je.jfcom.mil.

A Values-Based Critique of Lean and Six Sigma as a Management Ideology

BY DR. CHRISTOPHER R. PAPARONE

These observations are drawn from articles that appeared in the November-December 2006 issue of *Army Logistician*. That issue focused on the success stories of Lean and Six Sigma (LSS) methods employed by managers at Army Materiel Command (AMC) depots. (LSS is a combination of "Lean" and "Six Sigma" methodologies, which are explained separately in *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, by James P. Womack and Daniel T. Jones, and *Six Sigma: The Breakthrough Management Strategy Revolutionizing the World's Top Corporations*, by Mikel Harry and Richard Schroeder.) Today, the Army logistics community and other public organizations are taking cues from businesses that have incorporated performance-based methods with reported success (such as those recounted in *Army Logistician*). In the spirit of professional inquiry, these efforts should be subjected to critical examination to illustrate the potential dangers of overvaluing the LSS-style techniques.

It is vital to the profession of military logistics that we maintain the ideal of unobstructed freedom to dialog. We must be able to provide important support or counterpoints to articles and commentary published in *Army Logistician* or similar venues both inside and outside the Department of Defense. Enlightened members and stewards of the profession of military logistics should appreciate the need for a vigorous exchange of ideas. Although criticisms may or may not be well received by senior leaders who have committed

significant resources to implement certain techniques (such as LSS), the criticisms should at least be accepted as fundamental to the viability of the profession.

The purpose of this essay is to open a critical discussion about the nature of popular performance-based management initiatives—particularly LSS—and those oriented on the "reinventing government" movement for more than a decade. I offer a values-based critique of LSS, supported with published research available in organizational and management studies (OMS) from a respectable body of literature. (A version of this article with complete bibliography and citations is available as an HTML document on the *Army Logistician* website.)

LSS: Blending Internal Process and Rational Goal Values

My fundamental argument in this essay is that those organizations that adopt an LSS-style management philosophy tend to demonstrate a dominant cultural "ideology" that is based on the command and control values of the internal process and rational goal models of management.[1] (See the chart on page 36.)

The focus of the *internal process* model of management is on organizational values that emphasize the internal workings of the organization. The thrust of the model is to identify and eliminate process instability and wasteful practices through control measures. One of the early pioneers of the *internal process* model was Frederick Taylor,

---

[1] Ideology in an organization context means the tendency "to provide justification for the organization's existence and functions" (Daniel Katz and Robert L. Kahn, *The Social Psychology of Organizations*). For example, this statement by Hart in the November-December 2006 issue of *Army Logistician* may indicate an ideological bent: "Lean is a philosophy that, when appropriately applied to a production process, reduces or eliminates the expenditure of unnecessary time, materials, and effort. Now coupled with a concept called Six Sigma, Lean has evolved into a successful program instead of slipping into history like so many management fads." Another example includes this proposition by Hart that survival of the depots is at stake: "Innovation and the desire to be competitive in the looming 2005 BRAC deliberations led Red River to explore Lean and to discover a book called *Lean Thinking*, by James P. Womack and Daniel T. Jones."

I also think Lewis S. Feuer's description of ideology in *Ideology and the Ideologists* seems to apply here: "[Ideology] is the outcome of social circumpressures; it takes philosophy, and reduces it to the lowest common social denominator . . . the emphasis is on the being 'one of us,' and the free, uncontrolled, venturing idea is suspect. An ideology is an 'ism,' that is, a philosophical tenet which has been affirmed as the axiom for a political group . . . But above all, the ideology closes the door to search and doubt . . .; the ideology claims answers that are certainties . . .; it closes questions; it records terminal collective decisions; it is not a franchise for the individual questioner."

Trade magazines and professional journals that seem to favor LSS and similar performance-based management practices. Do these publications reflect a management ideology and perhaps a community-wide competency trap?

processes are directed by upper management and then implemented and controlled through hierarchical authority, sanctions, rules, policies, and similar accountability structures. Popular past examples of similar performance-based management practices that also fall between these models are Just-in-Time Inventory, Management by Objectives, Statistical Control/Total Quality Management, Business Process Reengineering, and Balanced Scorecard.

Like its predecessors, LSS aims to identify and remove inefficient or nonproductive steps in order to increase speed (hence the metaphor "lean") and to control process variation by capturing measurements and analyzing them based on plus or minus three standard deviations in the normal curve (hence the statistical term, "six sigma"). LSS implementation calls for developing a hierarchy of skilled personnel (from the lowest "member" category to the highest "champions" category) that more or less mimics the traditional organizational power structure. The belief is that continuous feedback of internally and externally oriented performance metrics will identify when improvements or wholesale process changes are working well and when they are not. The primary motivators behind the LSS mode of management are economical ones: cost savings and the approval of those who "buy" the methods and results.[4]

hence this model has often been linked to the ideology of "Taylorism" and associated with the machine metaphor of organization. The basic assumption is that quality can be defined and technically engineered into processes and procedures to the point that human and machine error can be minimized and production accuracy and speed can be maximized.[2]

The *rational goal* model of management stresses organizational values associated with reading the environment, understanding the desires of key stakeholders outside the formal boundaries of the organization, integrating goals, acknowledging interdependencies, and then planning well-controlled ways to achieve the goals. The prevailing metaphor of organization under this model, on which "agency theory" is based, is that of "organization as domination." The underlying transactional assumption of this model is that machines and people ("agents") can be systematically sanctioned to achieve top-down objectives that top management ("principals") believes will satisfy the "market," clients, or other external constituencies.[3]

LSS-style management reflects these two models that together closely align with the fields of operations research and systems analysis (ORSA) and strategic management. Both work hand in hand in organizations that have top management that, above all, values control and stability. In these models,

Dominant Psychological and Cultural Value Preferences of the U.S. Army

Organizational cultures that are attracted to the Tayloristic (scientific management) qualities of LSS-type systems may be blinded to other important interpretations of effectiveness and criteria for decisionmaking. An abundance of literature warns those who have psychological and cultural penchants for the arguably false sense of certainty and machine-like perfection

---

[2] Judith A. Merkle traces the Tayloristic roots of military logistics to the Prussian Army in the Franco-Prussian War of 1870 and to the U.S. Army logistics system in World War I.

[3] Terry Moe published an economic theory of hierarchy based in "agent theory." The "principal" (the manager) interacts with the "agent" (his subordinate) by contractual arrangement, with the underlying assumption that both want to maximize the value of the outcome of their relationship. The principal wants something done (he has a goal) and employs positional power advantages over the agent (particularly to offset the agent's advantage of "asymmetry" of information—the agent may know things the principal does not) to get the agent to work toward that goal. The principal and the agent struggle to settle conflicts of interest between them and are driven toward contractual settlement (like officer efficiency report support forms) because both are risk-aversive. The principal wants to ensure that the agent is not shirking, so the game of how to go about ensuring that (such as goal setting, reporting, and monitoring or through attempts to align value systems) is what organization is all about. See *Complex Organizations: A Critical Essay*, by Charles Perrow, for a scathing critique and an explanation of the moral hazards of agency theory.

[4] An example of a transactional (agent theory-based) and "organization as domination" ideology can be discerned from this statement by Raulerson and Sparks in the November-December 2006 *Army Logistician*: "Too many times, proposed improvements in an organization fail because individuals resist or do not buy into the need for change." And later in the same article: "But users of Lean Six Sigma should be warned: At times, the multifaceted Lean Six Sigma processes can be very frustrating. This is particularly true in the beginning, when employees often are very reluctant to actually buy into the processes." These statements indicate that this ideology dominates the thinking of these writers.

Human Resources Model: Teamwork, leadership, consensus, and participation; importance of mentoring, facilitating, or nurturing; loyalty and mutual trust; human development and concern for people. (Prominent figures: Mary Parker Follett, Elton Mayo, Kurt Lewin, Abraham Maslow, Douglas MacGregor)

Open Systems Model: Dynamism and adaptability, entrepreneurship, innovation, or risk-taking; individual risk-taking, innovation, freedom, recognition of uniqueness of every situation; creating new challenges; exploration and learning. (Prominent figures: Henry Mintzberg, Donald Schön, Chris Argyris, Peter Senge)

Rational Goal Model: Results oriented; control and structure; no-nonsense, aggressive; hard-driving competitiveness, high demands, and achievement; goal setting, staff estimates, predictions and planning; accountability and accomplishment; winning and competitive leadership. (Prominent figures: Henry Fayol, Igor Ansoff, U.S. Army, Graham T. Allison)

Internal Process Model: Formal procedures, process mapping; coordinating, organizing, or smooth-running efficiency; security of employment, conformity, predictability, and stability in supply-chain relationships; clear and enforceable rules and policies for command and control; permanence; dependable delivery, smooth scheduling, and low costs. (Prominent figures: Frederick Taylor, Max Weber, Henry Ford, Robert McNamara, the Government Performance and Results Act of 1993, Al Gore, and David Osborne and Ted Gaebler)

Sample organizational values associated with four distinct managerial models. (Adapted by the author from "A Competing Values Approach to Organizational Effectiveness," in Public Productivity Review, *by Robert E. Quinn and John Rohrbaugh, and* Paradox and Transformation: Toward a Theory of Change in Organization and Management, *by Robert E. Quinn and Kim S. Cameron. List of prominent figures by the author.)*

that LSS and other *internal process*- and *rational goal*-based methods advertise.

Before summarizing the main findings of that body of literature, I want to discuss the underlying, and perhaps hidden, values that may make LSS a seductive management practice for senior Army leaders, both psychologically and culturally. While I will report some selective data, I make no claim that interpretation of the data can be applied to the Army as a whole. However, the implications of the data do suggest that more study may be fruitful, and it is worth speculating here on the importance of the data if they are indeed reflective of the larger body of Army managers.

David Keirsey and Marilyn Bates, in *Please Understand Me: Character and Temperament Types*, describe four temperaments associated with Jungian psychological archetypes and how management style preferences are linked to them. I distilled short descriptions of temperaments from their lengthy discussion (the short names are Greek gods who epitomized these temperaments)—

Apollonian/NF (intuitive-feeling). Emphasizes self-actualization; life is a search for deeper meaning and a higher sense of mission; values religiosity and becoming the person to the maximum potential to become; there should be no pretenses—the true self should be revealed; values ethical reasoning.

Dionysian/SP (sensing-perceiving). Quests for artistic freedom; values independence; characterized

by impulsiveness and tentativeness; hungers for action as its own end without the necessity of rules.

Promethean/NT (intuitive-thinking). Focuses on competence and acquisition of intelligence; values skill and ingenuity, logic, and by-the-book operations; searches for prediction.

Epimethean/SJ (sensing-judging). Yearns to belong; values economical reasoning, preparation, strong sense of duty and tradition, stability, seriousness; desires clear hierarchy and formal structure.

Based on several years of aggregated results of hundreds of Army War College students who took the Myers-Briggs Type Indicator (MBTI) instrument, approximately 86 percent are consistently (year after year) characterized as having the SJ (55 percent) or NT (31 percent) temperaments. These findings are similar to percentages found in 1987 to 1989 and in 1993 Army pre-command courses for 755 and 380 lieutenant colonels (88 and 86 percent SJ or NT, respectively). These data suggest a dominant psychological temperament (SJ-NT) among Army personnel biased toward prediction and the very structured approaches to management that characterize LSS-type practices.

Some group data also are available that indicate a cultural propensity for the values associated with both the *internal process* and *rational goal* models. In a recent culture study conducted at the Army War College, 533 Army students (mostly lieutenant colonels) were asked to weight if they considered Army organizational values to fall more along the

internal process and *rational goal* models or toward alternative values associated with the *human relations* and *open systems* models. (The latter models are more oriented on flexibility and acceptance of conflict and variability. See the chart at left for definitions of these models.) The students were given 100 points to allocate among the four value groupings in the 24-item, valid and reliable Organization Culture Assessment Instrument (OCAI). The average response indicated approximately 65 of a possible 100 points were allocated to the *internal process* (27 percent) and *rational goal* (38 percent) models. The results for weighting *human relations* and *open systems* values were 21 percent and 12 percent, respectively. These data indicate that the respondents perceived the Army's dominant values as being associated with those of the LSS or similar performance-based management techniques.

Considering these MBTI and OCAI data together, I postulate that there could be at least moderate psychological and organizational biases in the Army's senior leaders and a bent toward management values and practices epitomized by LSS and the like. More study is required to determine if this proposition can be supported more objectively.

Literature Review of LSS-Style Performance-Based Management Techniques

A host of publications favor the implementation of LSS, including many trade magazines and professional journals associated with management by statistical controls. (See the chart on page 35.) Although some articles in these publications do critique LSS and similar management-detailed practices, the focus of the criticisms tends to be on implementation issues and on choosing the right factors and metrics to integrate and perfect the manager's surveillance of effectiveness. For example, Robert Spector and Mary West, in their 2006 survey of the literature, revealed studies that reported that 43 percent of the companies who adopted performance-based techniques failed to achieve the objectives from 2002 to 2005 and that, even if successful, took too long to implement those techniques. As with the Spector and West study, I found no calls in these sources for a rejection or wholesale criticism of the practice of performance-based management. One explanation for the lack of any critical examination of the assumptions and underlying values of performance-based management techniques in the publications listed in the chart may be that the many authors were commenting as members within a single paradigm.[5]

In the following paragraphs, I examine LSS-like techniques through alternative epistemological and ontological perspectives. In other words, to counter the "discursive formation" contained in these publications, I pose reflective questions at the beginning of each paragraph that imply alternative philosophies that are available by employing OMS publications that have different perspectives.[6]

LSS: A competency trap? Excessive controls on the use of known "technology"[7] can stifle experimentation and innovation and inhibit learning essential in the production of diverging or exploratory ideas. When you are evaluating practices from within the confines of a single paradigm (in this case, the paradigm of "technical rationality"[8] I associate with

---

[5] Thomas Kuhn suggests that a paradigm "stands for the entire constellation of beliefs, values, techniques, and so on, shared by members of a given community."

[6] A "discursive formation" is "what is important for a particular community of researchers [or practitioners] to study and how it ought to be studied," according to Graham Sewell and James R. Barker in "Coercion Versus Care: Using Irony to Make Sense of Organizational Surveillance," in the *Academy of Management Review*. It is similar in concept to what Thomas Kuhn called a "paradigm."

[7] I characterize LSS (and similar popular management remedies) as a technology, defined by Rupert F. Chisholm in "Introducing Advanced Information Technology Into Public Organizations" in *Public Productivity Review* as ". . . all the knowledge, information, material resources, techniques, and procedures that a work unit uses to convert system inputs into outputs—that is to conduct work." Chisholm's definition implies that technology is a pre-existing solution to a given problem and that technical rationality is the reasoned application of it (hence, technology consists of solutions that continuously look for problems in a seemingly random way).

[8] The paradigm of "technical rationality" is described by Donald Schön, in *The Reflective Practitioner: How Professionals Think in Action*, as "the view of professional knowledge which has most powerfully shaped both our thinking about professions and the institutional relations of research, education, and practice—professional activity consist in instrumental problem solving made rigorous by the application of scientific theory and technique." Schön cautions that a cultural fixation on technical rationality can blind professionals to the limits of this paradigm: It assumes away "complexity, uncertainty, instability, uniqueness and value-conflict." Technical rationality assumes that there are such things as "ends" (in the military vernacular, "end states").
But, in the face of complex situations, ends tend to be "confused and conflicting." Hence, we tend to fall back on known technologies to make the complex unknowns into something "rationally" understandable. Michael D. Cohen, James G. March, and Johan P. Olsen, in "A Garbage Can Model of Organizational Choice" in *Administrative Science Quarterly*, describe this phenomenon as "solutions looking for problems" rather than vice versa (the sequence assumed by technical rationality). It then follows that, when those in authority are inculcated in the technical rationality paradigm and they perceive the criteria for organizational decisionmaking are dissonant, they will seek reduction of dissonance over time using the façade of technical rationality in political ways. They will negotiate collectively toward dissonance reduction with external stakeholders (for example, by engaging in macropolitics) and individually and in coalitions among executives, managers, and workers internal to the organization by engaging in micropolitics. In this process, hidden organizational power politics (behind the façade of a professed "science") can serve to stifle professional inquiry and truth-seeking. I observed this phenomenon when working on joint logistics lessons learned, as the commander and staff of the U.S. Transportation Command seemed to present the "deployment and distribution operations center" (DDOC—a brainchild of TRANSCOM during the later stages of Operation Iraqi Freedom 1) as a technical solution for all problems identified. I felt frustrated at every meeting to voice a contrary opinion, and eventually I succumbed to overwhelming use of the tactic of what Marcia Wilkoff calls "consensus through exhaustion."

the values of the internal process and rational goal models), the danger is to be caught unknowingly in a "competency trap." Such a mental trap "reflects the ways in which improving capabilities with one rule, technology, strategy, or practice interferes with changing that rule, technology, strategy or practice to another that is potentially superior," according to James G. March in *A Primer on Decision Making: How Decisions Happen*. The concept of competency traps is conceptually related to the idea of "groupthink." As defined by Chamu Sundaramurthy and Marianne Lewis in their article "Control and Collaboration: Paradoxes of Governance," in the *Academy of Management Review*, groupthink is "a pattern of collective defenses aimed at denying or suppressing tensions" and is associated with a shared comfortable feeling about known technology.

LSS: Antithetical to the learning organization? In other words, the perception of ongoing success interferes with what scholars of organizational learning have termed "double-loop learning" (the ability to suspend deeply held values, no matter how successfully they have appeared to have guided effectiveness, in order to consider alternative values). If managers are blinded by infatuation with the seemingly scientific nature of LSS (the explanatory power of factor analysis and the proposition that we can isolate and manipulate independent variables) and related statistical control measures, organizational learning may be disabled. Whereas the learning organization employs metaphors associated with moral reasoning, exploration, question, and adaptation, LSS employs machine-like, amoral metaphors such as levers, controls, and engineering. Gareth Morgan, in *Images of Organization*, insists that ". . . mechanistic approaches to organization work well only under conditions where machines work well . . ." In contrast, the *open systems* model of management espouses values that include the uniqueness of each situation. Organizations and their environments are too complex for prescriptive approaches (such as LSS) to be effective across all structures and missions.[9]

LSS: A maladaptive tool for impression management? In his article, "Goal-Based Learning and the Future of Performance Management," in *Public Administration Review*, Donald P. Moynihan found that Government agencies tended to use "managing for results" as a "tool to argue for increased resources, not as a tool to change management practices." His study concluded that some organizations and managers tended to complete their reporting requirements and then not be bothered by them until the next reporting cycle. The performance-measuring process became more of a "rationalizing myth" for impression management, with a purpose of arguing for resources rather than a cause-and-effect tool for increasing efficiency and effectiveness. The process of setting reporting requirements also can interfere with organizational learning (a key value associated with the open systems model) when the control structure is emphasized over flexibility to adapt and learn in ever-changing contexts.

LSS: A "psychic prison" for innovation? P.W. Ingraham, in his article "Performance: Promises to Keep and Miles to Go," in *Public Administration Review*, commented that the idea of becoming lean in terms of efficient performance can interfere with the ability to adapt later. In the face of uncertainty and environmental complexity, Ingraham endorses the idea that capacity may have to be valued more by management as a predecessor to performance. Management emphases on workforce recruitment and development, oriented on creativity, commitment, and talent (which are *human relations* model values), make valuing performance metrics appear at best as mediocre practice. On the other hand, investing in the workforce could develop the capacity to be breathtakingly outstanding and lead to performance well beyond management expectations. Managers can set conditions for performance by concentrating more on the quality of the workforce than on the quantity of the metrics. In contrast, a longitudinal study conducted by Mary Benner and Michael Tushman over a 20-year period "indicates that increasing the use of process management activities tips the innovation balance toward exploitation at the expense of exploration . . . [and] contribute[s] to inertia and, in turn, dampen[s] environmental responsiveness." Too much management surveillance can serve as a kind of psychic prison.

LSS: Dehumanizer of the workplace? In a similar light, the paradigmatic assumption of LSS (and like methods) is that the whole process seems invitingly rational because substantive outcomes (such as control of otherwise shirking workers, goals achievement, mission performance measures, and allocations of resources) are the preeminent focus for achieving organizational effectiveness. On the other hand, such performance-based management tends to ignore organizational effectiveness expressed in terms of symbolic outcomes (such as sentiments, beliefs, attitudes, satisfaction, values, and commitment). Emotional,

---

9   The old adage, "one size fits all," is implied with LSS-like prescriptions. I recently heard that there is a move afoot to take LSS to the Army's schools and attempt to apply statistical control techniques to academic organizations and missions. This illustrates the ideological nature of technically rational, performance-based management techniques—the belief that one can apply Tayloristic style statistical controls to manage any situation. I invite readers to investigate Charles Perrow's typology based on the continua of organization complexity and degree of coupling that make the homogenous application seem absurd. I also invite readers to study the history of Taylorism and its undesirable effects on American education in *Management and Ideology: The Legacy of the International Scientific Management Movement*, by Judith A. Merkle.

moral, or informal social issues do not account for much under the paradigm of technical rationality. The paradox is that LSS-style management may inspire, as Henry Mintzberg notes in *The Rise and Fall of Strategic Planning: Reconceiving Roles for Planning, Plans, and Planners*, ". . . routinization [that] may discourage the very creative and judgmental orientation that it so evidently requires." Arguably, LSS oligarchic-style techniques violate principles of over 50 years of *human relations* and *open systems* theories research.

LSS: Instigator of subcultural conflict? Organizational cultures that give at least equal weight to the values of the *human relations* and *open systems* models can serve to transcend ephemeral goals because the goals by themselves are not necessarily internalized as the taken-for-granted, technically correct, or moral ones. The values of goals and performance-oriented leaders (as represented by LSS) may not be compatible with the deeply rooted values of some organizational subcultures. For example, in the team-based, highly adaptive, morally astute, trustworthy, and improvisational subculture of Soldiers and units engaged in ongoing operations, any managerial attempts to communicate hierarchical goals and efficiency indicators may be interpreted as overly coercive, bureaucratic, and ineffective to the members of that subculture. These attempts can be met by passive or active resistance, to the eventual detriment of the overall organization.

LSS: A nom de plume for strategy? Mintzberg makes a strong case that technical rationality may inhibit strategy making. LSS and the like represent the idea that what "[Frederick] Taylor accomplished in the factory, planning systems could now accomplish by extrapolation in the executive suite." In other words, LSS-like management programs become the organizational strategy by default. The seductive certainty and precision of programmatic implementation becomes more valued than the uncertainty and complexity involved in having strategic mindfulness. Achieving strategic adaptability with command and control systems like LSS, Mintzberg says, is analogous to a pregnant virgin. Process mapping and watching the dashboard metrics of LSS-style statistical methods is like deciding on a sequence of football plays before the game begins and then coaching the game by watching only the scoreboard and not what is happening on the field.

A mindless fixation on measures of performance and detailed objectives serves to detach managers from a deeper understanding of the complexities of organizations and those they serve.[10] The holistic picture is subjugated to the details and some short-term gains, and any aspect of detecting possible synergistic forces at work is removed. Mintzberg argues (with a book full of supporting evidence) that remaining open to learning is important in uncertain environments because "strategies may fail, not only by being unsuccessfully implemented, but also by being successfully implemented and then proving inadequate. Likewise, strategies can succeed even though they were not initially intended." LSS-type management techniques assume that such techniques are adequate to the whole effectiveness of the organization.[11]

Conclusion

The claims of Lean and "Six Sigma revolution" and implausible expectations evoked from "the machine that changed the world" (to borrow the term used by Raulerson and Sparks in *Army Logistician*) reflect at best an evolution of techniques under the auspices of Taylor's scientific management (later recast as performance-based management). LSS and the like tend to reflect the Tayloristic dogma (people as machines) at a higher level of analysis, thereby feeding the dominant image of the organization as a machine.

I have attempted in this essay to provide a values-based critique of LSS and other performance-based techniques by demonstrating the apparent psychological and cultural preferences for control and stability that may dominate the Army's managerial structures. I suspect this ideology extends to AMC and its authors in the November-December 2006 issue of *Army Logistician*. The dangers of a single paradigmatic orientation (in this case, that of technical rationality) can blind us to values associated with double-loop learning and the learning organization, organization adaptability, workforce creativity and development, humanizing the workplace, cultural awareness, and strategy making.

Recommendations

"I'll See It When I believe It." As the character Dr. Eleanor Arroway, played by Jodie Foster, observed in the 1997 movie, *Contact*, "Ironically, the thing people

---

[10] I think back on my Army career and the annual ritual of filling out my officer efficiency report support forms (a management-by-objectives management scheme). I cannot think of a single instance where my objectives, formulated at the beginning of my rating period, remotely matched my accomplishments a year later. This is because conditions and missions changed so often as to make the initial objectives and my plans to get there obsolete. Yet, because the departmental culture has apparently preferred performance-based management (the paradigm of "technical rationality" fueled by agency theory), the ritual persists. The Department of Defense seems to do the same on an even grander scale with the Planning, Programming, Budgeting and Execution process.

[11] The articles in the November-December 2006 issue of *Army Logistician* spoke neither to an overall Army Materiel Command strategy nor to other management beliefs that might present a more balanced management philosophy that would include evidence of *human relations* model and *open systems* model values.

> **My fundamental argument in this essay is that those organizations that adopt an LSS-style management philosophy tend to demonstrate a dominant cultural "ideology" that is based on the command and control values of the *internal process* and *rational goal* models of management.**

are most looking for—meaning—is what science has been unable to give them." Army training and education programs should stress the importance of individual self-awareness and the value of organizational reflexivity.[12] The contemporary OMS literature gives a tremendous amount of support to this proposition. Use of multiple paradigmatic approaches to training and education will help the processes of self-awareness and group reflexivity and increase the propensity toward transformational sensemaking.

A philosophy of logistics and management. A philosophy can be defined as one's own to the extent that the individual rids himself of the effects of clichés and catchwords, placards, parades, slogans, and watchwords and disengages from the social counterpressures of ideological clubs, circles, peer and populist groups, and professional orthodoxies and associations. (See note 1.) By thus surmounting the laws of fashion, the individual can define his individual standpoint. AMC should lead the field and expand its espoused management philosophy to incorporate a more balanced and open approach to institutional management values, to include examining the potential moral sterility of Taylorism. A comprehensive assessment of its organizational culture and subcultures and those of its clientele may produce significant opportunities for values-based reflexivity and more opportunity to consider *human relations* and *open systems* approaches to strategy making and management in general.

A professional academe. The Army needs a venue to question the efficacy of assertions made and to reveal potential fallacies and otherwise unexamined assumptions contained in them. AMC and other Army logistics activities should publicly lead and recognize the importance of scholarship and professional inquiry designed to openly question underlying assumptions and the efficacy of espoused practices and theories of effectiveness in the professional field of military logistics. The Army should develop a professional journal, requiring blind, peer-reviewed acceptance of manuscripts (and applying the acceptance process to ones written and submitted by those of high rank and organizational position). The intellectual creation and sustainment of the professional body of military logistics knowledge must include a level playing field based on scholarly merit, substance of argument, allowance for multiple perspectives, and the opportunity for bold conjecture controlled by intellectual rigor.

With the opportunity presented by the Army Logistics University to be established at Fort Lee, Virginia, Army logistics leaders should endorse the creation of an institute dedicated to the field of military logistics. This academe, constituted initially with a journal and an institute, should not be considered a "taskable" agency for senior logistics commanders or staff officers but rather as a network for theorists and practitioners to collaborate.

The academe should serve as a professional hub for military logisticians and should be guarded against subjugation by hierarchical influences and perceived immediate needs for studies or projects. Those in authority should serve as stewards of the professional ideals that the academe is based on and must themselves compete on the intellectual grounds of all members in the tradition of *primus inter pares* ("first among equals"). The academe must remain focused on academic freedom, which is the only insurance for positive and continuous moral, individual, organizational, and cultural transformation. In that regard, "speaking truth to power" is perhaps the value above all others for this proposed professional academe of military logistics. In this way, popular management literature (such as that reported on LSS) can be criticized in an open, professional manner. ALOG

DR. CHRISTOPHER R. PAPARONE IS AN ASSOCIATE PROFESSOR IN THE ARMY COMMAND AND GENERAL STAFF COLLEGE'S DEPARTMENT OF LOGISTICS AND RESOURCE OPERATIONS AT FORT LEE, VIRGINIA. A RETIRED ARMY COLONEL, HE HAS A PH.D. FROM PENNSYLVANIA STATE UNIVERSITY.

---

12 Reflexivity is ". . . an awareness of the situatedness of scientific knowledge and an understanding of the researcher and research community from which knowledge has appeared," according to Cynthia Hardy, Nelson Phillips, and Stewart R. Clegg in "Reflexivity in Organization and Management Theory: A Study of the Production of the Research 'Subject,' " in *Human Relations*. Reflexivity is related to skepticism. It requires not only suspending belief (for example, having dogmatic assertions) but also asserting that we do not know how to obtain ultimate knowledge at this time. This does not mean abdicating intellectual integrity or rigor when theorizing. A professional organization or academe continuously examines its own roots of argument and considers other assumptions, purposefully creating dissonance that, in turn, creates opportunities for transcendence or transformation. Ray Holland, in "Reflexivity" in *Human Relations*, defines "transdisciplinary reflexivity" as going beyond the traditional view of "unidisciplinary" reflexivity and into four levels of reflexive analysis. To find meaning, the organization must be willing to look outside itself "transorganizationally" to question itself and its organization-centric paradigms or realize the confines of its own discursive formation.

As I grew as an enlisted Soldier in the logistics field as a mechanic, I trained my units for war during all the years leading up to making first sergeant. I never once expected or planned on being involved in detaining operations. Yet, here was this brigade support battalion running a detention center in Baghdad, Iraq, at Camp Victory, where they were processing, safeguarding, and securing detainees.

The brigade would go out on a raid and pick up persons of interest, and they would process through the brigade's battlespace. And, if they were held for a period of time, they were held at a detention center. This detention center was operated by a logistics unit, and it was operated quite well.

They took me through the facility. I had an opportunity to meet the Soldiers and the leaders who were running it and the staff that was provided to assist, and it was a well-done operation. It was something I would not have thought of in preparing my unit to go to battle if I had been that unit's first sergeant or sergeant major without understanding the battlefield is changing and how we need to prepare our Soldiers is changing. I think the key to come out of that is that, in the limited amount of time we have available in the Army Force Generation cycle, when we reset our units, we should train for every possibility.

Another example that I saw within AMC is of a very specific unit in the Army—an AVCRAD [aviation classification repair activity depot]. There are four in the Army National Guard. They have a very unique aviation repair capability. They are basically mobile depots, like Corpus Christi, that go into a theater of operations and do depot-like repairs. They bring depot capabilities to support a forward commander. They have elements deployed to Afghanistan and Iraq, and they had a surge mission to help outfit Stryker vehicles with slat-bar armor.

It is an aviation maintenance unit with the primary mission of avionics, structures, sheet metal, engines, and many of the depot-like capabilities. But these aviation repair personnel were surged to fulfill a typically ground maintenance role, and they used all different capabilities and were doing something that you would assume would be done by a wheeled vehicle mechanic: putting this bar armor on the Stryker vehicles. The surge was there, they were needed, and they did a great job. Their ability to go out and assist allowed the commander of the Stryker brigade to meet his deployment timelines. That is an example of a true pentathlete organization that can adjust and be as successful as they can be.

The 299th showed me how their service and recovery section within the BSB was serving in a firefighting role. It wasn't apparent to me at first, but because of the nature of recovery on the battlefield, one of the things happening is when vehicles are struck with incendiary explosive devices, there is a secondary fire that goes along with it. In the secondary fire, the vehicle is oftentimes engulfed in flames or parts of the vehicles are engulfed in flames, which causes secondary fires because of fuel, ammunition, or the secondary load.

Because of those situations, many of the recovery teams become first responders. If the local population of Iraqis does not have an operating first response capability, many times our recovery crews, who are embedded in the area of operations, are the first to show up on the scene; but, they cannot recover the vehicle until the fire is taken care of. In some cases, they have to assist in putting the fire out so they can carry on with their mission.

So, our recovery crews are now operating, and in some cases designing and building, firefighting equipment that allows them to suppress the fire since they have to go in and basically clear the vehicle. Sometimes they are involved in processing remains of casualties. Sometimes there are cases of MEDEVAC [medical evacuation] and removing those who are injured. In some cases, the recovery crews are involved in processing remains and sanitizing the site and the equipment. There are procedures that have to be followed.

Even the nature of recovery, which has been a mainstay of maintenance NCOs on the battlefield, has changed. We must instill in our leaders and NCOs the abilities to adjust and transform along with how the battlefield transforms. We also have to change and continue to drive the change toward the technical aspects of what we expect our Soldiers to do. They must be warriors first, Soldiers first, but they must be skilled in the techniques of their specialties so that they can do those tasks that are expected of them on the battlefield. The challenge is finding out what those tasks are because they continue to change. I mentioned detainee operations, for example. Soldiers should not expect to do just a career field job like recovery because, while they are still doing recovery, the recovery mission has changed.

Each of those examples is primed to get after the fact that we need pentathletes—those who are flexible enough to change and not be tied to the old way of doing business. Two buzzwords that kind of sum it up are pentathlete and multifunctional. The challenge is defining what they mean. How do we define them? Whose definition do we use? We could study the death out of it, and sometimes we suffer from that in the Army. We put together studies and progress

reports, and they are important. Don't get me wrong; I'm not downplaying them because they have a role and purpose.

However, I spoke a moment ago of those prewar processes that we use; they were there for our protection. They were safety nets. They were there to make sure all the steps were taken. But the nature of changing warfare of insurgency operations and the structure of the battlefield—what I saw of the modern battlefield from 2003 to 2007 up close and personal on the ground—have changed each time. We have to have systems that support battlefield changes, and I believe our leaders recognize that. So, the challenge of the NCO corps is how do we define it and how do we validate it? There has to be some validation.

In my opinion, or my narrow view, individuals can't set the tone for the future. We have to have a cross-section of the senior enlisted corps in the logistics arena come together. In some cases, we will disagree, but we have to get after it. We have to provide feedback. That is what is so important in this. I talk it up as I visit our NCOs, and I visit them across the Army, in the posts, camps, and stations where they work. I visit them on the battlefield; I visit them in reset, in preparation at a combat training center or at a mission rehearsal exercise, and this is what they tell me.

As a senior enlisted logistics Soldier in the Army looking ahead, how best can our noncommissioned officers prepare for the future?

The three pillars of leader development are still important today; they have not changed. The operational assignments (the units our Soldiers belong to) pillar is strong. The majority of the development that is happening in our NCO corps remains in the units that are serving in assignments or deployments today—that is strong. We will sustain that.

The second of the leader development pillars is self-development. Soldiers need to be predictive enough to determine what their needs are in order to be proficient. They need to ask themselves how to do it and what the next greatest thing is. That's a challenge to our Army. We have tried in the past to define what self-development is. My suggestions to Soldiers are that you have to read, you have to study, and you've got to look at current events—the periodicals and the publications that are out there, whether they are from service organizations or they are things like Soldiers' magazines or logistician magazines.

Logistician NCOs should read the *Army Logistician* magazine and the *PS* magazine; they should also read the *Army* magazine, *Parameters*, and *Army Review*. Those are the types of things Soldiers need to do to prepare themselves to understand what changes are on the horizon. Understanding the changing nature of our business—how we predict we are going to change—helps a Soldier tailor his self-development.

The third pillar of our development is the institutional Army—a challenge that those like CASCOM and the branch schools continue to work at. The good news is they get better at all of the time. I have had great exposure to our Army over the last 30 months. I've had great exposure to the enlisted logistics Soldiers of the Army, and, through that exposure, I have learned that they have a great story to tell. Our challenge is to cultivate that story. We have to draw that story out of them. Somebody has to pull their info. We're doing a decent job of getting a part of that story from commanders and staff. We have to equally go after the senior enlisted story from the sergeants major, the first sergeants, the operations sergeants, and the support operations sergeants; we've got to pull in their feedback. We have to do this so that their perspectives can go into making these changes.

How do we become more multifunctional? How do we become the pentathletes we need to be? In addition, how do we obtain the right skill set—the skills, knowledge, and attitude that logistics Soldiers need to possess to be successful? When the Army asks the questions, they need to ask the enlisted Soldiers at the same time.

I think *Army Logistician* magazine does a great job of allowing units, leaders, and organizations to tell their story. However, that is a "push" and not a "pull" process. If I am interested in presenting my story, it is put out there and it is a great forum, but we need a mechanism to pull that data. Collectively, the Army and the Logistics Corps need to pull that data. I think we're doing it, and in some agencies and arenas we are doing well.

But I challenge everybody to go back and ask, to look, get your hands on data from NCOs—those who are doing multifunctional logistics or those who are doing stovepipe functional logistics. Go back and find that material and data. I suggest enlisted leader input is not as strong as it could be. And I challenge the Army and the logistics forces to seek out and encourage those who have a story to present it, document it, and share it so we can get after some of these changes.

What do you consider are the effects of transformation?

Transformation is happening now. In the logistics career fields, it's happening in so many aspects and at lightning speed. It's in every facet of the Logistics Corps; whether it's how we manage or assign our logisticians or how they operate the equipment that

they use. The transformation is happening in so many different avenues that it is sometimes dizzying.

The challenge for the leaders is to stay aware of those changes, learn, and be a change agent. They have to voice their thoughts and experiences. The ground war in 2003, when we went into Iraq, was much different from Operation Anaconda in Afghanistan, which was much different from subsequent rotations in either theater. So, the experiences our Logistics Corps Soldiers have are tempered by time, location, and the changing nature of the battlefield. Different people have similar views, but they are based on different periods of time. It is important that those who are bringing about change (leaders) have input from the different views.

One thing that is apparent to those within the logistics arena, but may not be apparent to others, is the makeup of the Logistics Corps. Within the corps of logisticians—ordnance, quartermaster, and transportation—over half reside in the Reserve components. In the past, the Army Reserve and National Guard have been a strategic reserve so that, if the need arose, there would be a presidential call up and they would backfill the Active Army or serve as the sustaining base for personnel and units. Well, the Reserve component is transforming to an operational reserve rather than a strategic reserve, and that changes how we must use those forces over time. What does that mean to the other half of the Logistics Corps? One meaning is that they are going through transformation, too.

You can look at the Army Reserve component and you can see today that they are transforming how they train for the future and how they sustain themselves while they are in the rest or ready pool. That is happening. Another thing that hopefully will become apparent is that, because of the rotation schedules we've had in the past, the experience level of our Reserve component is growing.

The experiences—whether from Kosovo, the Sinai, Operation Iraqi Freedom, or Operation Enduring Freedom—those Reserve forces are gaining by deploying are increasing at a level that's probably been unparalleled since World War II.

And you say, what about those other conflicts? It's obvious we didn't use our Reserve component in many conflicts, particularly during Vietnam. But, we have used them in other conflicts in the past, but just not at the level we are using them now. It's public knowledge that we've used many of our major formations at least once during this time of Global War on Terrorism. So, all of those units, through their various deployments, are gaining their experiences, and those logistics units are gaining experiences in how to do theater-level logistics or strategic-level logistics.

One of the things our current Army Chief of Staff, General George W. Casey, Jr., said when he came on board was that the number one change he wants to focus on is changing Army policies and procedures to support an expeditionary Army. That is the most important effort that he has laid out.

We have to continue to transform the institutional Army to support an expeditionary Army. We have great leaders—the Army G–4, CASCOM, AMC—and they are assisting in putting their feedback into those changes. For the NCO corps, those leaders are CASCOM's command sergeant major, the Army G–4 command sergeant major, and service school sergeants major. We have to ensure that we continue to drive the changes to the enlisted training programs that develop Soldiers in the institutional Army. They have changed and will continue to change. They have gained a battle focus and a warrior focus that was absent before. They need to continue those gains made to date.

Somebody told me, "This is not your father's Training and Doctrine Command," and I believe that. TRADOC is changing the way we do business. The leadership has reconsidered our systems that we have spent many years cultivating since the development of TRADOC—the systems that were put in place to ensure the appropriate steps were taken to implement change. As important as they were and are, they are also time-consuming. And the changing battlefields of wars today won't support it. There is a purpose for having those steps and procedures, but we have to change.

What is important as we talk transformation in the Logistics Corps, NCO corps, and among all the logistics NCOs—and I emphasize those different categories—is the intent or the goal to develop pentathletes. It is imperative that our NCO corps is flexible enough and that our logistics NCOs have the ability to flex and adjust to the changes that are expected on the battlefield. The pentathlete leader is that. We must have pentathlete logistician NCOs who can adjust. **ALOG**

Command Sergeant Major Daniel K. Elder is the Command Sergeant Major of the Army Materiel Command. He has an associate's degree from Central Texas College, and he is a graduate of the Sergeants Major Course, the Command Sergeants Major Course, the Command Sergeants Major Force Management Course, and the Command Senior Enlisted Leader-Keystone Course.

Diana Dawa is a public affairs specialist in the Office of Public and Congressional Affairs at the Army Materiel Command. She served in the Army as an audiovisual television documentation specialist and as an Army broadcaster. She is a graduate of the Defense Information School's Public Affairs Officer Qualification Course.

ALOG NEWS

CHIEF OF STAFF DISCUSSES ARMY IMPERATIVES AT AUSA MEETING

Attendees at the Association of the United States Army (AUSA) annual meeting in Washington, D.C., in October heard the Army's leaders describe an Army that continues to transform to meet the demands of future challenge even as it pursues a global war against terrorists. As the Army's Chief of Staff, General George W. Casey, Jr., observed, in a time of "persistent conflict . . . the Army will remain central to any national strategy to ensure our security and . . . we need versatile and agile forces that can rapidly adapt to unexpected circumstances."

General Casey noted that the need "to rebalance the Army" will be accomplished by following the imperatives of sustain, prepare, reset, and transform. But he cautioned, "We must do that [rebalance] while we are at war, and it will not be easy. . . . Implementing these imperatives will require several years, considerable resources, and sustained commitment by Congress and the American people."

The imperative to reset is dictated by heavy wartime demands. Since the initial invasion of Iraq in 2003—

> . . . equipment has been used at a rate over five times that programmed, in harsh, demanding mountain and desert conditions. . . . Resetting our force is critical to restoring readiness and to building for the future: We will reset for the future, not rebuild the past. We have told Congress that reset must continue as long as we have forces deployed and for several years thereafter. The commitment to providing resources to reset our forces is essential to restoring strategic depth and flexibility to the Army. It will be the difference between a "hollow Army" and the strategic flexibility we need in an era of persistent conflict.

According to General Casey, transformation will result in "an agile, globally responsive Army that is enhanced by modern networks, surveillance sensors, precision weapons, and platforms that are lighter, less logistics-dependent and less manpower-intensive . . . a truly 21st century force."

Transformation will involve growth in the number of Soldiers, modernization of equipment, development of "agile and adaptive leaders," and transformation of the Army National Guard and Army Reserve from a strategic reserve, "only mobilized in national emergencies," to an operational force "employed on a cyclical basis to allow us to sustain . . . extended operations."

ARMY RAIL UNITS BEGIN EXERCISES

The Military Surface Deployment and Distribution Command (SDDC) has begun a multiyear exercise program designed to provide the Army's only rail unit, the 757th Transportation Railway Operating Battalion, an opportunity train with its four companies as an integrated unit. The exercises, known as Rail Train, are conducted at Fort Eustis, Virginia.

Before Rail Train, the 757th was not able to conduct a command and control exercise involving its companies in a field environment. The assets available at Fort Eustis allow battalion personnel to train in locomotive operations, locomotive and railcar repair and maintenance, and railway track maintenance. Rail Train involves unit training, certification of individual skills, and a field training exercise at the forward operating base at Fort Eustis.

The 757th Transportation Railway Operating Battalion is an Army Reserve unit located in Milwaukee, Wisconsin. Its companies are the 226th Transportation Railway Operating Company (TROC) in Massachusetts; the 1150th TROC at Fort Sheridan, Illinois; the 1151st TROC at Military Ocean Terminal Sunny Point, North Carolina, and Blue Grass Army Depot, Kentucky; and the 1152d TROC in Milwaukee.

ARMY RECEIVES 12 SHINGO AWARDS

Seven Army Materiel Command (AMC) activities received Shingo Public Sector Award for Excellence in Manufacturing Achievement prizes in October. Considered the "Nobel Prize of manufacturing," the Shingo Prize promotes awareness of Lean manufacturing concepts and recognizes excellence in manufacturing.

Shingo Hall of Fame status was awarded to General Benjamin S. Griffin, AMC Commander, recognizing his leadership in guiding the Army toward the challenges of a new century while improving the manner in which the Army does business at its depots.

Gold Prize recipients were—

• The Joint Manufacturing and Technology Center at Rock Island, Illinois, for resolving safety and ergonomic issues with its Forward Repair System.

• Red River Army Depot, Texas, for exponentially increasing high-mobility multipurpose wheeled vehicle (HMMWV) production while achieving a cost avoidance of almost $4 million.

• Tobyhanna Army Depot, Pennsylvania, for work on the AN/TPQ-36 Firefinder radar antenna.

Silver Prize recipients were—

• Anniston Army Depot, Alabama, for increasing Field Artillery Ammunition Supply Vehicle (FAASV) production by 41 percent and reducing cycle time significantly.

• Letterkenny Army Depot, Pennsylvania, for increasing HMMWV recapitalization production while reducing costs.

• Red River Army Depot for increasing output of heavy expanded mobility tactical trucks (HEMTTs).

• Red River Army Depot for reducing labor hours and expanding output of Bradley fighting vehicle power train production.

• The Joint Manufacturing and Technology Center at Rock Island Arsenal for reducing labor hours by 26 percent and reducing work in process by 63 percent to generate a cost avoidance and saving of $4.9 million.

Bronze Prize recipients were—

• Anniston Army Depot for achieving a number of milestones with its AGT 1500 turbine engine, including 100-percent on-time delivery.

• The Aviation and Missile Command at Fort Rucker, Alabama, for saving costs and reducing the cycle time of the C20J engine line for the TH–57 Sea Ranger helicopter.

• Corpus Cristi Army Depot, Texas, for reducing labor hours and achieving a cost avoidance for its project on the HH–60 Pave Hawk helicopter project.

• Letterkenny Army Depot for reorganizing their power-generator maintenance operations to increase output at a lower cost.

PRODUCTION OF NEW HEMTT BEGINS

Oshkosh Truck Corporation began production of a new model of the heavy expanded mobility tactical truck (HEMTT) called the A4 in November. The variants under the contract include the load-handling system, the cargo vehicle, and the fuel servicing truck (tanker). The Army began testing the HEMTT A4 in June 2006, operating the test vehicles for up to 45,000 miles.

Technological advances of the HEMTT A4 will help make Soldiers more mobile and keep them better protected. This new model of HEMTT has more horsepower and torque, improved suspension, integrated armor protection, and additional armor attached. The HEMTT A4 shares common cab, parts,

A new heavy expanded mobility tactical truck (HEMTT) A4.

Combined Joint Special Operations Task Force-Afghanistan personnel have packed and loaded more than 1 million pounds of cargo during their first 5 months of deployment. The average pallet weighs about 1,600 pounds. Poor quality and extremely dangerous roads make the use of convoys for logistics support difficult. The airdrops provide support to personnel at forward operating bases, many of which are in remote locations and at high elevations. The riggers also prepare humanitarian relief packages dropped to civil affairs teams in the field. In the photo, Special Operations riggers check cargo in a plane at Bagram Air Field, Afghanistan, before an aerial delivery mission.

and support with the Oshkosh Truck palletized load system (PLS) A1, reducing the logistics footprint.

The $207.6 million contract calls for the Army to receive 526 HEMTT A4s.

COMBAT SUPPORT BRIGADE (MANEUVER ENHANCEMENT) DEBUTS IN ACTIVE ARMY

The first Active Army combat support brigade (maneuver enhancement) was activated at Fort Polk, Louisiana, on 2 October. This new unit—the 1st Combat Support Brigade (Maneuver Enhancement)—will be one of 23 combat support brigades (maneuver enhancement) [CSBs (ME)] the Army plans to create, with 4 in the Active Army, 16 in the Army National Guard, and 3 in the Army Reserve.

The new organization is one of five types of multifunctional support brigades that will be established under the transformation to the modular force. The others are the sustainment brigade, battlefield surveillance brigade, combat aviation brigade, and fires brigade.

The CSB (ME) is designed to provide maneuver support to combat forces. Its force structure will be tailored to meet mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT–TC) requirements. Its organic structure includes a headquarters and headquarters company, a signal company, and a brigade support battalion with a support maintenance company and a distribution company. Other units, such as military police, engineer, signal, chemical, explosive ordnance disposal, and civil affairs, will be assigned or attached to, or placed under the operational control of, the CSB (ME) as needed.

The tailored CSB (ME) will act as a command and control element for a number of tasks—some usually performed at the division level—including such tasks

as rear area operations, terrain and airspace management, force and convoy route protection, infrastructure development, and force mobility assurance.

DLA RELOCATES EUROPEAN OFFICES

The Defense Logistics Agency (DLA) is relocating several of its activities in Europe to a consolidated facility in Germany. This relocation will collocate DLA logistics services and headquarters activities to better support U.S. military forces while reducing costs.

The DLA Regional Command Europe, Defense Energy Support Center Europe, Document Automation and Production Service Europe, Information Operations Europe, Defense Reutilization and Marketing Service (Forward Support Team), DLA Office of Investigations Europe, and DLA Enterprise Support Europe will move to the Kaiserslautern Military Community from Wiesbaden. Defense Supply Center Philadelphia European Region, located in Mainz-Kastel, also will move to Kaiserslautern.

The relocations will place DLA offices at the center of the European logistics hub.

JOINT QUALIFICATION SYSTEM REPLACES JOINT SPECIALTY OFFICER SYSTEM

A new system for earning points to become a joint qualified officer, the Joint Qualification System (JQS), offers more flexibility in recognizing an officer's joint experience. The JQS, which has replaced the Joint Specialty Officer System (JSOS), allows officers to count time spent on assignments working in joint environments toward their total joint-qualification points.

Under the JSOS, an officer could only become joint qualified by completing joint-education courses and being assigned to a validated joint-duty position for a specified period of time. The JQS recognizes all joint experiences, including contingency operations with non-government or other military forces. The new system still requires officers to complete joint qualification courses.

The JQS is divided into four levels based on how many points an officer has accrued. Officers must meet the following requirements for each level—

Level 1: Completion of basic officer courses with introductions to joint matters.

Level 2: Completion of the Joint Professional Military Education I (JPME I) course, the accrual of 18 joint-qualification points, and certification by the chairman of the Joint Chiefs of Staff.

Level 3: Accrual of 36 joint-qualification points, completion of JPME II, and certification by the Secretary of Defense.

Level 4: Completion of the CAPSTONE general officers' course and the accrual of 60 joint-qualification points.

An officer's joint-qualification points are calculated by combining joint-education points, joint-experience points (based on the duration and intensity of the officer's joint assignments), and other discretionary points, which are based on training, exercises, and education other than JPME.

CIVILIAN CORPS CHAMPION APPOINTED

Secretary of the Army Peter Geren appointed Deputy Undersecretary Thomas E. Kelly III as the Civilian Corps Champion in October. This appointment reinforces the Army's commitment to recognizing the importance of the civilian force to the success of the Army. As the senior executive advocate for the Civilian Corps, Kelly will expedite Civilian Corps training transformation as he implements Army Initiative 5 (AI–5), Accelerate Leader Development. This appointment reflects the Army's commitment to meeting its responsibility to enable Civilians to achieve their full potential.

AI–5 is one of five initiatives that resulted from a review directed by General George W. Casey, Jr., shortly after he became Army Chief of Staff. Deputy Undersecretary Kelly co-chaired the AI–5 working group with General William S. Wallace, Commanding General of the Army Training and Doctrine Command. "It was our job to identify previously recommended actions that had languished for whatever reason and to get them 'un-stuck,' " Deputy Undersecretary Kelly said.

AI–5 is based on Army Leaders for the 21st Century (AL21), an initiative to build leaders skilled in many disciplines and able to rapidly transition between complex tasks. AL21 addressed officer, noncommissioned officer, and civilian leaders. AI–5 extends that effort by finding efficient ways of accelerating Army leader development.

Other AI–5 recommendations include reviewing civilian management systems and increasing access to developmental opportunities beyond the Civilian Education System.

The designation of a Civilian Corps Champion will help the Army meet such objectives as supporting the National Security Personnel System, developing a "people tie" to the Strategic Readiness System, and integrating and strengthening relationships among officers, noncommissioned officers, and civilians.

Soldiers from the California National Guard use a ladder and a sawed-off traffic cone to fill sandbags. These sandbags were used to help prevent mudslides that could have resulted from the fires that devastated areas of Southern California in October. The Department of Defense teamed with the California Department of Forestry and Fire Protection to help fight the fires that swept through Southern California. Over 2,700 National Guard Soldiers provided communications, security, evacuation, and air support to the firefighters in addition to filling sandbags.

Index of *Army Logistician* Articles—2007

Coming in Future Issues—

- **Army Reserve Centennial, 1908–2008**

- **Logistics Force Generation for Iraq**

- **Unit Deactivation Logistics**

- **Web-Based Processing of FLIPLs**

- **Operation Desert Shield: Thunderstorms of Logistics**

- **Ensuring CLP Success**

- **Low-Cost, Low-Altitude Aerial Resupply**

- **Training Challenges for SAAS–MOD**

- **Deciphering the World of COMSEC**

- **Defeating the Threat to Sustainment Operations**

- **How the 3d Infantry Division Executed ARFORGEN**