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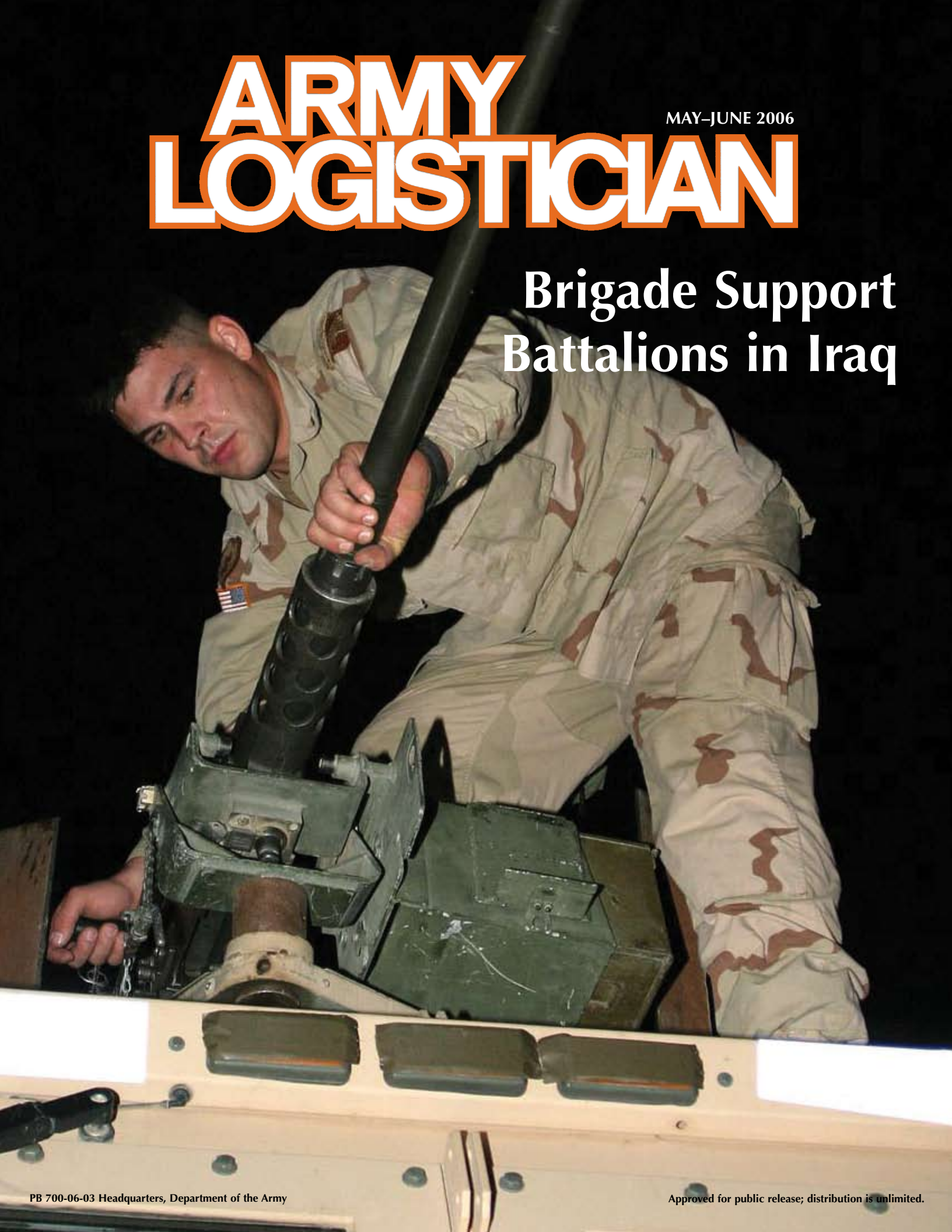

Brigade Support Battalions in Iraq

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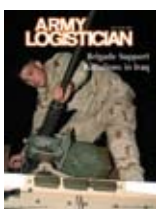

Cover: Because the Army is transitioning to a modular force at the same time it is fighting a war, many logistics units find themselves simultaneously transforming and deploying. In one of the most significant transformations, brigade combat teams are gaining ownership of their support through the brigade support battalion (BSB). An article on the challenges facing BSBs operating in Iraq begins on page 2. One of those challenges is providing security for combat logistics patrols. On the cover, a truck driver secures an M2 .50-caliber machinegun on his vehicle before beginning a patrol.

This medium is approved for the official dissemination of material designed to keep individuals within the Army knowledgeable of current and emerging developments within their areas of expertise for the purpose of enhancing their professional development.

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ALOG NEWS

ARMY IN LINE FOR BUDGET INCREASES TO SUPPORT MAJOR INITIATIVES

The President's budget for the Army for fiscal year 2007 proposes a healthy increase of 12.7 percent over the amount Congress appropriated for fiscal year 2006. The Army's budget request of $111.8 billion represents 25.4 percent of the Department of Defense (DOD) request of $439.3 billion for fiscal year 2007. (Figures in this article do not include supplemental appropriations for fiscal year 2006 or supplemental requests that will be submitted for fiscal year 2007.)

The Army's spending plans are designed to achieve its strategic goals—

- Winning the long war. ["Long war" is the term the Department of Defense uses to refer to the Global War on Terrorism.]
- Sustaining the all-volunteer force.
- Accelerating the modernization strategy for the Future Force.
- Accelerating business transformation and process improvements.

Meeting these goals requires the Army to continue its conversion to a modular force, create the ability to sustain a force that is more joint and expeditionary, insert promising technologies, implement DOD's Quadrennial Defense Review [see next article], develop leaders and Soldiers who are multi-skilled "pentathletes," modernize force-protection systems, execute the Army Campaign Plan and the Army Force Generation Model, and improve the Army's strategic footprint through the Integrated Global Presence and Basing Strategy (IGPBS) and the Base Realignment and Closure (BRAC) process. (IGPBS governs the evaluation of overseas installations and facilities for closure and realignment.) Under BRAC 2005, the Army will close 12 Active component and 175 Army Reserve installations, 8 Active component leased facilities, and 211 Army National Guard facilities. (The National Guard closings are contingent on agreements with State governors).

In support of major Army initiatives, the budget includes approximately $6.4 billion in investments to support the conversion to a modular force. A total of $3.746 billion is allotted for continued development and demonstration of the Future Combat Systems, including future non-line-of-sight fires. The budget includes a tripling in BRAC-related spending to $3,659 billion, including $883 million for IGPBS activities.

Spending requests for fiscal year 2007 for the major budget categories, compared to actual fiscal year 2006 appropriations, are as follows—

- Military personnel: $42.637 billion, up $2.059 billion, or 5.1 percent.
- Operation and maintenance: $32.040 billion, up $1.991, or 6.6 percent.
- Procurement: $16.841 billion, up $5.821 billion, or 52.8 percent.
- Research, development, test, and evaluation: $10.856 billion, down $149.2 million, or 1.4 percent.
- Military construction: $2.700 billion, up $292.6 million, or 12.2 percent.
- Family housing: $1.272 billion, down $52.5 million, or 4 percent.

The fiscal year 2007 budget aircraft procurement proposal requests $740 million to acquire 38 UH–60 Black Hawk utility helicopters; $620 million to modify CH–47 Chinook cargo helicopters; $199 million to purchase 39 light utility helicopters; $795 million to upgrade and modify AH–64 Apache attack helicopters; and $9 million that will more than double spending on aircraft spare parts.

Other procurement requests include $796 million for 100 Stryker vehicles, including 65 mobile gun systems, 13 nuclear-biological-chemical reconnaissance vehicles, and 22 command vehicles; $33 million for 115 sets of Stryker reactive tiles; $583 million for 3,091 up-armored high-mobility, multi-purpose wheeled vehicles; and $695 million for 4,119 trucks in the family of medium tactical vehicles. The Army also wants significant procurement increases for maintenance equipment (from $11 million to $58 million), construction equipment (from $53 million

(ALOG NEWS *continued on page 54)*

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Modular BSBs in Operation Iraqi Freedom

BY MAJOR THOMAS J. FOSTER, KSARNG

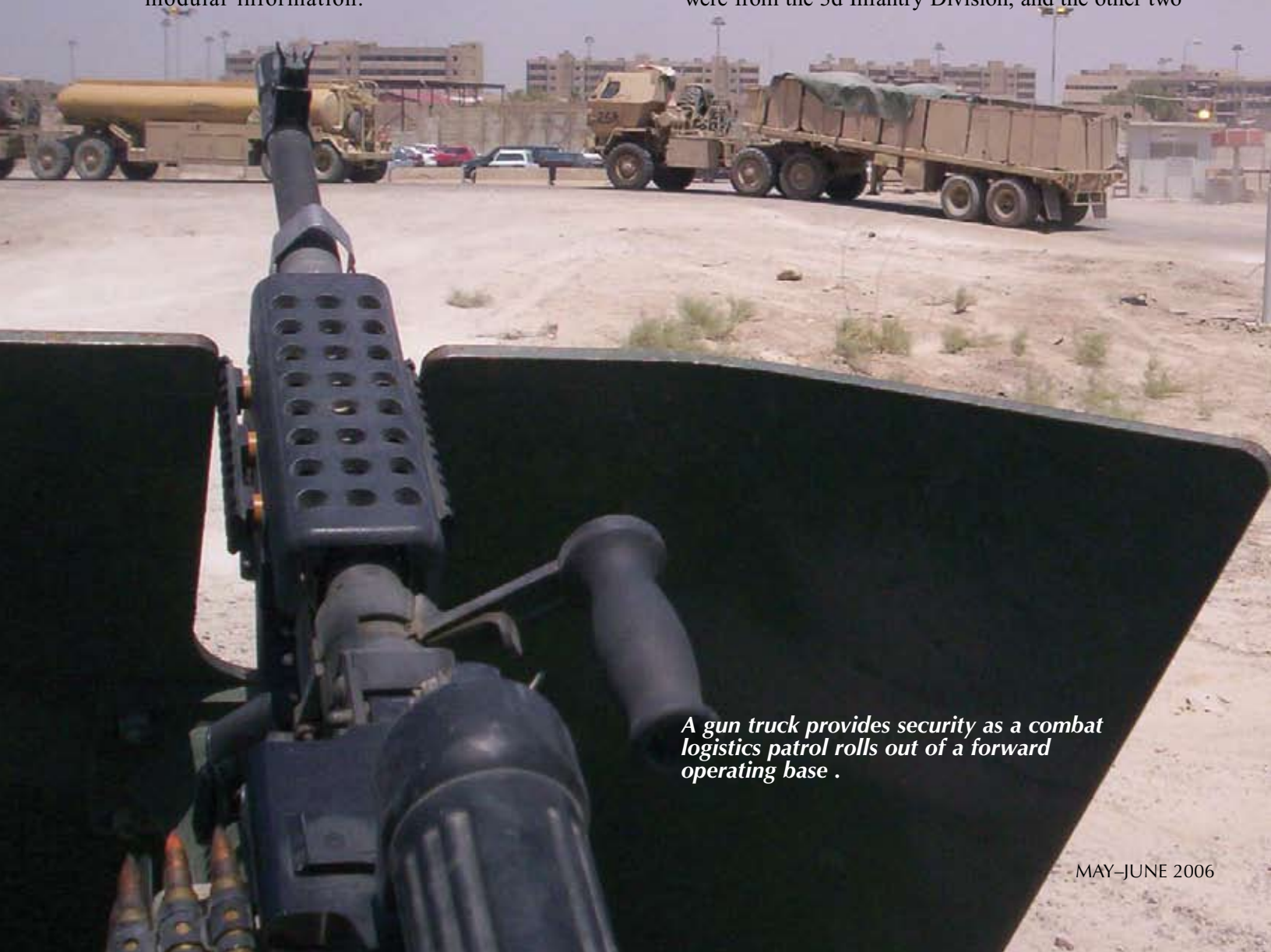
The modular units now on the ground in Iraq are very different from the support units that helped drive Saddam Hussein from power in 2003. Modular brigade support battalions (BSBs) first deployed to the theater of operations during Operation Iraqi Freedom (OIF) 04–06. These OIF 04–06 deployments tested new combat service support (CSS) modular design concepts, organizations, and tactics, techniques, and procedures (TTP).

I had the good fortune to observe and collect information on these modular CSS units as a Center for Army Lessons Learned liaison officer with the 3d Infantry Division during OIF 04–06. I was able to spend time with each modular support battalion to collect lessons learned, TTP, and general modular information.

Transformation Activities and Deployment

After returning from OIF 1, the 3d Infantry Division began transforming to a modular design. This undertaking was enormous, and the modular design changed as issues arose and solutions were found. However, the 3d Infantry Division had to deploy to OIF 04–06 before it could finish converting to the modular design. As a result, the two 3d Infantry Division brigade combat teams (BCTs) that deployed (2d BCT and 4th BCT) were only partially modular-enabled.

During OIF 04–06, the 3d Infantry Division served as the headquarters for Multinational Division-Baghdad (MND–B). MND–B's task organization included four modular BCTs and one traditional Army of Excellence (AOE) BCT. Two of the MND–B modular BCTs were from the 3d Infantry Division, and the other two



A gun truck provides security as a combat logistics patrol rolls out of a forward operating base .

were the 1st Brigade, 10th Mountain Division (Light Infantry), and the 2d Brigade, 101st Airborne Division (Air Assault). The 10th Mountain Division and the 101st Airborne Division BCTs were organized according to current modular force designs, while the 3d Infantry Division's BCTs were organized under an older modular force design. In the older design, support battalions report to the division support brigade. In the new design, these battalions are organic to the BCT.

Each of the transforming BCTs faced similar issues. They all were working simultaneously on transformation and deployment missions. Equipment and personnel often did not arrive until deployment time. Many positions were unfilled or filled with Soldiers just out of advanced individual training (AIT) or officer basic or advanced courses. Other authorized equipment and vacant positions were not filled at all.

Transformation Effects on Units and Leadership

The pace of change in the Army has necessitated a "learn as you go" philosophy for the BSBs. Units that are deployed or preparing to deploy and those in the process of transforming to a modular design find it difficult to keep abreast of emerging and changing doctrine. Therefore, commanders are relying on CSS White Papers and PowerPoint presentations for modular force guidance. New logistics doctrine was not released before the deployments, and service schools have not had time to integrate modular concepts into their curriculums. Soldiers attending AIT and the Noncommissioned Officer (NCO) Education System schools and officers attending basic and advanced courses are getting only an introduction to the modular concept before they are assigned to units that have already transformed.

Since the entire Army is changing, time has not been available to train everyone on the new CSS modular force concepts and structure. This is an issue both inside and outside the CSS community. One forward support company (FSC) first sergeant said it took him a month to realize that he was not in a company in the supported battalion but in a company of the BSB.

Transforming While at War

In a perfect world, transformation would have occurred when the Army was not at war, but that is not the case. Deployed units are working through theory in the face of reality. Even though the new organizations are modular, many people in the Army still have an AOE mindset. The FSC is a good example of this point.

One of the key features of the BCT modular force is the continued use of the FSC with the combined arms battalions developed under Force XXI. The FSC is a multifunctional unit that includes a distribution platoon and a maintenance platoon organized to provide support to a maneuver battalion. Four FSCs are organic to the BSB, one for each battalion in the BCT. In the AOE, support platoons in the maneuver battalions were the main logistics providers. The FSC is not a support platoon, and it is not organic to the combat arms maneuver battalion. Rather, it has a direct support-type role.

Soldiers conduct maintenance cross-training on an M113 armored personnel carrier.

Under transformation, the FSC provides logistics support to the maneuver battalion. The supported battalion's S–4 is still the main logistics planner. However, the FSC commander assists the S–4 in developing plans that are based on the battalion commander's guidance. The FSC commander also works with the battalion executive officer (XO) to synchronize support. The support platoon of the combined arms battalion is removed from the battalion's headquarters and headquarters company. The only CSS function that remains organic to the maneuver battalion is medical support.

The new, robust BSB is a combat multiplier for the brigade commander, who now owns his own support. It is a more robust organization than the forward support battalion it replaced; it has base companies and FSCs to support all the brigade combined arms battalions.

The BSB in OIF

BSBs deploying to Iraq face several issues that affect their support missions. These issues include the type of equipment and vehicles that they fall in on when they arrive, the impact of basing logistics at forward operating bases (FOBs), and the area support mission they are required to perform in theater.

Units deploying to Iraq often fall in on stay-behind equipment and theater-provided equipment that is not

part of their standard modification table of organization and equipment (MTOE). For example, an infantry BCT might fall in on M1070 heavy equipment transporters, M113 armored personnel carriers, and other armored vehicles. This situation, in addition to the large number of M1114 up-armored high-mobility, multipurpose wheeled vehicles (humvees) in the theater of operations, affects the Infantry BSB's support capabilities because it is not designed to maintain heavy equipment and does not have the resources to support it. So, to support tracked and wheeled vehicles, the BSB must augment its maintenance capabilities. Even with additional maintenance assets, the second and third order effects are far-reaching. The BCT must have a prescribed load list (PLL) and authorized stockage list (ASL), and someone must understand how to use them. Heavy BCTs have better historical maintenance and operational experience in trends for maintenance than the Infantry BCTs have. Fortunately, the 1st BCT, 10th Mountain Division (Light Infantry), and 2d BCT, 101st Airborne Division (Air Assault), have wheeled maintenance personnel who have served as mechanized mechanics at some point in their careers, which helped them meet the additional demands. However, seemingly minor items, such as vehicle licensing, TTP, and operator maintenance, also add to the complexity that units face in Iraq.

FOB-based logistics plays a substantial role in BSB operations. Contractors perform several support missions, such as dining facility, water, and class III (fuel) operations, at many FOBs. Since BSBs are static and partially augmented with personnel and equipment for their support, one BSB commander felt that his unit had a false sense of security concerning its logistics capabilities in a kinetic environment. The main concerns for the heavy BCTs center around fuel, water, and materials handling outside this static environment.

The change to a container-based logistics system also has affected support. BSBs do not have organic, trained container management personnel or the appropriate equipment. With the container-based system, BSBs need additional forklifts, cranes, and rough-terrain container handlers. The volume of containers is much higher than many units realize before they deploy. The high volume of supplies at FOBs creates a situation in which the availability of materials-handling equipment can become a single point of failure. Therefore, units need additional M1077 palletized load system flatracks to accommodate the heavy container load.

In many FOBs in Iraq, the area support burden falls on the BSB. OIF FOBs include not only units from the BCT but also many units and personnel from the Navy, Air Force, Marine Corps, and Army Special Forces; embassy personnel; contractors; local-national base support staff; Department of Defense (DOD) civilians; and other coalition partners. One BSB that had the area support mission for the International Zone in Baghdad supported almost 14,000 personnel. A second supported a 1,200-Soldier military police battalion. Force-protection missions on base camps often are a drain on BSB personnel when units have to supply gate guards, tower guards, and Soldiers to support dining facilities and morale, welfare, and recreation facilities. In the future, combat training centers should include area support requirements to simulate this increased demand for the support operations (SPO) section. The center of gravity for the traditional AOE FSBs was the maintenance company; for modular force BSBs, it is the distribution company.

Forward Support Companies

Although FSCs are organic to the BSB and provide direct support to the combined arms battalion, some supported battalion commanders still view these units as their own and some do not like the fact that they cannot completely control the company. However, FSC capabilities are enhanced over those of an AOE battalion support platoon. An FSC can get help from the BSB to accomplish mission support when requirements exceed its capabilities.

Soldiers receive a final convoy brief before departing on a combat logistics patrol.

No single career path is best for an FSC commander or XO. Ideally, officers assigned to these positions should have previous experience in both distribution and maintenance operations. However, maintenance experience probably would be more beneficial to FSC officers assigned to a heavy BCT, while those assigned to an Infantry BCT would benefit more from distribution experience. Branch detail officers have a good understanding of combined arms battalion missions and seem to better translate requirements passed to FSCs from the supported battalions. FSC commanders also benefit from experience in a SPO shop, distribution company, or maintenance company.

FSCs currently have several limitations that must be addressed. First, additional materials-handling equipment should be added to MTOEs to meet support mission lift requirements. Next, the number of personnel in some of the FSC's low-density military occupational specialties (MOSs), such as those who perform small arms repair or communications and electronics repair, should be increased. In the AOE, the maintenance company had substantial ground support, electronic, and missile equipment sections to support the brigade. Under the modular design, these personnel were redistributed. Some were retained in the maintenance company, while others were moved to the FSCs. However, as an example, there is only one E–4 10-level position for each of these low-density positions in each FSC. Based on the MTOE, the 10-level E–4 reports to the motor sergeant in the maintenance section. BSBs have expressed a concern about their ability to provide mentoring, training, and backup for these low-density MOS personnel.

Because of this critical issue, one BSB SPO tracked rest-and-relaxation leave for these personnel to ensure repair coverage, while another BSB removed the personnel from the FSCs and consolidated them under the maintenance company. One suggestion proposed adding an E–6 30-level supervisor to each FSC to help allay some of these issues. A truck master also could be added to support the heavy distribution missions performed by the FSC. Lastly, an additional automated logistical specialist (MOS 92A) is needed to operate and manage all of the automated systems effectively.

Security Missions

One of the key issues for any OIF unit is security. A well-postured, prepared, and trained security presence is essential for both combat patrols and combat logistics patrols. BSBs and other logistics units do not have organic security elements. Many units in Iraq actually develop a platoon or team to provide security for combat logistics patrols and to act as personal security teams. The Army should consider adding a security section to future designs of the BSB.

Combat logistics platoons are composed of 30 to 60 Soldiers of varying backgrounds. In Iraq, contractors perform some of the distribution company's normal

Soldiers test litters designed to transport casualties in an M1114 up-armored humvee.

mission, leaving the distribution company's Soldiers available for the security mission. BSB security platoons typically include maintenance Soldiers and enough medics to satisfy mission requirements. A key task is identifying security platoon leaders. Beyond the platoon leader and platoon sergeant, identifying squad leaders and NCOs to serve as vehicle commanders is also critical. Once assembled, the security platoon needs to have a home, so some BSBs place this platoon under the headquarters and headquarters company or the distribution company.

Once a security platoon is manned, its Soldiers must be trained on individual and collective tasks. Since the operating tempo in garrison often prevents Soldiers from enhancing basic combat arms skills or obtaining experience with crew-served weapons, every Soldier needs time to train on the many tasks they will have to perform as part of the platoon. They also must be trained to operate equipment or systems such as radios, FBCB2 (Force XXI Battle Command Brigade and Below), Blue Force Tracker, and Warlock (an improvised explosive jamming device).

Collective training should be extensive since the unit must train on the latest TTP and vignettes in convoy operations. Several units have contracted with private companies to conduct basic force-protection training. Some combat training centers are using TTP that are outdated for the Iraqi theater. This makes relief-in-place training crucial because battle drills and an understanding of current TTP are essential components of security element training.

Training on the M1114 up-armored humvee is also very important. This vehicle handles much differently than a standard humvee and requires familiarization training for all drivers and members of the security platoon. The interior also contains more equipment than the standard humvee, and the Soldiers need to become familiar with operating in the constrained space.

Manning, organizing, and training the security platoon is best accomplished before deployment. Often, units discover this need only after predeployment site surveys are completed in theater, which leaves limited time to accomplish all necessary tasks before deployment. However, priorities and limited equipment in theater render training for security platoons nearly impossible.

Fabrication

Soldiers in Iraq continue to display ingenuity. This holds true for many Soldiers in the BSB. They continue to modify equipment to improve safety and security. For example, units are using discarded windows to construct a cupola to enhance protection for M1114 gunners, installing gunners' restraint systems, mounting additional lights, building gun racks, and developing two-patient litters for M1114s.

The new modular CSS organization provides robust capabilities for the BCT. The continuation of many Force XXI initiatives, such as the FSC concept, has proven effective in OIF. Although some issues surfaced during OIF 04–06, the overall effectiveness and abilities of modular BSBs have been tested and proven. **ALOG**

Major Thomas J. Foster, KSARNG, is the G–4 for the 35th Infantry Division at Fort Leavenworth, Kansas. He was embedded with the 3d Infantry Division for the Center for Army Lessons Learned in Operation Iraqi Freedom 04–06. He has a bachelor's degree from the University of Kansas and is a graduate of the Infantry Officer Basic Course, the Quartermaster Officer Advanced Course, the Army Command and General Staff College, and the Army Combined Arms and Services Staff School.

Reshaping the Contingency Contracting Military Workforce

BY SERGEANT MAJOR ETHAN A. JONES

The Army's contracting force structure will align with the Army's modular expeditionary force structure to provide streamlined contracting support.

Faced with limited resources, the Army continues to redefine and reshape its forces. Today's Army is now a modular force—a power-projection force that is designed to pull resources of all types from any part of the world, depending on the factors of mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT–TC). As the Army continues to restructure to deter, deny, and defeat U.S. adversaries anywhere in the world, the contingency contracting military workforce is redefining itself to meet the requirements of supporting both conventional and unconventional forces.

This reshaping requires an integrated acquisition, logistics, and technology (AL&T) capability that includes contracting. It also needs trained and experienced noncommissioned officers (NCOs) to serve in AL&T contracting positions and, in particular, a contracting military occupational specialty (MOS) to prepare those Soldiers.

AL&T Modular Support

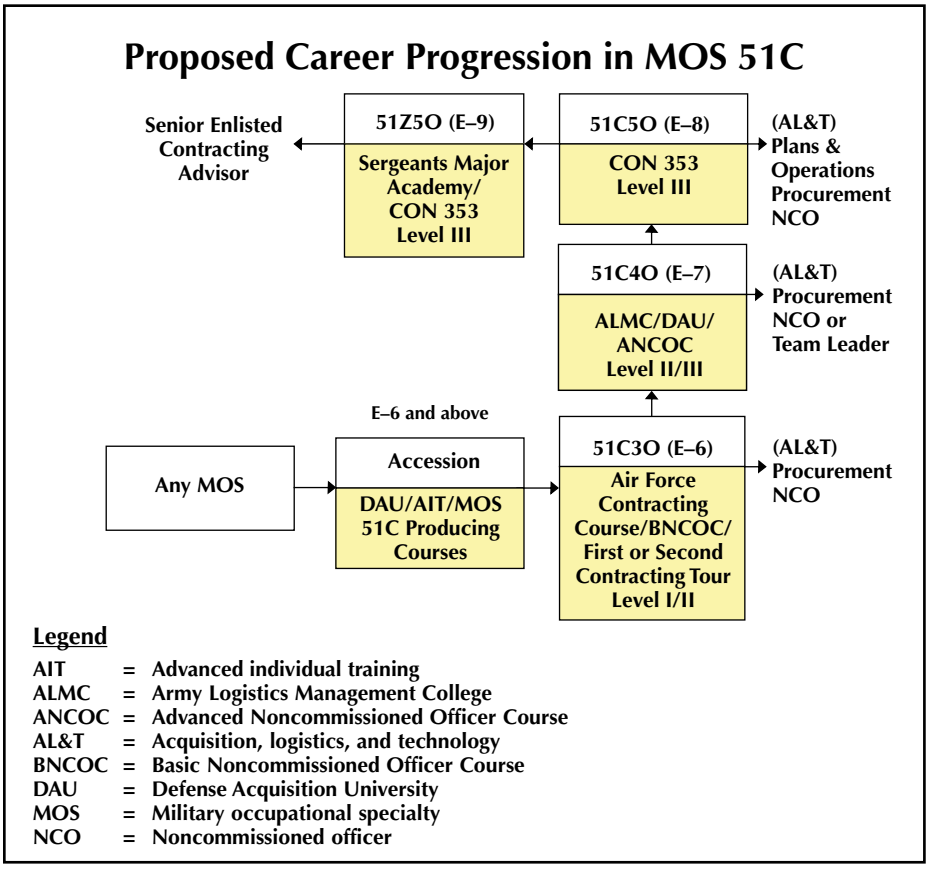
To provide an integrated acquisition, logistics, and technology capability that includes contracting, the Army Materiel Command Forward—now called the Army Field Support Brigade (AFSB)—will expand its mission and add AL&T capabilities to its existing logistics functions. The core AL&T forward-projected capabilities will include standardized and centralized AL&T planning, doctrine, concepts, solutions, and processes in areas such as test and evaluation, the Army Oil Analysis Program, brigade logistics support teams, the Rapid Fielding Initiative, the Field Assistance in Science and Technology program, spiral developments, the Logistics Assistance Program, total life-cycle management, and the Logistics Civil Augmentation Program.

The AL&T Modular Support Concept is consistent with the transformation requirements established in the Army Campaign Plan adopted in April 2004. The concept will increase Army strategic responsiveness and enhance operational and tactical agility across the full spectrum of operations—from homeland defense and national disaster response to major combat operations—by providing the Army service component commander and theater sustainment commander with a single node for orchestrating critical AL&T capabilities. The contingency contracting force will realign as part of the AFSB into a structure of modular headquarters contracting commanders/principal assistants responsible for contracting (PARCs) and modular contracting battalions and teams. [The contracting commander and PARC is one position.]

The Force Design Update (FDU) process will produce an Army contracting force structure that aligns with the Army's modular expeditionary force structure by providing streamlined contracting support. [The FDU process is an Army Training and Doctrine Command-led process that supports changes in organizational designs.] Mission contracting planners will benefit from a significant modular contracting force structure, allowing the theater contracting commander/PARC to plan and execute support for Army and Joint forces operating throughout the theater.

Mission commanders requiring contracting capabilities will be able to use time-phased force deployment lists to identify additional AL&T contracting teams or battalions, based on mission requirements from all components. Army planners will be able to deploy additional contracting commanders/PARCs, as required, to sustain multiple simultaneous operations.

Having the capability to purchase supplies, equipment, services, and minor construction in and around the mission area is vital to mission success and must be integrated into logistics support. This capability reduces the logistics tail and thereby frees limited transportation assets to support other missions; that makes contingency contracting a formidable force multiplier for the combatant commander. Contingency contracting gives the commander operational flexibility to bring additional combat systems to fight and win decisively. A brigade combat team must have the capability to deploy and sustain itself for the first 30 days of an operation. To achieve this goal, innovative and creative support is required, and contracting is one of the many force multipliers to make that happen.



This chart shows the career progression for proposed MOS 51C, contracting.

An MOS for Procurement NCOs

The FDU structure establishes a number of positions for AL&T Procurement NCOs. To fill these positions, the Army needs a sufficient number of trained, experienced, and certified AL&T procurement NCOs in Active and Reserve components to support its core contracting mission.

Today, procurement NCOs are in either MOS 92A, automated logistical specialist, or MOS 92Y, unit supply specialist, at skill levels 3, 4, or 5 and hold additional skill identifier (ASI) G1, contracting agent. They are qualified to perform 3- to 4-year tours in contracting, supporting both conventional and unconventional forces as force enablers. The Air Force and the Marine Corps have well-defined and -established career fields in contracting for their NCOs. Now the Army is developing its own contracting MOS for NCOs in the grades of E–6 through E–9 (staff sergeant through sergeant major). The proposed MOS 51C, contracting, is awaiting approval by the Army G–1 and G–3. The Army Acquisition Support Center is working with the Army Staff to resolve all issues. Following approval, the MOS 51C will be officially stood up by fiscal year 2008.

Currently, procurement NCOs, after serving a tour of duty in contracting, have to return to their basic branches to remain competitive for promotions. Procurement NCOs in contracting acquire highly perishable skills and training, and the Army and the contracting community lose valuable, trained assets when these NCOs return to their basic branches. In a contracting environment characterized by frequent changes in laws and regulations, the Army needs continuity and stability in all of its military contracting personnel, including its NCOs.

Since the beginning of Operations Iraqi and Enduring Freedom, procurement NCOs have been the second most deployed Soldiers, behind Infantry personnel. They have received 12 Bronze Star Medals and 1 Combat Action Badge for their services. Procurement NCOs supplement the number of contingency contracting officers (area of concentration 51C) by reducing back-to-back deployments (and thus the operating tempo) of contingency contracting officers (CCOs), planning and working on complex contracting actions, becoming warranted CCOs, and receiving the same level of Defense Acquisition University training as officers and emergency-essential Department of the Army civilians in the contract specialist (1102) series.

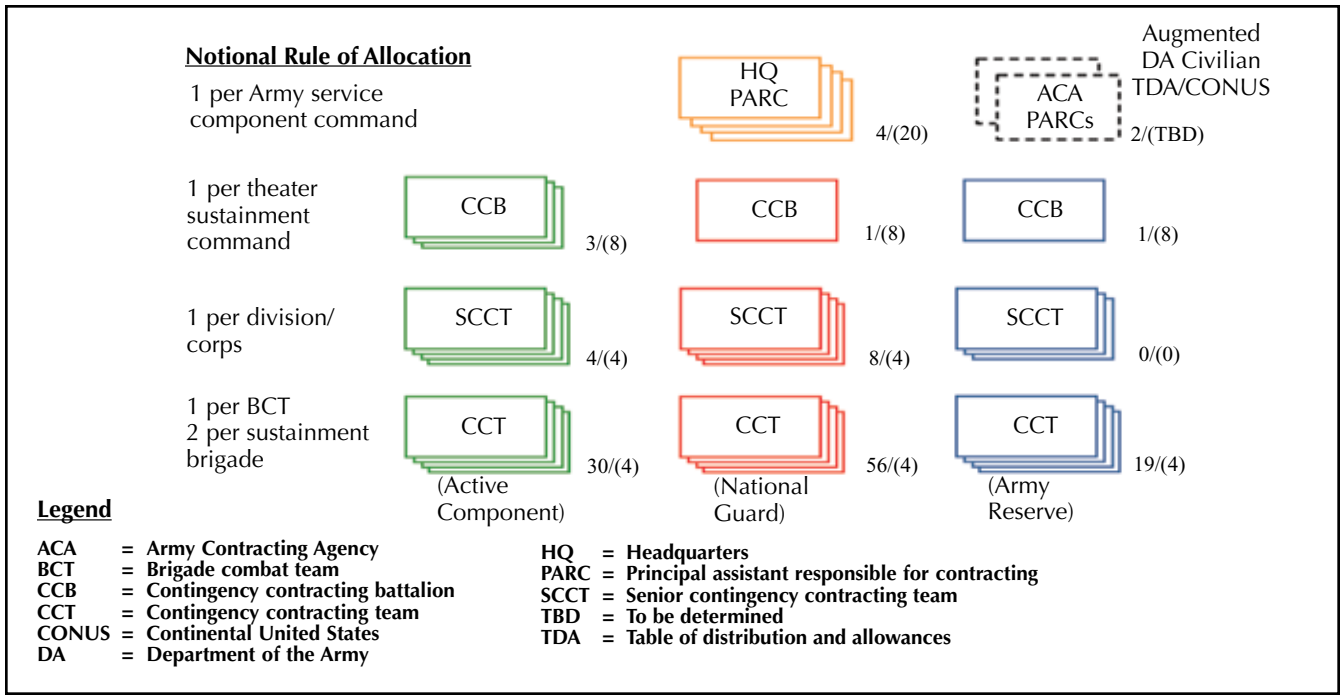
In the future, each AL&T procurement NCO will be assessed in his original MOS in his eighth year of service (but no earlier than E–6). Unlike its sister services, the Army will delay accession into the AL&T procurement NCO series in order to allow NCOs to gain the basic fundamentals of soldiering and leadership and operational and doctrinal experience (following the Special Operations Forces model).

MOS 51C Professional Development Model

Newly accessed NCOs in the grades E–6 (staff sergeant) through E–7 (sergeant first class) with less than 10 years of active service must successfully complete the following Defense Acquisition University (DAU) courses in contracting within a set timeframe—

- CON 100, Shaping Smart Business Arrangements.
- CON 110, Mission Support Planning.
- CON 111, Mission Strategy Execution.
- CON 112, Mission Performance Assessment.
- CON 120, Mission Focus Contracting.
- CON 234, Contingency Contracting.
- CON 237, Simplified Acquisition Procedures.

After the AL&T procurement NCO has successfully served his first or second tour in contracting, he will attend the Air Force's Mission Ready Airman



The proposed contingency contracting force structure will allocate PARCs and contingency contracting battalions and teams as shown. The figures in parentheses are the number of personnel for each element (20 for each battalion, for example.)

Contracting Apprentice Course at Lackland Air Force Base, Texas, which is equivalent to the Army's Basic NCO Course (BNCOC). This 8-week course will provide the AL&T procurement NCO with additional contracting technical skills and state-of-the-art computer-based training. On graduation from the Mission Ready Airman Contracting Apprentice Course, the AL&T procurement NCO will receive his certification for course completion and DAU level I or II certification in contracting, if the Defense Acquisition Workforce Improvement Act (DAWIA) prerequisites have been met.

The DAWIA prerequisites are mandatory DAU education and experience requirements for all civilians, officers, and NCOs in the Army acquisition workforce who need certification at various acquisition disciplines. For example, an acquisition workforce member must successfully complete the mandatory DAU level I contracting training, 1 year of documented experience and meet DAWIA education requirements in order to receive DAU level I certification in contracting.

After completing their third or fourth tour in contracting, promotable E–6 and E–7 AL&T procurement NCOs will attend the Army Logistics Management College's Army Acquisition Intermediate Contracting Course at Huntsville, Alabama, which is the Army's Advanced NCO Course (ANCOC) equivalent. After successfully completing the 4-week ALMC course, the AL&T procurement NCO will receive a course completion certificate and a DAU level II or III certificate in contracting if all DAWIA perquisites have been met. Once the AL&T procurement NCO reaches the grade of E–8 (master sergeant) or E–9 (sergeant major), he will attend (if he has not already done so) the 2-week DAU course CON 353, Advanced Business Solutions for Mission Support, which is a DAU level III contracting certification training course.

The Army Chief of Staff's guidance is to use smaller, tailored forces. The use of low-density skill sets requires unity of effort and continuity to meet logistics challenges. Today, contracting supports the full spectrum of the battlefield, including joint, coalition, and special operations. The AFSB will be the single point for AL&T projected forward capabilities, maximizing efficiencies while providing viable support to the warfighter. **ALOG**

Sergeant Major Ethan A. Jones is the Sergeant Major of the Army Contracting Agency (the first person to hold that position). He previously served as the Sergeant Major of the Army Contracting Command Europe and Joint Contracting Centers, Balkans (the first person to hold these positions). He holds bachelor's degrees in mass communication from Paine College and in public relations from Clark-Atlanta University and is pursuing a master's degree in acquisition and contracting management from American Graduate University in Covina, California.

Improving Division and Brigade Logistics in the Modular Force

BY COLONEL GUY C. BEOUGHER

The author asks some hard questions about how the Army is implementing modular logistics in the division and brigade and offers some answers.

The division of the future is not the division we grew up with. The division headquarters of the future will have no permanently assigned forces—it will be just a headquarters. We are seeing the future already in how the Army is assigning brigade combat teams (BCTs) in Iraq: few "divisions" are fighting with the BCTs with which they are based.

The intent of the logistics modular force design is to have a single person in charge of logistics, end to end, in a theater of operations, and that person will be the commander of the theater sustainment command (TSC). He may exercise command and control through his deployable command post (DCP) commander. Right now, "end to end" means down to the sustainment brigade, not the BCT's brigade support battalion (BSB). Yet the total of combat service support (CSS) Soldiers in each BSB could represent over 50 percent of the logisticians in a theater of operations, and the BSB falls under the BCT.

Some aspects of logistics in the modular force at the division and brigade levels still need to be worked on. These areas include command and control and the direct support (DS) logistics activities that currently account for 80 percent of a division's budget (as identified in a division review and analysis of logistics performance). Consideration of these areas leads to a number of questions. Who is responsible for the logistics enablers that are being introduced in the BCT and division? How have some commanders involved in current operations handled the transformation to modular force logistics? Who will be responsible for managing current materiel management processes? How will the professional development of CSS officers and noncommissioned officers (NCOs) be conducted in a BCT? How will the Army Force Generation Model be applied to modular force logistics above the BCT? It is our role as logisticians to figure out how to answer these questions and make modular force logistics work.

Command and Control

Emerging Army doctrine states that the sustainment brigade's chain of command falls under the TSC or its DCP but that the brigade will be under the operational control of a division for a specific mission or operation. In garrison, the BCT commander owns his organizational and DS logistics. He rates his logisticians and has fiscal responsibility for the BCT's execution of logistics. He provides guidance to his DS maintenance activities and supply support activities (SSAs). He makes sure that current maintenance and supply regulations are followed while also overseeing the transformation of his maintenance systems to two-level maintenance. He signs inventory adjustment reports for SSAs while reviewing authorized stockage list performance, inventory accuracy, zero balances, and denials. He makes sure that shop stock is managed appropriately and that the division or BCT budget is not wasted on double orders or missed diagnoses by his DS shops.

Is the Army asking too much of BCT and BSB commanders? Since Operations Enduring Freedom and Iraqi Freedom began, the Army has done a good job in making the logistician more of a warfighter. With the introduction of modularity, must it now make the warfighter more of a logistician?

The sustainment brigade works for the TSC, and its personnel do not wear a division patch. The number of Active component sustainment brigade headquarters that the Army can afford could result in each sustainment brigade either supporting two divisions on one installation or being located on an installation without any Active component division. By 2013, the Army could have as few as 15 sustainment brigades replacing the 36 division support commands (DISCOMs) and corps support groups (CSGs) that currently exist. This support ratio will become even more challenging because these sustainment brigades potentially could support a force with 10 more BCTs than at present.

Review and Analysis of Logistics Performance

Each month before a division logistics readiness review, the assistant division commander (support) and the DISCOM commander conduct a review and analysis of DS systems that drive both division readiness and division resource requirements. These DS

activities are not readily apparent to the units in the division that are supported by DS logistics, but they are critical factors in determining the division's success or failure.

The review and analysis process starts with a trend analysis. Maintenance trends allow division leaders to compare each unit to similar units in the division, as well as with other like units in the Army. The relative values established by analyzing like units allow for the cross-leveling of knowledge among DS units within the division. The units can see their performance more clearly and make needed improvements. Since a BCT has only one SSA and one set of DS shops, comparison of their performance to like units outside of the BCT is extremely important. The review and analysis process is a training event for DS units and for the leaders charged with fiscal responsibility for the BCT and division budgets. This knowledge cannot be gained solely within the boundaries of the BCT.

However, questions remain. Does the division G–4 staff have enough experience and personnel to perform this level of analysis? How can division budget processes be used to enforce the disciplined use of division resources in DS units? Will the BCT be given a budget and be expected to operate within the constraints of that budget? If so, does the BCT staff have the experience and personnel to use the budget to change how DS units execute supply and maintenance activities while also maintaining readiness?

Turn-In of Serviceable Repair Parts

Turn-in of serviceable repair parts is a perfect example of an activity that requires discipline and external monitoring to evaluate the performance of DS units. DS units can contribute to the poor management of a BCT or division budget by needlessly requisitioning repair parts, only to turn those parts back to an SSA to receive partial credit. This inefficiency also wastes the manpower associated with the requisition and subsequent turn-in of the parts.

Serviceable turn-ins are usually caused by poor discipline in the supply and maintenance activities of a DS unit and the units it supports. This poor discipline, lack of trust in the Army's supply system (which can result in units hoarding repair parts), poor shop stock management, and poor maintenance diagnostic capabilities usually are the causes of poor management of budgets and manpower.

Do the modular designs of the division and BCT headquarters provide the number of experienced personnel needed to police the use of repair parts? Can the BCT commander be made fiscally responsible for the activities of his BSB with the resources available to him? This one process—turn-in of serviceable repair parts—can cost the BCT commander millions of dollars that could have been used better to train his force. So far, generous Global War on Terrorism funding has allowed the Army to delay having to address the problems created by serviceable turn-ins. In the near future, when war funds are not so available, this shortcoming will be more apparent.

Customer wait time, the successful fill rate of an SSA, the average turnaround time of jobs in a DS maintenance shop, and the backlog in a DS shop—all affect readiness. Comparing these activities to other units of the same type is key to seeing how well a unit is performing.

In the divisional modular structure, does the division commander have less of an opportunity to weight the main logistics effort in an asymmetrical environment? Will he have the ability to assess the requirements or shortages in one BSB and task-organize logistics from one BSB to another? Who is looking into CSS capabilities deeply enough to estimate the requirements of a BSB and make the recommendations to task-organize? Does the G–4 have the capability? Does the division commander have the ability to see the impact of a logistics decision at the Army or major Army command (MACOM) level, which would allow him to contribute to making that decision?

Logistics Enablers

Some may argue that there are no longer division logistics assets because the main support battalion (MSB) no longer exists. Others would argue that the logistics enablers assigned to the BCT, which is assigned or attached to the division headquarters, are assets under the control of the division headquarters. This means that the enablers could be task-organized between BCTs as required to accomplish a task by order of the higher headquarters. This would presuppose that all of the BSBs in the Army are operating under the same doctrine and are task-organized in the same manner to some degree.

"Connect the Logistician" endeavors by the Army G–4 have gone a long way toward linking logisticians wherever they may deploy with Very Small Aperture Terminals (VSATs) and the CSS Automated Information Management Interface/ Network Encryption System. The Army Training and Doctrine Command and the Army Materiel Command have made great progress in developing the Global Combat Support System-Army (GCSS-Army), which will force compliance in systems at wholesale and tactical levels.

However, questions remain about competing command and control systems for division-level operations. At the Army level, the proponents and funding for command and control systems are clear. The Army G–3 supports the Force XXI Battle Command Brigade and Below

(FBCB2) and Blue Force Tracking (BFT) systems, while the Army G–4 supports the Movement Tracking System (MTS) and Battle Command Sustainment and Support System (BCS3). At the division level, the division rear is the advocate for either MTS or the Defense Transportation Reporting and Control System (DTRACS) and BCS3, while the main command post is focused on either BFT or FBCB2 and the command and control personal computer. The fact remains that the basis-of-issue plan for BFT does not provide CSS vehicles with enough BFT devices. This has caused logisticians to pursue their own form of visibility on the battlefield with BCS3 and MTS.

Who drives the BCT to focus on BCS3 and MTS so its BSB can execute its mission? Will the division G–4 be the sole advocate for BCT use of BCS3 and MTS in BSBs? How many BCT commanders or executive officers (XOs) understand the capabilities BCS3 and MTS offer or the information they can provide to logisticians at higher levels of the theater?

Current Operations

The bottom line is that every CSS brigade commander is going to do what it takes to make the warfighters he supports successful. The Army Staff's assistance visits last year, led by the G–3, to the 82d Airborne Division, 101st Airborne Division (Air Assault), 10th Mountain Division (Light Infantry), and 4th Infantry Division yielded some important insights. Regardless of doctrinal voids or outdated regulations, the sustainment brigade commanders associated with those divisions always focused on doing the right thing. This was sometimes in spite of doctrine or regulations. All focused on the warfighter they reported to in garrison or went to war with in Operations Iraqi Freedom and Enduring Freedom.

These divisions and collocated sustainment brigades developed different tactics, techniques, and procedures, standing operating procedures, or self-imposed sustainment brigade headquarters reorganizations. Some were closely aligned with the higher headquarters they habitually supported. Some were more closely aligned with the DCP or corps support command they were going to report to in war with an area support mission. Some simply reorganized what the Army gave them. Some will need to modularize again after returning from war since they did not complete the modularization process before deploying.

The common concern among many CSS brigade commanders is their relationship with the corps or division and with the DCP of the TSC to which they are assigned. This may be a generational problem that will be resolved only as the current generation of commanders, who grew up working with DISCOMs, moves on. However, sustainment brigades are not a plan for the future: they are functioning right now in Iraqi Freedom and Enduring Freedom. Questions will remain even after these brigades arrive back in the continental United States. The ways in which the Army accounts for property, manages budgets, maintains vehicles, and assesses readiness are fundamentally different while improvised explosive devices are exploding and mortars are dropping in forward operating bases. We will not know the complete organizational success or failure of the sustainment brigade design until we also can evaluate the brigades at their home stations in other-than-wartime conditions.

Materiel Managers

Where did the materiel managers go? A study of the modification tables of organization and equipment (MTOEs) the Army is developing seems to show that materiel managers basically have been pushed down, up, or out. The chart on right compares the strength of materiel managers in the DISCOM materiel management center (MMC), CSG, forward support battalion (FSB), and MSB with the strength of materiel managers in the BCTs and sustainment brigade. Remember that Soldiers in the sustainment brigade are not wearing a division patch, so we may consider their materiel managers as being pushed up from the division. The numbers on the chart are approximate (give or take 8 percent) since there are multiple MTOEs, effective dates, and sources of authorizations.

> The intent of the logistics modular force design is to have a single person in charge of logistics, end to end, in a theater of operations, and that person will be the commander of the theater sustainment command.

Now take these figures and consider the effect of increasing the number of BCTs (and their BSBs) by a net of 10 and replacing 36 Active component DISCOMs and CGSs with 15 sustainment brigades. Then consider the increased amount of equipment in the greater number of BCTs that will require support. The ratio of materiel managers to equipment not only increases, but materiel managers migrate to a lower CSS command level in the BSBs; that pushes this management responsibility on the shoulders of BCT commanders. This may be why sustainment brigade commanders are reorganizing as they deploy into battle.

Professional Development

The BCT commander and command sergeant major are well equipped to develop officers and NCOs into warfighters, but they will need help in developing the same officers and NCOs as logisticians.

How will field-grade officers in a BCT be developed as logistics officers? How will CSS company commanders be developed? Will there be a female BCT headquarters and headquarters company commander in the future? These are but a few of the professional development issues that current sustainment brigade and BCT commanders are wrestling with that were not problems for the DISCOM commander. Maybe the BSBs will seek out sustainment brigade commanders to obtain professional development opportunities. Are CSS company commanders in a BCT getting the same CSS professional development opportunities as their brothers and sisters in the subordinate battalions of the sustainment brigades? This is not a new problem for the Army.

Do future BSB commanders have the depth of experience and the professional development to handle the responsibility and the potential missions that the new force structure has handed them? If there is no longer a requirement to seek and hold branch qualification positions, such as a support operations officer (SPO) or XO in a support battalion, will a CSS officer always have the right experience to be the senior logistician in a deployment? This situation arose in the early days of the Kosovo campaign, when the commander of an FSB or support squadron was the senior logistician in country. This issue has been overshadowed by current operations, where many senior logisticians have been inserted to ensure success.

The rating schemes associated with BSB and BCT commanders create interesting possibilities for composing command selection boards. Branch qualification and the norms associated with that career path are on the way out, but how an officer performs in battalion and company command will always be a factor for evaluation. Now that 50 to 60 percent of the Army's logisticians will be rated or senior-rated by combat arms officers, maybe it is time to look at how the boards for colonel- and lieutenant colonel-level CSS commands are composed. Maybe it is time for combat arms officers to sit on all boards for CSS officers, including command boards.

Force Generation Model

We can suppose that we will fix everything that has been questioned so far. It is in our character as an Army to be adaptive, flexible, and relevant. Many of us will be needed to seek the answers to the questions before us, but success will be achieved. One question that might be beyond us, however, is grounded in pure math. Will there be enough sustainment brigade force structure to support the Army Force Generation Model of 1 year deployed, 1 year recovering, and 1 year getting ready to deploy again? The number of CSS brigades in the future may dictate force ratios that will cause sustainment brigades to either depend heavily on their DCPs or violate the 1-year-in-3 deployment ratio. Only the development of the theater in which they deploy and the duration of the next fight will answer these questions.

Some Answers

The solutions to all of these problems are found in changes associated with training and force structure to provide more logistics experience to the BCT.

The first solution that needs to be implemented, regardless of the other recommendations, is to train brigade

	DISCOM Materiel Management Center	Corps Support Group	Main Support Battalion	Forward Support Battalion	TSC Sustainment Brigade	Stryker BCT	Interim BCT	Combat Aviation Brigade
Materiel Management Personnel	**141**	**110**	**11**	**6**	**82 (Command Post 56, Deployable Command Post 26)**	**21**	**21**	**23**

The strength of materiel managers in brigade combat teams (BCTs) and the theater sustainment command (TSC) sustainment brigade will be less than their strength in the existing division support command (DISCOM) materiel management center, corps support group, forward support battalion, and main support battalion.

The Mobile Tracking System is one of a number of logistics enablers being introduced in divisions and BCTs.

XOs or deputy brigade commanders in DS logistics. This would not be the subject of a MACOM-sponsored course such as those used to certify a Property Book Unit Supply Enhanced (PBUSE) operator. Instead, what is needed is a course on the level of the Logistics Executive Development Course (LEDC) offered by the Army Logistics Management College at Fort Lee, Virginia.

The intent of the proposed course would not be to create logistics executives but rather to train tactical logisticians who are familiar with the capabilities of DS Standard Army Management Information Systems like the Standard Army Retail Supply System and PBUSE as well as logistics enablers like VSAT, BCS3, MTS, in-transit visibility, and radio frequency identification. The course also would include instruction on the Single Stock Fund, the Army Working Capital Fund, and the future of GCSS-Army. The course would last at least 4 weeks. Completion of the course would prepare an XO to engage in DS activities that support the BCT and expend its budget. The XO would be able to provide checks and balances for the BSB commander. The XO would be awarded a functional area in Logistics after he has gone to the course and served in his XO position.

Another approach to increasing logistics experience in the BCT would be to have a CSS officer serve as the brigade XO and a combat arms officer as the BSB XO.

Other solutions have to do with force structure—not so much with organization but more with grade levels and expertise. The most obvious solution is to make the G–4 in the division a colonel. Or there could be a chief of staff (COS) directing the entire division staff and an assistant chief of staff (ACOS) directing the G–1 and G–4 (both lieutenant colonels). The ACOS would answer to the COS. The ACOS or the division G–4 would be a centrally selected colonel who would be considered equivalent to the sustainment brigade commanders who might support the division. This also would improve the greatly reduced opportunities offered by the current force structure for the advancement of successful CSS battalion commanders.

Instead of putting another colonel in the division headquarters, another solution is to make one of the general officers who currently serves as an assistant division commander a logistician.

Regardless of the solution, the current force design, associated relationships, and doctrine for the sustainment brigades and for BSBs in BCTs in the modular force warrant some adjustments before the energy for change is stifled by budget constraints. The time to make these adjustments is now, while new doctrine and organizations are still being developed and support for change is still strong. **ALOG**

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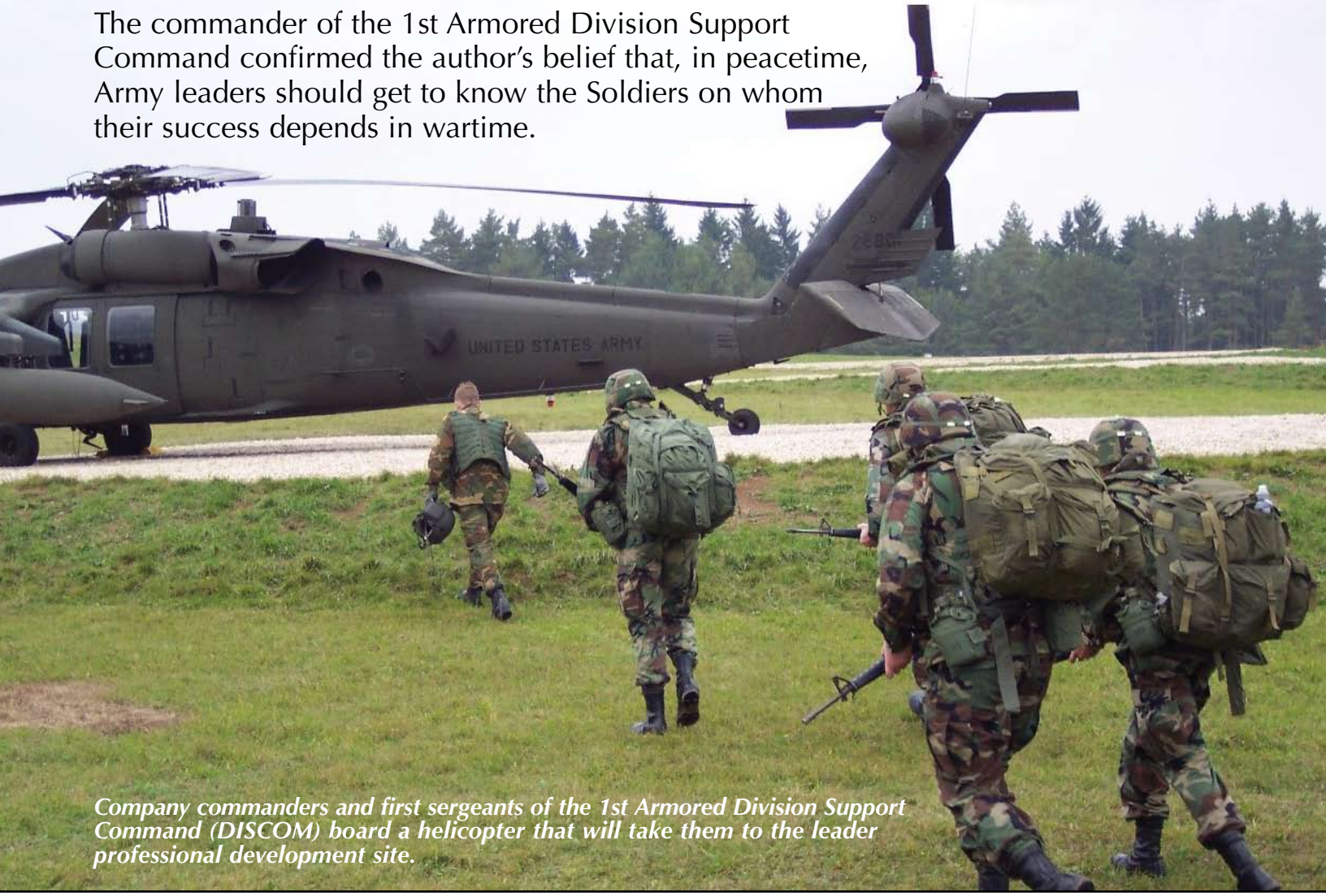
Leader Professional Development in the DISCOM

BY CAPTAIN STEPHEN M. CROW

The commander of the 1st Armored Division Support Command confirmed the author's belief that, in peacetime, Army leaders should get to know the Soldiers on whom their success depends in wartime.



Company commanders and first sergeants of the 1st Armored Division Support Command (DISCOM) board a helicopter that will take them to the leader professional development site.

I am the commander of C Company, the direct support heavy maintenance company of the 123d Main Support Battalion, 1st Armored Division Support Command (DISCOM), in Dexheim, Germany. For the past 6 months, my first sergeant and I have been supporting numerous missions simultaneously. Our Soldiers are spread out across U.S. Army Europe executing many important maintenance missions that prepare other units' Soldiers and equipment to go to war. Many of the missions have come with little or no notice, so we have had to stay on our toes to ensure that nothing goes awry and that our supported units have everything they need to make them successful during their deployments.

Because of our hectic operating tempo, we were surprised when, in September, we received an operation order telling us about an upcoming 2-day leader professional development event that the 1st Armored Division DISCOM Commander, Colonel Guy C. Beougher, and DISCOM Command Sergeant Major Patrick J. Douglas had arranged for 4 and 5 October for all of the company commanders and first sergeants

in the DISCOM. As busy as I was, I knew Colonel Beougher was even busier. How on Earth would he have time to take 14 people on a leader professional development event for 2 days?

Later, after I had adjusted my calendar and made sure everything was covered for those 2 days, I sat back and pondered a few things. In the past, I had often thought about how much the Army values the opinions of an officer's senior rater when, in reality, some of my past senior raters would not recognize me if I were wearing jeans and a T-shirt. Another thought was that we all manage unmanageable schedules, but we have to remember to do the things that are most important, although those things may never be asked of us.

In the Army, we all have 36 hours of work to do for every 24 hours on the clock. When we go to war and find that we have to trust our missions to people we don't know, we may wish that we had spent more time on events such as officer and noncommissioned officer professional development and officer calls. We may wish that we had spent a little more time counseling our subordinates and developing them into logistics leaders. The fact that the DISCOM commander was taking the time to get to know his subordinates reminded me of the importance of being able to evaluate subordinates two levels down.

Leading from the Front

On the morning of 4 October, the company commanders and first sergeants gathered in front of DISCOM headquarters for an invigorating run while toting rubber M16 rifles. Colonel Beougher was in the lead, as he was throughout the entire training event. We kept a steady pace for approximately 3 miles. The whole time I was running, I kept in mind that the man leading the run was approximately 10 years older than I was. There was no way that I could feel sorry for myself when my weapon grew heavy or the pace seemed tough. His mindset illustrated why we must ensure that there is time in our hectic schedules to "lead from the front." Our Soldiers notice everything that we do and where we spend our time. If we are never around them and never get to know them or check on what is going on, they will rightly assume that we don't care about them. The run helped ensure that we were physically fit and mentally prepared to fight and win on the next battlefield.

After the run and breakfast, we boarded a bus that would take us to the Hohenfels Training Area (HTA) at the Joint Multinational Readiness Center (formerly the Combat Maneuver Training Center). During the 4-hour ride, Colonel Beougher showed us how to use "hip-pocket training." We played a quiz show-type game, with questions from the –10 manual for high-mobility, multipurpose wheeled vehicles (humvees). The game was entertaining, and we all learned things that we didn't know or had forgotten.

At HTA, we headed directly for the engagement skills trainer (EST), which is a multipurpose device designed to support the indoor training of squad-sized units on basic and advanced marksmanship and fundamental tactical engagement skills. It tracked the shots from our individual weapons and provided accurate feedback on how we were shooting. We were all impressed with the realism of the HTA scenarios.

After the EST training, we donned 35-pound rucksacks and prepared to march more than 3 miles to the site where two helicopters were waiting to pick us up. We kept a quick pace for the march, and stopped only once to rest. Colonel Beougher knew a few shortcuts to the site, so we took a couple of jaunts off the beaten path to save time.

Our timing was perfect; we reached the pickup zone at exactly 1530. In logistics, timing is everything. I was lucky enough to get a seat in the helicopter that had been decked out to carry the 1st Armored Division commanders, and the flight was exhilarating.

Soldiers practice their marksmanship skills in the engagement skills trainer. The device tracks shots from individual weapons and provides feedback on accuracy.

After landing, we marched approximately 3 more miles to the village of Emhof. We stayed at a quaint gasthaus called Kellermeiers that has a storied tradition of housing many famous military leaders as they passed through the Hohenfels area. After dinner, each company commander or first sergeant presented a 20-minute briefing. The briefings highlighted the Army's transition to two-level maintenance, convoy leader training, live-fire

Colonel Beougher leads the DISCOM Soldiers in a 3-mile march from the helicopter landing site to the village of Emhof, which is near Hohenfels, Germany.

exercises, in-transit visibility, the transition of military occupation specialist 91W (health care specialist) medics, the brigade support battalion task organization in a brigade, and training at home station. A key lesson that we all learned was that, if your boss asks for a 20-minute briefing, it's a good idea to rehearse. Also, don't actually plan to talk for the full 20 minutes.

What to Do When Bad Things Happen

During the evening, reality hit home in the form of a phone call telling us that one of our heavy equipment transporters carrying an M1A1 Abrams tank and its crew had turned over at the HTA. No one lost his life, and the injured Soldiers would recover completely. However, we realized that, even when we are gone, the world doesn't stop turning and things will happen during our absence. We must be sure to take measures to prevent accidents, and it is vital that the people that we leave in charge in our absence know what to do when bad things happen. They need to know all of the proper reporting mechanisms, and all relevant people in the chain of command should have thorough contact information so they and others can take action quickly. Nothing is more frustrating than having an emergency situation and nobody knowing who is in charge.

When we were notified about the accident, we discussed the situation with the 1st Brigade Combat Team commander at the site and, after tasking the executive officer and acting first sergeant of B Company to deal with the accident, we chose to go on with training. In the morning, Colonel Beougher and Command Sergeant Major Douglas left the training site and went to the hospital to visit the injured Soldiers and the S–3 took charge of the training event.

Convoy Operations Training

The next day, we took our bus back to the EST building, where we had a demonstration of two Army training devices designed to help train Soldiers on convoy operations—the Laser Convoy Counter Ambush Training System (LCCATS) and the Deployable Instrumentation System–Europe (DISE). Using the LCCATS, Soldiers can engage full-scale, computer-controlled targets set at various distances and placed in a number of actual terrain and combat scenarios. The DISE is a combination of live instrumentation systems that provides fully instrumented training feedback. Using the DISE, commanders can meet their training objectives anywhere, anytime. The system also provides fully instrumented after-action information that supplements observer-controller comments.

The leader professional development event at Hohenfels was a great experience. We left Hohenfels rejuvenated and with more energy, enthusiasm, and knowledge than when we arrived. Following Colonel Beougher's example, we will be sure to make time for teambuilding and creative training in the future. **ALOG**

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The author would like to thank Major David W. Banian, S–3 of the 1st Armored Division Support Command, for his assistance in writing this article.

Reaffirming Your Command Maintenance Program

BY CAPTAIN ERIC A. MCCOY

It is 0900 on the first duty day of the week—command maintenance time. The battalion standing operating procedure (SOP) calls this time "motor stables" or "assembly area operations." When Soldiers and junior leaders are asked what the focus of the day's command maintenance is, many stare blankly or reply, "A walk-around inspection of our vehicles as usual." A look around the motor pool confirms that noncommissioned officers (NCOs) are not on the line supervising, the personnel conducting preventive maintenance checks and services (PMCS) do not have manuals, and the battalion's senior leaders are nowhere to be seen.

If your unit's command maintenance program does not resemble this scenario, consider yourself fortunate. Most units have maintenance SOPs that comply with Department of the Army and higher headquarters standards, but many unit personnel have difficulty translating these SOPs into viable documents and battle plans for command maintenance.

A decisively executed command maintenance program is a multiechelon training event that focuses on various battlefield operating systems, provides feedback to the commander on the combat readiness of unit equipment, and, most importantly, gives Soldiers confidence in their vehicles, weapons, and personal equipment through successful PMCS. Using the Eight-Step Training Model that is found in several Army doctrinal references and usually included in unit mission training plans, your unit can develop a comprehensive command maintenance program and avoid the above scenario.

Preexecution Phase

Precombat checks (PCCs) and precombat inspections (PCIs) are critical for all combat operations; command maintenance is no different. The following PCCs and PCIs will help ensure the successful execution of your unit's command maintenance.

Publish a plan. Develop an operation order, fragmentary order, or SOP for executing command maintenance, and publish it early enough to allow subordinate units time to conduct their own troop-leading procedures. Brief the plan at your unit training meeting and incorporate it into unit training schedules to ensure that all personnel are aware of the upcoming operation and that other training events do not conflict with it.

Establish priorities and focus. Will the command maintenance focus on high-mobility, multipurpose, wheeled vehicles (humvees) or light medium tactical vehicles? On weapons or nuclear, biological, and chemical (NBC) equipment? On tentage or generators? Defining maintenance priorities and focus areas can pay dividends by allowing you to consolidate maintenance efforts.

Have all Soldiers present for duty. Command maintenance is a prime-time training event. All other distracters, such as meetings, appointments, and classes, should be postponed to allow time for maximum participation. Charge the NCO support channel with ensuring that all Soldiers are present for command maintenance. (The NCO support channel is the channel of communication and supervision that exists from the command sergeants major to the first sergeants and then to other NCOs and enlisted personnel)

Establish communications. A good technique to use during command maintenance is to establish unit tactical operations centers (TOCs) and command posts (CPs). Develop tracking charts for command maintenance operations and post them in your TOCs and CPs. Use command maintenance times to train your battle staffs on TOC and CP operations and battle tracking by having them pass information to higher and subordinate units, track personnel and equipment status for the unit, and record results from PMCS focus areas.

Certify and license leaders. PMCS certification should be part of unit leader-development programs and incorporated into command maintenance operations. It is impossible to ensure that subordinates are performing PMCS to standard if you, their leader, have never done it yourself.

Eight-Step Training Model

1. Plan the training.
2. Train the trainers.
3. Reconnoiter the site.
4. Issue the order.
5. Rehearse the training.
6. Execute the training.
7. Evaluate the training.
8. Retrain as necessary.

Coordinate with external agencies. Contact your direct support maintenance facility to obtain low-density items not used often for training purposes, such as electronic test equipment, materials-handling equipment (MHE), and night-vision devices. Also ask for assistance from various agencies, such as the International Trade Administration for CONEX (container express) inspections and the local environmental compliance office for shop safety advice, so that you can address other critical maintenance areas.

Explain standards and performance measures. Have subordinates conduct a backbrief to ensure that they understand the standards and performance measures for command maintenance. This complements unity of effort and can help resolve any conflicts with command guidance before execution.

Have applicable technical manuals, training circulars, and supply catalogs on hand. Contact the Army Materiel Command Logistics Support Activity (www.logsa.army.mil) and the Army Publications Directorate (www.usapa.army.mil) to make sure you have the correct manuals for each piece of equipment on your modification table of organization and equipment (MTOE). Charge the unit publications NCO and the subordinate commanders with maintaining adequate stocks of manuals for each item.

Identify safety-of-use, maintenance-advisory, and general-purpose messages. Have your unit motor officer or safety officer check frequently with the Army Combat Readiness Center to ensure that the unit has all current combat safety messages on hand. Check equipment for compliance with new messages during the command maintenance period.

Have tracking systems in place and checklists on hand. Subordinate leaders should have a copy of the motor stable order; a breakdown, by section, of the critical equipment they are responsible for checking and servicing; and a battle roster of Soldiers and their equipment and weapons. This reduces idle time and gives senior leaders an opportunity to spot-check progress effortlessly during the operation.

Identify quality assurance inspectors. First-line supervisors and platoon sergeants are responsible for ensuring that the PMCS process is completed correctly and to standard. If necessary, recruit technical inspectors from the organizational motor pool and the direct support facility if PMCS must be conducted on low-density equipment or equipment unfamiliar to the unit.

Have Department of the Army Forms 5988–E, Equipment Maintenance and Inspection Worksheet, on hand. Time is often wasted during command maintenance when Soldiers have to wait for these forms to be printed. The forms should be printed and distributed down to platoon-sergeant level the working day before command maintenance, giving Soldiers maximum time to perform PMCS of their equipment to standard.

Locate reports required for after-action reviews (AARs). An AAR must be conducted after every training event, including command maintenance. Including an AAR in your unit maintenance meeting provides a vehicle for recording feedback to the command maintenance plan and informs the commander of progress made and deficiencies discovered. To prepare for the AAR, the following reports should be readily available—

- From the Unit Level Logistics System (ULLS)-Ground: the Commander Not-Mission-Capable Report, Service Schedule, and Parts Received/Not Installed Report.
- From the Standard Army Maintenance System (SAMS)–1: the Shop Section Summary and Shop Backlog Report.
- From SAMS–2: the Brigade Combat Team/Task Force Critical Items Deadlined Report.
- From your supply support activity: the Overage Recoverable Item Listing Report and Authorized Stockage List.

Execution Phase

Once the PCCs and PCIs are completed to standard, your unit is ready to conduct command maintenance effectively. It is essential to focus PMCS efforts so that each piece of equipment assigned to the unit is thoroughly checked and serviced within a specified time period. The schedule below allows for PMCS of all assigned unit MTOE equipment over a 6-week period.

Week 1: Direct support capabilities. This refers to maintenance of equipment that is essential to the conduct of the unit's wartime mission. In a support battalion, equipment to be serviced during this week could include reverse osmosis water purification units, water blivets, and slings; fuel system supply points; direct support transportation assets (light medium tactical vehicles, stake-and-platform trailers, and heavy equipment transporters); ambulances; medical equipment sets; laboratory, x-ray, and dental shop vans; and electronic repair semitrailers (housing Integrated Family of Test Equipment and Direct Support Electronic Test Sets).

Week 2: Prime movers not checked and serviced during week 1. This includes vehicles such as humvees, family of medium tactical vehicles trucks, and expansible vans.

Week 3: Soldier personal equipment. Included are night vision devices, weapon systems with mounts and tripods, and all NBC protective equipment.

Week 4: Soldier deployment apparatus. In this category are all communications devices (telephones,

A generator mechanic with the Headquarters and Headquarters Company, 3d Corps Support Command, motor pool works on a humvee engine during command maintenance.

radios, and cryptographic devices) and containerization equipment, such as CONEXs and MILVANs (military-owned demountable containers).

Week 5: Trailers and MHE. This refers to semitrailers and vans, air-conditioning systems, generators, lowboys, forklifts, and cranes.

Week 6: Unit common table of allowances equipment. Systems to be checked and serviced include steam cleaners, tentage, camouflage netting and supports, and heaters. Unit commanders also should use this time to conduct cyclic inventories in accordance with Command Supply Discipline Program guidelines.

An additional area of focus throughout the execution of command maintenance operations is safety. Unit safety officers should select a focus area and conduct joint informal inspections with the chain of command to provide additional insight into unit risk management and safety procedures. Inspection areas include hazardous materials storage; shop operations; shop safety boards; individual protective equipment; spill kits; steam cleaners; battery shop operations; tire machines; and current safety-of-use messages, ground precautionary messages, and maintenance advisory messages. Personnel from the installation headquarters or higher can provide assistance with these inspections.

An AAR at the conclusion of command maintenance is essential. This provides commanders at all levels with immediate feedback on the combat readiness of their equipment. If your unit is experiencing difficulty with troubleshooting or completing PMCS on its equipment, contact support agencies immediately so that they can positively influence the situation. Having representation from your supply support activity also allows support agencies to be brought in early. Requested ULLS reports, such as the Service Schedule and Parts Received/Not Installed Report also should be brought to the AAR and discussed so that potential problems can be identified and resolved.

Conducting preexecution command maintenance to the proper level of detail is a time-consuming task. However, every Soldier must learn to conduct PMCS to standard—by the book, by the numbers. His life may one day depend on it.

The operation order for today's command maintenance was briefed by the battalion S–3 at the battalion training meeting 3 weeks ago. It is now 0900 on the first duty day of the week—command maintenance time. When Soldiers and junior leaders are asked what is the focus of the day's command maintenance, leaders refer to the company order that their commander gave them at the company training meeting: Week 1 will be devoted to PMCS of direct support assets as prescribed in the battalion SOP. All unit NCOs are on the line supervising PMCS, each vehicle operator has an equipment manual, and the officers are tracking unit readiness from the TOC and spot-checking the unit motor pools as directed by the commander. A platoon sergeant tells his new lieutenant, "Our unit knows how to conduct PMCS the right way." **ALOG**

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The author would like to thank Lieutenant Colonel Edward M. Daly for his assistance in preparing this article. Colonel Daly is a liaison officer with the Combined Forces Command in Kabul, Afghanistan. He previously served as the Commander of the 702d Main Support Battalion at Camp Casey, Korea.

SLAMIS Nonstandard Line Item Number Module: Supporting the Total Army

BY MINNIE M. EVERARD

The Standard Study Number-Line Item Number Automated Management and Integrating System (SLAMIS) is a Headquarters, Department of the Army (HQDA), Web-based data mart with a proven track record of automating and integrating acquisition processes involving multiple functional organizations. SLAMIS consolidates data from authoritative sources and provides visibility of key information across the life cycle of Army materiel. SLAMIS provides "cradle to grave" visibility of equipment acquisition from approval of requirements through funding, authorizing, fielding, and sustainment to retirement.

As the Global War on Terrorism and the concurrent transformation to a modular Army continue, commanders have become increasingly dependent on commercial off-the-shelf and Government off-the-shelf equipment and nondevelopmental items to fill mission requirements. Property book officers (PBOs) followed existing local procedures to account for these nonstandard items, which, Army-wide, resulted in the assignment of many different nonstandard line item numbers (NSLINs) to the same item. It was impossible to gather a consolidated Army-wide view of specific items because the Army did not have systems in place to gather data and provide NSLIN management information needed at the HQDA and Army Materiel Command (AMC) levels. Items such as add-on armor kits, Warlock force-protection systems, and John Deere M-Gators are prominent examples of items that cause frustration and confirm the need for the Army to centrally manage NSLINs and associated management control numbers (MCNs) for nonstandard items.

Visibility of Nonstandard Items

The HQDA Deputy Chief of Staff, G–4, led the initiative to develop a SLAMIS NSLIN module to build an infrastructure for nonstandard items that would provide the same level of visibility, accountability, and management support available for standard items. To do this, the G–4 had to accomplish the following—

- Create an Army NSLIN Master Catalog.
- Update NSLIN policies and procedures.
- Establish central control over the assignment of new NSLINs and MCNs.
- Develop systems interface arrangements among SLAMIS, the AMC Logistics Support Activity (LOGSA) Logistics Information Warehouse (LIW), and the Property Book Unit Supply Enhanced (PBUSE) and Defense Property Accounting System (DPAS) property reporting systems.
- Train PBOs and other key participants in central NSLIN management.
- Produce tailored management products to improve HQDA and AMC support of essential nonstandard items.
- Identify NSLIN candidates to be converted to standard items.

The decision to centralize management of NSLINs affects every organization and PBO in the Army. Even though the need for central NSLIN management is universally supported, managing its implementation in a way that minimizes disruption, particularly for deployed forces, is difficult.

The chart on page 22 illustrates the concept for Army central management of NSLINs and associated MCNs. The objective is to establish a management structure for NSLINs and MCNs that will operate as well as, and in concert with, the existing management structure for standard items. The solid lines indicate relationships that have already been implemented, and the dashed lines reflect enhancements that are being developed in 2006.

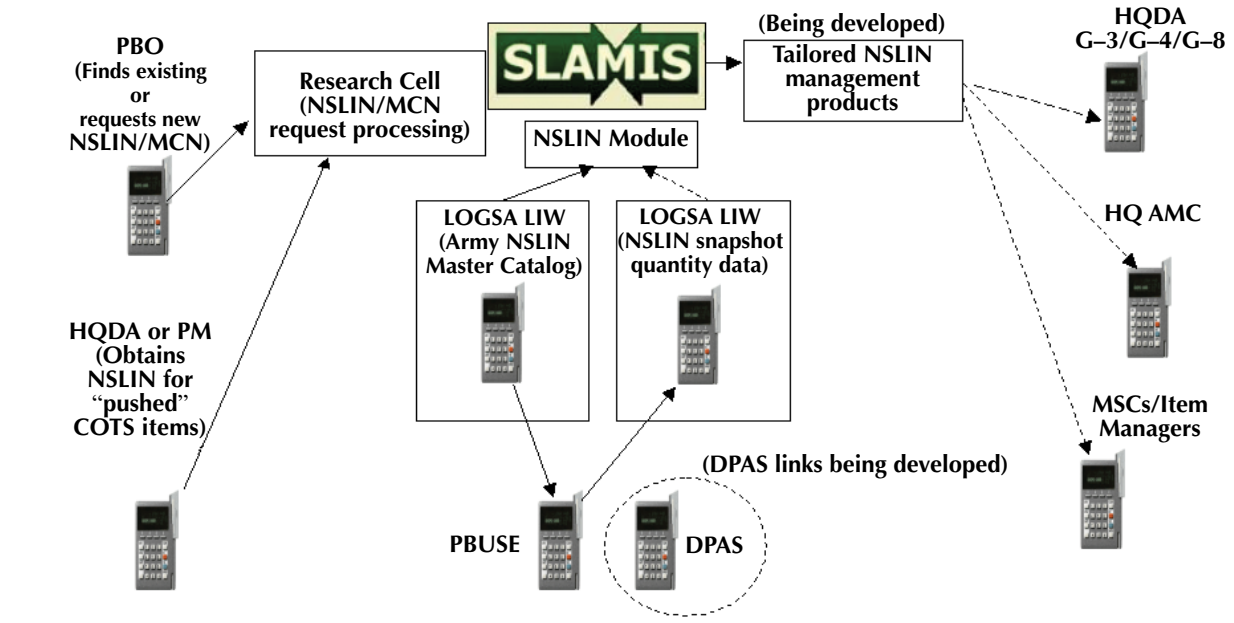
Module Implementation

The SLAMIS NSLIN module implemented on 26 July 2005 includes a baseline Army NSLIN Master Catalog and gives PBOs Web access so that they can view the NSLIN records in the Master Catalog and request new NSLINs and MCNs when Master Catalog records do not meet their needs. HQDA and program managers involved in pushing nonstandard items to the field also were given the capability to assign NSLINs to items before sending them to the field. This procedure mirrors that used for items with standard LINs and relieves the PBOs from having to obtain an NSLIN when equipment arrives.

How SLAMIS Works

The SLAMIS module assists users who are requesting NSLINs and MCNs by automatically filling in data values or by providing pick lists of valid values when possible. SLAMIS also uses electronic coordination features that automatically send requests for

Army Central Management of NSLINs



Work in Progress–
- Conversion of existing major Army command NSLINS into the Army NSLIN Master Catalog.
- Continue refinement of NSLIN processes.
- Institutionalize SLAMIS training.
- Finalize tailored NSLIN management products.
- Accommodate future Army needs.

Benefits–
- Formalize single, Army-wide NSLIN/MCN process.
- Improve support to the Soldier in the field.
- Establish and maintain accountability.
- Provide visibility of critical support items.
- Enhance Army stewardship of tax dollars.

Legend

COTS	=	Commercial off-the-shelf
DPAS	=	Defense Property Accounting System
HQ AMC	=	Headquarters, Army Materiel Command
HQDA	=	Headquarters, Department of the Army
LIW	=	Logistics Information Warehouse
LOGSA	=	Logistics Support Activity
MCN	=	Management control number
MSC	=	Major subordinate command
NSLIN	=	Nonstandard line item number
PBO	=	Property book officer
PBUSE	=	Property Book Unit Supply Enhanced
PM	=	Program manager
SLAMIS	=	Standard Study Number-Line Item Number Automated Management and Integrating System

new NSLINs and MCNs to the appropriate "research cell." Each of the seven research cells consists of commodity or specialized organizational experts who evaluate the request, assign data values required for each NSLIN Master Catalog record, and approve or disapprove each request. SLAMIS automatically provides email feedback to the requester and updates the NSLIN Master Catalog located in the LOGSA LIW. The PBO reporting systems are linked to the LIW NSLIN Master Catalog to enable PBOs worldwide to use the same NSLINs for like items regardless of their locations.

On 1 October 2005, PBUSE removed the capability previously available to the PBOs to assign their own NSLINs, added a hyperlink to SLAMIS for central assignment of NSLINs, and established links with LOGSA to include the NSLIN Master Catalog in the PBUSE application at the PBO level.

As of 22 February 2006, more than 15,000 NSLIN requests had been successfully submitted and the central NSLIN Master Catalog contained 22,000 NSLIN records. Features of the SLAMIS NSLIN module are continually being improved and enhanced based on user feedback and stakeholder input. As planned, the business rules and capability to change and update records in the NSLIN Master Catalog have recently been implemented so that NSLIN records can be maintained properly.

SLAMIS Training

Training opportunities have been offered throughout the development of the SLAMIS NSLIN module to PBOs; personnel in the research cells, HQDA, and AMC; program managers; and general users. HQDA is working towards institutionalizing SLAMIS training in the Warrant Officer Basic and Advanced Courses, Quartermaster Officer Basic Course, and the technical phase of the Quartermaster Center and School Noncommissioned Officer Academy's unit supply specialist training. Training also is provided at the annual Worldwide Logistics Training Workshop held at LOGSA, at the Army National Guard's annual logistics training conference, and at major Army command training forums when requested. The HQDA G–4 and the SLAMIS team also conducted a video teleconference training session for PBOs deployed in the U.S. Central Command area of operations. Sustainment training will continue to be a primary focus.

Still to Come

With the cooperation and support of PBOs and stakeholders throughout the Army, significant progress has been made since the initial implementation of the SLAMIS NSLIN module less than a year ago. However, many challenges lie ahead, including efforts to—

- Align all Army property books with the central NSLIN Master Catalog.
- Institutionalize SLAMIS training in Army Training and Doctrine Command schools.
- Refine a long-term interface among SLAMIS, LIW, PBUSE, and DPAS.
- Finalize NSLIN tailored management products.
- Track the changing of NSLINs and MCNs to standard LINs and NSNs.
- Continue refinement of NSLIN module processes.
- Accommodate the Army's future needs.

The world combat environment has changed, and commercial items now play a significant role in providing critical support to Soldiers. Central NSLIN management and the SLAMIS NSLIN module, which were recently established through the combined efforts of a wide range of stakeholders and support contractors, significantly improve the Army's capability to support this new environment. **ALOG**

Minnie M. Everard is the class VII (major end items) manager in the Center for Logistics Policy, Processes, and Programs, Office of the Deputy Chief of Staff, G–4, Department of the Army. She has a bachelor's degree in management of technology from Athens State University and is a graduate of the Army Management Staff College's Sustaining Base Leadership and Management Course.

Update to Previous Article on Central Management of NSLINs

The January–February issue of *Army Logistician* contained an article written by Chief Warrant Officer (W–5) David A. Dickson on "Centralization of Cataloging Procedures for Nonstandard Materiel."

Mr. Dickson's article emphasizes the need for Army central management of NSLINs and describes how complicated this initiative is. It is important to note that some of the details presented in his article were considered during the planning phase and changed before implementation of the SLAMIS NSLIN module in July 2005. For example, the proposed NSLIN structure and a single LOGSA Research Cell to process requests for new NSLINs were considered but were revised based on stakeholder input and feedback from proof-of-principle testing. Contrary to Mr. Dickson's article, the Deputy Chief of Staff, G–4, Headquarters, Department of the Army, is no longer ". . . studying the possibility . . . " but has already implemented the SLAMIS NSLIN module.

The development of the SLAMIS NSLIN module has been, and continues to be, guided by stakeholders Army-wide, and implementation of various features will follow a deliberate phased approach. Certain data exchange and interface actions involve multiple Army systems that must individually make arrangements to schedule and achieve the desired cohesive end result.

The article above presents an update on the Army's efforts to establish and maintain accountability and visibility of NSLINs which, in turn, will provide better support to Soldiers in the field.

—Minnie M. Everard

Corps Support Group Logistics at the Iraq Border

BY LIEUTENANT COLONEL WILLIAM R. SHEA, JR., USAR, AND COLONEL ANDREW M. BARCLAY, USAR

In September 2004, a 13th Corps Support Command (COSCOM) fragmentary order tasked the 167th Corps Support Group (CSG) to monitor the supplies being shipped from supply centers in northern Turkey to coalition forces in Iraq. The 167th CSG, a New Hampshire Army Reserve unit, deployed to the Ibrahim Khalil Customs Facility near the city of Zakho, Iraq, which is located at the Habur River border between Turkey and Iraq. On the Turkish side, the crossing is known as Habur Gate.

'Eyes on the Ground'

Border operations at the Ibrahim Khalil facility had been established during Operation Iraqi Freedom (OIF) 1, when the 101st Airborne Division (Air Assault) was responsible for that area of operations. The 167th CSG arrived at the site shortly after Task Force Olympia, the land manager of the area, had moved its rear area operations center from the facility and reassigned the lieutenant colonel who had been in charge. This left a void in the senior leadership on the ground.

The 13th COSCOM commander had immediately tasked the 167th CSG to fill the void so that he would have "eyes on the ground" and eventually could assume ownership of the northern entry point for ground lines of communication. Before that time, the Task Force Olympia commander provided the officer in charge (OIC) at Ibrahim Khalil and the 13th COSCOM commander was responsible for movement control operations. So when the rear area operations center left, it was logical that the 13th COSCOM take responsibility for the OIC function as well. It was a perfect job for the CSG, which was already responsible for corps logistics in the northern third of Iraq.

Movement Control

Movement control of more than 200 trucks destined for coalition forces each day was a shared responsibility of the 167th CSG's 99th Movement Control Team (MCT) and a Kellogg, Brown, and Root (KBR) MCT. Although both teams were responsible for movement control, each relied on the other to make the mission work.

The 99th MCT consisted of 12 Active Army Soldiers, and the KBR team consisted of 6 "expats" (expatriates) and 16 or so Iraqi workers. (Expats were KBR employees hired from all over the world. They typically held positions of greater authority than local hires.) Together, the two MCTs staged the coalition-destined trucks after they had made their way through the Iraqi customs process.

The coalition trucks were divided into three categories. The

Lieutenant Colonel Shea stands on the balcony of the 99th MCT headquarters in the Ibrahim Khalil Customs Facility. In the distance are bridges across the Habur River over which sustainment trucks travel between Turkey and Iraq.

first category included trucks carrying sustainment fuel (JP–8, diesel, or motor gasoline [MOGAS]). The second included trucks loaded with sustainment cargo that would be delivered to coalition locations on the original trucks from Turkey. The third category included trucks that came across the border carrying sustainment cargo that would be offloaded at one of the 17 Turkish trucking company yards in nearby Zakho to await Iraqi trucks that would deliver it to its final destination.

Many Turkish truck drivers were reluctant to make the trip to the cargo's final destination because they were concerned about their safety and felt they were not getting paid enough to drive the long, rough route to its end. Incentives such as increased pay or transit stamps, which allowed them to return immediately to Turkey rather than wait up to 14 days, did not persuade many of the Turkish drivers to drive farther south than Zakho. This led many Iraqi entrepreneurs to form their own trucking companies.

Three-Loop Transportation System

The 99th MCT had overall responsibility for manifesting and staging the coalition trucks for movement from Ibrahim Khalil to Logistics Support Area (LSA) Diamondback—the first stop in a three-loop transportation system. (Movement from LSA Diamondback to Forward Operating Base (FOB) Speicher was the second loop; movement from FOB Speicher to LSA Anaconda was the third loop.)

Sustainment fuel trucks were staged within a guarded, fenced area at the customs facility. Turkish trucks carrying other sustainment cargo to its final destination were staged in one of the 17 trucking company yards in Zakho after they passed through the customs facility. When the Turkish trucking companies arranged for local Iraqi trucks to deliver the cargo farther south, that cargo was transloaded to Iraqi trucks and the trucks were staged in a mud-filled area outside the customs facility, known as the "Cowboy Yard," to await staging in a U.S. convoy to Tikrit, Balad, or Fallujah.

Each convoy could be a combination of the three basic categories or 100 percent of one type. Based on priorities set by the COSCOM, the 99th MCT commander decided what went in each convoy. The MCT commander met with the convoy commanders after dinner each night to go over the makeup of the night convoys and provide them the latest intelligence update. The number of sustainment trucks that could be escorted depended solely on the number of gun trucks brought up the previous night. It was the responsibility of the convoy commander, typically an E–6 or E–7, to escort his charges approximately 100 miles to LSA Diamondback in Mosul, Iraq. For the most part, the trip was safe because 80 percent of the route was above the "green line" in northern Iraq. The southern 20 percent, which included the streets of Mosul, represented a greater challenge for the convoy commanders because of threats from insurgent activities. At LSA Diamondback, the sustainment trucks would be restaged for movement to FOB Speicher and assigned a different escort crew for the trip to LSA Anaconda.

Gun truck escorts wait to begin nighttime convoy operations.

It sometimes took 24 days for a truck to be loaded at a fuel terminal in Turkey with JP–8 fuel, processed through Turkish and Iraqi customs, staged in a U.S. convoy, escorted to FOB Speicher and on to LSA Anaconda, downloaded at a supply point, and make its way back to Turkey in a retrograde convoy. This protracted amount of time was one of the many complaints the MCTs and CSG received from the Turkish drivers.

Convoy Commander Duties

The convoy commander had one of the most difficult jobs in the theater. He could hope that the trucks moved to their destinations without incident, but he also had to be prepared to deal with myriad situations that could occur along the route. Mechanical problems with Turkish trucks, flat tires, drunken Turkish drivers, trucks that could not keep up with the convoy, and fights among the Turkish drivers were some of the minor problems that occurred. More serious problems included insurgent activities, such as improvised explosive device (IED) encounters, vehicle-borne IED (VBIED) attacks, and small arms fire.

The convoy commander also had to worry about who would infiltrate or drop out of his convoy. Seldom did he arrive at his destination with the same trucks that he had at the beginning of the convoy. The Turkish drivers did not follow the convoy rules and sometimes stopped to visit friends or relatives along the way. If a Turkish truck driver stopped to visit a relative on Monday night, he would not hesitate to join Tuesday night's convoy. Then, when he arrived at LSA Diamondback, he would not be on the Tuesday night manifest, causing the convoy commander unnecessary headaches.

Empty fuel or sustainment trucks made their way back to Zakho using the basic three-loop system in reverse. Where they offloaded their supplies determined how long it took to get back. The drivers were sometimes tempted to leave a convoy and try to make it back to the border without U.S. escorts because they were no longer constrained by their loads. There were plenty of bootleg "gas stations" along the main supply route (MSR), so the drivers could easily refuel en route. Some made it back safely without an escort, but others were captured or killed.

The life of a Turkish truck driver was not enviable. They were constantly exposed to IEDs and VBIEDs, and ambushes were a constant threat to their livelihood. However, through persistence and acceptance of the harsh living conditions, they delivered hundreds of thousands of loads to coalition forces. Some people would call them heroes because of the work they did for the small amount of money they made and the little recognition they received.

Checkpoint Operations

In northern Iraq (above the green line), the Peshmerga (the term used by Kurds to refer to freedom fighters) and Iraqi National Guard (ING) soldiers continually manned checkpoints for returning trucks. These checkpoints were both permanent and temporary. Having temporary checkpoints added the element of surprise to potential infiltrators. Near the border, additional temporary checkpoints were set up to monitor the trucks until the Iraqi Customs Facility Police could take charge of them and move them to staging lots. Initially, the staging lots were areas that ran alongside the MSR for about 30 miles. Use of these lots made it difficult to control the trucks and offered little security for the trucks or their drivers. Eventually, the Iraqi Customs Facility Police were able to stage the trucks in lots on the access road to the border crossing. Although these lots provided limited security for approximately 5,000 trucks and drivers on any given day, they were mud- and litter-filled and had no lighting or sanitary facilities.

After arriving in Zakho, drivers had to inch their way to the border for an average of 10 days. Some trucks, such as fuel trucks and sustainment supply trucks, had priority. The first Turkish checkpoint was

Turkish fuel trucks wait in what was often a 20-mile backup to pass through the Ibrahim Khalil Customs Facility into Iraq.

always the "hiccup" that kept trucks from returning quickly. The Turkish Gendarmie, or military police, often held up the line because of "manpower issues." Some of their own countrymen tried every trick in the book to smuggle prohibited items, such as gasoline, cigarettes, and sugar. Banned items were found in spare tires, hidden compartments, or false gas tanks. In some cases, no attempt was made to hide prohibited items—they sometimes were found lying openly in the bay of the truck. Iraqi Customs Facility Police inspected all returning trucks but, unfortunately, did not catch all of those containing contraband.

Foreign Area Officer Duties

At the beginning of the 167th CSG's deployment, the duties of its OIC were not very well defined. In some instances, he was able to influence the number of gun trucks that the CSG provided to the MCT commander and KBR MCT foreman and therefore affect the amount of sustainment cargo that could be moved. However, the OIC's duties soon evolved into diplomatic and political duties rather than those of a typical OIC.

Because he was the senior COSCOM representative at the border, the 167th CSG OIC also acted as the foreign area officer (FAO) when necessary. Operations on the Turkey-Iraq border would have proceeded without a U.S. presence, but both countries welcomed the U.S. military, especially since 15 percent of the goods coming from Turkey were for the coalition forces.

FAO duties included participating in a weekly border meeting run by Turkish and Iraqi customs personnel and representing the U.S. military at senior-level meetings. For example, the FAO was one of the senior Army representatives at the first trilateral security meeting of representatives of Turkey, Iraq, and the United States held in Ankara, Turkey, on 30 November 2004. At that meeting, senior personnel from the foreign affairs departments of all three governments discussed ways to improve security for Turkish truck drivers—a topic that was at the forefront of the Turkish press. U.S. Army representatives addressed concerns affecting coalition requirements and reinforced the coalition's concern for the safety of Turkish truck drivers. The U.S. presence demonstrated that the U.S. Army at the tactical level cared about the Turkish truck drivers' security.

FAO duties alone, such as meeting with Turkish and Iraqi customs personnel and meeting with employers, family, and friends of missing or deceased Turkish truck drivers, occupied a large part of the OIC's day. These meetings, and the relationships formed as a result, went far toward maintaining a steady flow of drivers and supplies across the border. In the future, the COSCOM, and specifically the CSG that supports the northern third of Iraq, would benefit by maintaining representation at the Turkish and Iraqi border crossing. **ALOG**

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Colonel Andrew M. Barclay, USAR, is the Commander of the 167th CSG in Londonderry, New Hampshire. While deployed to Zakho, Iraq, he served as the Deputy Commander of the 167th CSG. He has a bachelor's degree in industrial engineering from Lehigh University and a master's degree in strategic studies from the Army War College.

Improved Air Cargo Operations

BY SERGEANT FIRST CLASS LUPE G. GALVAN

To reduce the number of coalition vehicles and personnel required to travel Iraqi roads to deliver ground cargo, the Army's 1st Corps Support Command and the Marine Corps' 1st Marine Expeditionary Force worked together to find a way to increase the amount of cargo being flown into the Iraqi theater. Their efforts resulted in the creation of the Joint Air Cargo Operations Team (JACOT). The JACOT, the first interservice team of its kind, coordinates air assets in Iraq.

Before the establishment of JACOT, interservice cooperation was limited. The Marine Corps operated traditional arrival and departure airfield control group (ADACG) operations. It was responsible for loading and unloading passengers and cargo arriving on Marine Corps helicopters and fixed-wing aircraft. Across the airfield, an Air Force aerial port team and the Army's 3d Platoon, 403d Cargo Transfer Company (CTC), loaded and unloaded all cargo from other fixed-wing military aircraft and commercial carriers. This operation worked, but it was inefficient.

In June 2005, the Marine Corps 2d Force Service Support Group Forward and Combat Logistics Regiment 25 took the lead in transitioning the ADACG and Strategic ADACG into the JACOT. The transformation included collocating the personnel movement side of the operation with the cargo movement side, including the transient billeting area for incoming and outgoing units. The efficiencies gained were vital to the successful deployment and redeployment of Army units in July, when over 8,000 Soldiers passed through the JACOT area of operations.

JACOT Organization

The JACOT is unique because it involves all four military services. It now consists of an Air Force tactical control element team, the Marines and Sailors of the 1st Force Service Support Group, an Army movement control team, and the cargo handlers of the 403d CTC.

The Air Force tactical control element team brought the much-needed Deployable Global Air Transportation Execution System (DGATES) technology to the operation. DGATES allows the JACOT to track all aircraft that pass through and the amount of cargo and personnel on each.

A Soldier moves a load of tires in the Joint Air Cargo Operations Team cargo yard.

Joint Air Cargo Operations Team members maneuver a crane into position to place cargo at a cargo yard in Iraq.

JACOT Operations

The division of labor is what sets the JACOT apart. The Air Force tactical control element team schedules flights, tracks incoming air assets, and observes all moving equipment on the airstrip to ensure that it is operated correctly. When an aircraft approaches the field, Marines and Airmen working in the air control tower notify the offload team—consisting of Marines, Soldiers, and Airmen—waiting at the intermediate staging point. When the aircraft ramp is lowered, the joint team offloads the cargo. The average offload time for a full C–17 is about 20 minutes.

Once the cargo is staged at the intermediate staging point, the Army team moves the cargo into the cargo yard, where it is sorted into designated lanes by Department of Defense Activity Address Code or Reportable Item Control Code. The cargo then is transported by ground to customer units within 24 hours.

The JACOT concept has proven to be very successful in Iraq. One benefit of having one central air cargo operations team for the Iraqi theater is that it provides a one-stop shop for cargo and passengers. The team has been able to use aircraft more efficiently and, as a result, has maximized air transport of passengers and cargo. Another benefit of the joint team is its ability to share resources, which has reduced manpower and equipment requirements for future operations.

As one JACOT member put it, "We're one team. We're here for one fight. We do the same thing; we help each other out. It's a good feeling," **ALOG**

Sergeant First Class Lupe G. Galvan is the Platoon Sergeant of the 403d Cargo Transfer Company at Fort Bragg, North Carolina. He has a bachelor's degree in criminal justice and is a graduate of the Platoon Leader Development Course, Basic Noncommissioned Officer Course, and Logistics Management Development Course.

Innovation in Redeployment: The 1st Infantry Division Returns From Iraq

BY CAPTAIN SCOTT B. KINDBERG AND CAPTAIN ANN L. GALLO

When the Big Red One left Iraq, it learned that a redeployment is not just a deployment in reverse. Army doctrine needs to reflect this reality.

The redeployment of the 1st Infantry Division from north central Iraq to its home station demonstrated the complexity of conducting a deliberate relief-in-place and a redeployment simultaneously. It also highlighted a shortfall in current Army doctrine on the planning of redeployment operations. According to Field Manual (FM) 100–17–5, Redeployment, "All deployed forces eventually redeploy, perhaps using the same means of conveyance and many of the same procedures and processes." However, the 1st Infantry Division movement cell recognized that redeployment operations do not necessarily mirror deployment operations. Redeployment scenarios vary widely based on available resources, the force structure of the redeploying units, and the locations involved. What follow are the challenges that the 1st Infantry Division faced in redeploying from Iraq and the solutions that it developed to overcome those challenges.

Redeployment Challenges

Geographically, the Big Red One's area of operations in Iraq was the size of West Virginia, and division elements were dispersed across 28 forward operating bases (FOBs). The force that redeployed from Iraq in early 2005 also was far different from the force that had deployed to Iraq from Germany in early 2004. The division deployed 12,500 Soldiers and 7,500 pieces of equipment from units based in Germany. At the time of its redeployment, the division consisted of over 22,600 Soldiers and 14,200 pieces of equipment. These increases resulted from the addition of three diverse brigades: the 2d Brigade, 25th Infantry Division, from Hawaii; the 30th Heavy Separate Brigade from the North Carolina National Guard; and the 264th Engineer Group from the Wisconsin National Guard. Once the Department of the Army published guidance governing stay-behind equipment, the division's total requirement for redeploying equipment dropped to 10,100 pieces. However, unlike deployment operations in which units converge in a single theater, the division had to plan for redeployment to three separate locations: Germany, the continental United States (CONUS), and Hawaii.

The 1st Infantry Division faced a variety of constraints during the redeployment process. Of primary concern, the division's deployment was extended by 2 months in order to maintain the elevated troop levels needed in Iraq to provide security for the historic democratic election held in January 2005. As a result of the adjusted timeline, the division found that it would be redeploying almost simultaneously with the 1st Cavalry Division. That meant the division would face competition for scarce theater common-user land transportation (CULT) and for wash racks, sterile yards, and other facilities in Kuwait.

The lack of division and corps transportation assets became a critical constraint as the division approached its redeployment. The 167th Corps Support Group (CSG)—an Army Reserve unit from New Hampshire—provided backup support to the division. The CSG was based at FOB Speicher in Tikrit and was collocated with the 1st Infantry Division's division-rear headquarters. However, the CSG headquarters jumped to FOB Q-West, south of Mosul, 2 months before the division's redeployment. This sudden change in the location and mission of the division's supporting unit hindered the working relationship that the division had fostered with the CSG's transportation managers over the previous 10 months. Many CSG elements also redeployed 1 to 2 months before the 1st Infantry Division's redeployment and were replaced by a corps support battalion with fewer transportation assets.

As the division was preparing to execute its redeployment, the available corps transportation assets at FOB Speicher were simultaneously conducting their own deployment, relief-in-place, and corps support missions. This further restricted the number of transportation assets available to move the division out.

Convoy security also faced a significant resource shortage. Multinational Corps-Iraq (MNC–I) published convoy guidance requiring 1 gun truck for every 10 civilian trucks and 1 gun truck for every 5 military trucks. MNC–I also delegated authority for CULT convoy security to the unit using the assets.

However, because deploying units were scheduled to receive gun trucks at their destinations in Iraq from the units they were scheduled to replace, they lacked the gun trucks they needed for their movements into Iraq. Deploying units also were making one-way trips; once they arrived at their destination FOBs, they were not prepared or equipped to return CULT trucks to Kuwait.

Redeploying units were still engaged in full-spectrum operations in their areas of operations and were preparing to conduct detailed, one-for-one relief-in-place operations with their deploying replacement units. The redeploying units lacked the manpower and the equipment to disengage from their critical missions in order to secure CULT assets. These units found themselves stretched in trying to execute their primary mission of staying in contact with the enemy to prevent him from interdicting CULT movements while also conducting a quality relief-in-place and securing both deployment and redeployment CULT movements.

Current redeployment doctrine furnished the division little planning guidance. Army doctrine outlines detailed processes for the deployment of forces into a theater of operations, but it provides few guidelines on how to reconsolidate forces still in contact with the enemy for a redeployment. Doctrine for tactical maneuver units discusses consolidation and assembly-area procedures, but it does not describe how tactical-unit operations affect operational-level assets and movements. The movement from the combat zone back to the communications zone (COMMZ)—a line defined in this theater by the Iraq-Kuwait border—is not covered sufficiently in Army doctrine to assist units in developing their concepts of operation.

Because of this doctrinal deficiency, the 1st Infantry Division and every other unit in Iraq had to analyze constraints and limitations, evaluate available resources, and develop creative solutions in order to maximize use of those resources. These unilateral efforts were not well synchronized and led to inefficiencies and to competition for extremely scarce CULT and strategic airlift resources.

Equipment retrograding by sealift required careful cleaning before loading aboard ship. Here, the washrack noncommissioned officer in charge for Task Force Breakout (the 1st Infantry Division element in Kuwait) conducts a preliminary inspection of a vehicle at Camp Doha, Kuwait, as part of the division's redeployment.

Early Retrograde of Equipment

The idea for an early retrograde of nonessential equipment came up during the planning for the division's redeployment. The original intent was to fly 250 wheeled vehicles to Germany and ship 1,000 pieces of equipment to Germany by sea early in September 2004. The 1,000 pieces of equipment were smaller trailers and vehicles, tracked vehicles, and "soft-skinned" vehicles that needed transportation assets in order to be moved. Moving them early would reduce requirements for CULT during the division's main redeployment in January 2005.

This early retrograde was intended to serve two purposes. First, it would move the unneeded equipment out of the theater early before the competition for CULT resources increased. Second, and more important, the retrograde would test both the Coalition Forces Land Component Command's (CFLCC's) redeployment concept and the division's ability to command and control the redeployment process. The test would help all parties determine where changes needed to be made before the whole division tried to move south to Kuwait to meet a critical suspense for a redeployment strategic-sealift movement.

Identifying available resources and arriving at creative solutions were critical to the 1st Infantry Division's air retrograde of equipment. The retrograde used the 167th CSG to provide ground transport to Logistics Support Area (LSA) Anaconda at Balad and daily Air Force flights of C–17 transports to provide air retrograde from LSA Anaconda to Germany.

The 1st Infantry Division's coordination with the Air Force began when the division's movement cell gained approval through the 49th Movement Control Battalion—which had an Air Force liaison officer—to maximize the backhaul of C–17s into Rhein-Main Air Base in Germany. Once this approval was granted, the

A heavy equipment transporter (HET) moves an M1 Abrams tank in Kuwait as part of the 1st Infantry Division's redeployment into the Iraqi theater in early 2005. HETs played a significant role in the division's redeployment, moving tanks and Bradley fighting vehicles from outlying FOBs to CTAAs and then to the port in Kuwait.

movement cell sent a team of two noncommissioned officers (NCOs) to LSA Anaconda to receive and inspect the division's equipment and work with the Air Force in processing that equipment for airlift. The NCOs set up a marshaling yard to receive the equipment at LSA Anaconda and conduct joint inspections with the Air Force.

Division units had already identified their nonessential equipment so that it could be tracked by the movement cell and staged at one of six consolidated tactical assembly areas for movement forward to LSA Anaconda. The cell coordinated directly with the CSG for truck transport. Once the equipment arrived at the marshaling area, unit representatives washed it, prepared all transportation documents, and assisted the NCOs in charge with the joint inspection. When the Air Force liaison officer received the equipment, it then was considered "space available cargo" and became a requirement for the C–17s flying back to Germany. When the equipment arrived at Rhein-Main Air Base, the division's rear detachment received it and prepared it for onward movement to the motor pools.

The 1st Infantry Division's air retrograde was a success because it maximized existing transportation assets and arrangements and thus reduced overall transportation costs to the Army. The result was better than the division had anticipated. A total of 641 soft-skinned wheeled vehicles was air-retrograded to Germany from November 2004 through January 2005. Another 1,550 pieces of equipment were retrograded to Germany, CONUS, and Hawaii using available cargo space on sealift vessels already moving to those destinations.

Consolidated Tactical Assembly Areas

The division quickly realized that collecting its cargo at a few, geographically dispersed marshaling areas was the best way to ensure that loads were available and ready when trucks arrived. To do this, the division developed the concept of the "consolidated tactical assembly area" (CTAA). The term was chosen deliberately to avoid connotations of the doctrinal marshaling area, which typically is located in a secure environment in the COMMZ. (Consult FM 100–17–3, Reception, Staging, Onward Movement, and Integration.) The CTAA was designed as a tactical assembly area rather than a marshaling area to remind Soldiers that they were still in contact with the enemy and that unloading, reloading, and getting CULT back on the road to Kuwait was a combat operation, not an administrative movement.

At a CTAA, redeploying equipment was staged according to the division's redeployment timeline and relief-in-place schedule. The CTAA was nondoctrinal since it combined the functions of both a marshaling area and a tactical assembly area. Units still prepared vehicles and equipment for onward movement, as they do in tactical assembly areas; however, their preparations were conducted at FOBs that remained engaged in daily combat operations. The process started with nonessential equipment and moved on to mission-essential equipment, all time-phased by the units' available load dates at the sea port of embarkation. The units were responsible for conducting the tactical convoy operations that brought equipment to the CTAAs.

A CTAA required large areas for handling inbound and outbound equipment. It also needed materials-handling equipment and crane support on call; this requirement was met by maintaining open transportation movement requests (TMRs) with the local area movement control team. Each CTAA had a managing and tracking cell consisting of a staff sergeant, sergeant, and specialist and headed by an officer in charge (OIC), who usually was a brigade combat team (BCT) assistant S–4. Equipment operators were assigned to the CTAA when loading was required.

The CTAA OIC kept an accurate equipment piece count by unit and type of equipment and by time of entry into and departure from the yard. This information was forwarded to the Division Support Command's movement control officer, who collected, sorted, and developed TMRs that detailed loads available for movement by CULT. Accountability of equipment by unit was needed to ensure that the division transportation officer (DTO) accurately requested the proper CULT assets for each CTAA from the movement control team at LSA Anaconda. The OIC also separated equipment by loads. The loads at a CTAA required either 30- or 40-foot flatbed trailers or heavy equipment transporters (HETs) to move them south to Kuwait.

The 1st Infantry Division area of operations was so large that it required six CTAAs to meet mission requirements. One CTAA was established for each of the division's four BCTs, one for division troops, and one for corps troops within the division's area of operations. Coordination with MNC–I was key to the successful use of CULT since the corps controlled CULT assets moving in the theater.

Lines of communication and the distance between the CTAAs required careful movement planning. FOB Warrior in Kirkuk was the most distant CTAA in the division's area of operations, so extra planning was needed to mitigate the time-distance factor. Units conducted tactical convoy operations to move most equipment from the FOBs to the CTAAs; moving tanks and Bradley fighting vehicles from the outlying FOBs to the CTAAs required the use of HETs operated by the division truck company. Each CTAA was managed carefully by the BCT S–4. The DTO set the priorities governing which units were to drop off equipment at the CTAA and when. This coordination was synchronized with the available load dates for each unit and was communicated daily during a movement control board conducted by video teleconference with all division command and control nodes and all BCTs.

One month before the first BCT redeployed, the CTAAs were ready to begin receiving non-mission-essential equipment such as M101A1 trailers and all non-up-armored vehicles and containers that were sealed, inspected for customs, and ready for redeployment. Once a pool of equipment began to build up at the CTAAs, the DTO submitted a TMR to the movement control team requesting CULT assets to move the cargo. The movement control team at LSA Anaconda accepted all TMRs and resourced them based on the CFLCC's requirements and available assets.

Task Force Vigilant Guardian

Because there was a theater-wide lack of dedicated security escorts for CULT assets, MNC–I shifted responsibility for escort duty of CULT convoys to the units using the CULT. The concept was for the deploying unit to escort the CULT to Iraq and the redeploying unit to meet the CULT and escort it back to Kuwait. However, most deploying units did not have the required up-armored escort vehicles, and redeploying units were still conducting full-spectrum operations in Iraq.

The 1st Infantry Division decided that the only way to solve this dilemma was to establish a permanent escort unit. That was the birth of Task Force Vigilant Guardian. At first, each BCT was tasked to provide a specific number of M1114 up-armored high-mobility, multipurpose, wheeled vehicles (humvees), drivers, and weapon systems. Then the unit requiring the escort of CULT would provide a driver and gunner to complete the escort platform. However, during the initial redeployment operations, this plan caused more problems than solutions. So it was decided to provide a dedicated company of 180 soldiers to become the division's Task Force Vigilant Guardian.

The 278th Armored Cavalry Regiment provided a cavalry troop, and units from across the division provided 60 M1114 humvees and gun systems. Task Force Vigilant Guardian was divided into 15 escort teams, each consisting of four M1114s, and those teams spent 2 weeks training at FOB Speicher. By the middle of January 2005, Task Force Vigilant Guardian was ready for its mission. The unit could simultaneously escort fifteen 40-vehicle CULT convoys.

The performance of Task Force Vigilant Guardian exceeded all expectations. Not only did it escort redeploying CULT assets to Kuwait, but, after arriving in Kuwait and resting and conducting 24 hours of after-action maintenance, it also escorted deploying CULT assets from Kuwait to Iraq. The average time for a CULT convoy from a 1st Infantry Division CTAA to Kuwait was 7 days, which was better than the CFLCC's 8-day model. Using that gain in time, the division was able to create an "extra" 40-truck convoy every week. Adding an extra convoy each week had several positive benefits: It dramatically shortened the division's redeployment timeline; it allowed the division to find room for cargo that had not been identified for regular convoys; and it permitted the division to form a substitute convoy to make up for a convoy that did not arrive because of enemy action.

As dedicated security escorts, the personnel of Task Force Vigilant Guardian were skilled at picking up and using CULT assets that were not allocated to the 1st Infantry Division but had been left by other units. This occurred several times and resulted in 23 extra CULT convoys that were able to move over 1,600 pieces of equipment earlier than projected. This capability was critical when two divisions (the 1st Infantry and 1st Cavalry) were competing for the same resources. It also created confidence in the 49th Movement Control Battalion that Task Force Vigilant Guardian would arrive on time with critical corps assets.

Airlift from LSA Anaconda and FOB Speicher

Redeploying 1st Infantry Division Soldiers offered an opportunity to develop an efficient way to overcome challenges associated with moving the division to Germany, CONUS, and Hawaii. The division took advantage of its base in Germany to maximize the air retrograde of cargo from LSA Anaconda and FOB Speicher, so why not apply that same advantage to

redeploying Soldiers? In fact, air retrograde stemmed from the division's "Northern Option Plan." Under the Northern Option, 1st Infantry Division Soldiers flew from Iraq directly to Germany, bypassing Kuwait altogether. This freed up CFLCC camp space, commercial aircraft, theater C–130 transports, and time that otherwise would have been devoted to moving Soldiers from Iraq to Kuwait.

The challenge behind the Northern Option was to ensure that the Soldiers from 28 different FOBs arrived at the 2 aerial ports of debarkation before their flights despite limited ground transportation assets and helicopter support. Of the 1st Infantry Division Soldiers returning to Germany, approximately 10,100 flew the Northern Option out of FOB Speicher and LSA Anaconda within 12 days. This movement was monitored closely by using a daily movement control board that included representatives from all of the division's brigades, separate units, and Task Force Breakout (which was the 1st Infantry Division element in Kuwait) and the Air Force Tanker Airlift Control Element (TALCE) team commander. The movement control board monitored current operations and looked at operations 72 hours out. It also monitored arriving and departing CULT convoys; oversaw intratheater airlift that moved 1st Infantry Division Soldiers who had to redeploy from Kuwait after cleaning their equipment for sea transport; and, most importantly, it directly coordinated with the division G–3 Air Section to allocate the use of CH–47 Chinook helicopters.

The priorities for each movement were set by the DTO based on time-phased force and deployment data (TPFDD) requirements and on the distance of the units from FOB Speicher and LSA Anaconda. The preferred method of moving Soldiers from outlying FOBs was by CH–47 helicopter rather than convoying Soldiers in 5-ton trucks across dangerous roads.

Using the movement control board had several advantages. Submitting TMRs to the board saved time over using the G–3 Air Section, which would have taken days to process, plan, and reschedule those requests. By forecasting shortfalls in transportation, the movement control board provided the division with flexibility to reallocate lift as necessary; the board also could notify units so they could address shortfalls that might cause the units to miss planned movements. The movement control board gave Task Force Breakout in Kuwait a real picture of what was en route to Kuwait and what the division's outstanding requirements were so they could argue for more assets to move the division. The board ironed out these issues and provided a means of controlling the vast amount of moving pieces created by a redeployment.

The Northern Option was successful because of the direct assistance and coordination offered by the TALCE team assigned to FOB Speicher. On several occasions, the TALCE team maximized the division's use of available air transport that was not dedicated to the division's redeployment. The Northern Option freed intratheater assets (C–130s) and contracted commercial aircraft for other missions, minimized the CFLCC resources needed in Kuwait, and moved Soldiers from the battlefield to home stations in hours instead of days. The Northern Option demonstrated the benefits of being creative in concept, detailed in planning, and meticulous in execution during redeployment operations.

The innovative concepts used by the 1st Infantry Division resulted in the successful and timely execution of the division's redeployment operations without the loss of a single piece of equipment or a single Soldier. The division was able to execute this operation efficiently while maintaining contact with the enemy and focusing on the successful relief in place—and all without having to drain combat power to devote to the redeployment effort.

These efforts were successful in spite of the lack of doctrine on planning for the use of CULT in a retrograde movement from a relief in place, through enemy territory in contact, to a redeployment staging area in the COMMZ. The techniques used by the 1st Infantry Division worked. However, they are not the only solutions to the redeployment problem. Army doctrine should be reevaluated to capture the lessons learned from these experiences and provide guidelines for future transporters to use in getting the mission accomplished. The bottom line is that "nothing happens until something moves," and nothing moves without a plan. **ALOG**

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A Logistician's Primer on GCSS-Army (PLM+)

BY COLONEL DAVID W. COKER AND LIEUTENANT COLONEL J. GARY HALLINAN

Since the early 1990s, the Army has been undergoing a transformation aimed at responding to a rapidly changing world environment. A significant component of this transformation has been the modernization of the Army's logistics processes. The Army is transitioning its logistics processes from an echeloned, mass-inventory approach to a more efficient and responsive distribution system based on the availability and use of accurate information. As a key enabler of this process transformation, the Army decided to move away from multiple, stand-alone custom software applications to an integrated, commercial Enterprise Resource Planning (ERP) solution. That solution is based on the mySAP Business Suite, which is being implemented as two distinct logistics domains, national and tactical. ["mySAP" is a product of the German software company SAP. It is an e-business software integration tool that allows users to access the applications that are appropriate to their needs.]

Now the Army is moving to connect the national and tactical logistics domains through a program called Global Combat Support System-Army (GCSS-Army) Product Lifecycle Management Plus (PLM+). Army logisticians need to be more aware of what GCSS-Army (PLM+) is, how it fits into the Single Army Logistics Enterprise (SALE), and what benefits can be derived from it. [Under SALE, the Army will integrate its national and tactical logistics systems into one fully integrated, end-to-end enterprise.]

Bridging the National- and Tactical-Level Domains

In December 1999, the Army Materiel Command awarded a contract for the Logistics Modernization Program (LMP) to Computer Sciences Corporation. LMP is designed to replace two legacy mainframe computer applications associated with logistics processes at the national level—the Commodity Command Standard System and the Standard Depot System. The first prototype deployment of LMP—to the Army Communications-Electronics Command—took place in July 2003.

In April 2002, the Army directed a change in GCSS-Army (Field/Tactical) [GCSS-Army (F/T)], shifting from a custom development strategy to an ERP solution. This critical logistics transformation effort is intended to replace 14 legacy tactical or field logistics systems—such as the Standard Army Retail Supply System and the Standard Army Maintenance System—with GCSS-Army F/T and replace their custom-coded legacy applications with the mySAP solution. GCSS-Army (F/T) has completed the initial blueprinting phase.

Even though both the national and tactical solutions will use mySAP, integration of the Army's logistics processes is not ensured. It requires a single, end-to-end business blueprint and the use of technologies that are optimized by SAP to manage business process interactions across business mission areas.

GCSS-Army (PLM+) is the critical link for integrating the current LMP and GCSS-Army F/T programs, as well as for the future implementation of SALE. With GCSS-Army (PLM+), the Army is establishing the organizational and technical framework for a fully integrated logistics enterprise as reflected in the SALE vision. By emphasizing a single solution, the Army will minimize the long-term changes that might have been required within the national and tactical domains if development of those programs had continued in separate development environments.

Product Lifecycle Management Plus

The GCSS-Army (PLM+) program is the linchpin of SALE. It provides the architectural planning that is crucial to bringing together, as a successful enterprise, the separate SAP ERP solutions being implemented by the LMP and GCSS-Army (F/T) programs.

Development of GCSS-Army (PLM+) is following an incremental approach consistent with available resources. This incremental approach prioritizes program resources to achieve incremental ERP capabilities that will improve support to the warfighters while preserving the SALE vision. When the initial GCSS-Army (PLM+) increment is completed successfully, the program will move to addressing product life-cycle management. End-to-end processes developed to encompass the entire logistics enterprise landscape, to include the national level, will be incorporated in subsequent GCSS-Army (PLM+) increments. The result will be an incremental approach to achieving the SALE vision.

The first increment of GCSS-Army (PLM+)—integrating GCSS-Army (F/T) processes into the enterprise architecture—involves translating business interface requirements into optimized messages that will flow through the GCSS-Army solution to and from users. The first increment also will include full functionality for managing and distributing customer and vendor master data. Thus GCSS-Army (PLM+) will support GCSS-Army tactical-level interfaces with users and establish the foundation for building further master data capabilities in support of SALE.

When fully deployed, GCSS-Army (PLM+) will assist with the Army's complex, sophisticated weapon-systems management process. It will provide the catalyst for a product life-cycle management process that operates in an open, standards-based architecture and that can be integrated with the Army's depot and manufacturing execution, supply chain management, customer relationship management, supplier relationship management, and ERP solutions. A fully deployed GCSS-Army

(PLM+) solution will provide total life-cycle management, enterprise master data, business intelligence, and SAP Enterprise Portal capabilities.

Total Life-Cycle Management

GCSS-Army (PLM+) will provide a wide range of life-cycle management functions and capabilities.

Life-cycle data management. The integrated capabilities for product and process engineering offered by GCSS-Army (PLM+) will enable the Army to manage requirements, bills of material, routing and resource data, recipes, computer-assisted design models, and related technical documentation. [A bill of material is a formal list of all the component parts of a product. It contains data on the product, its assemblies, and their quantities and relationships.] GCSS-Army (PLM+) will provide sophisticated change-management functions that will help ensure consistency and accuracy of weapon system knowledge.

Life-cycle collaboration. GCSS-Army (PLM+) will allow the Army to link all elements of support from development partners, tactical units, and suppliers so that they can share project plans, documents, service bulletins, and other information across a virtual network.

Program and project management. GCSS-Army (PLM+) will enable the Army to plan, manage, and control product portfolios and the complete product development and depot management processes, including control project structures, schedules, costs, and resources.

Quality management. GCSS-Army (PLM+) capabilities will facilitate integrated quality management.

Asset life-cycle management. By using GCSS-Army (PLM+), the Army will gain the capability to manage physical assets and equipment availability over the life cycle of an asset, including purchasing, operation, maintenance, and planning for replacement of equipment.

Environment, health, and safety management. Through GCSS-Army (PLM+), users will be able to manage Army and Department of Defense (DOD) environment, health, and safety procedures effectively. This will enhance the Army's ability to comply with regulations.

Enterprise Master Data

A part of GCSS-Army (PLM+), SAP's Master Data Management (MDM) tool, will enable the Army to store, augment, and consolidate master data while ensuring consistent distribution of the data to all applications and systems within the logistics architecture. Working across multiple systems locations, MDM will leverage the power of a single logistics enterprise by providing a more cost-effective approach to data management. By ensuring consistent data across systems, MDM will improve the execution of logistics business processes, resulting in a richer and timelier decision support system.

Examples of data that can be synchronized across the Army enterprise with MDM include—

- ***Customer master.*** This set of data includes critical customer information relating to accounts and locations and unique information about customer sets. Included are agency data required to conduct logistics processes, such as Department of Defense Automatic Addressing Codes (DODAACs), Unit Identification Codes (UICs), and geographic data.
- ***Vendor master.*** Critical information on approved vendors relating to accounts and locations and unique information relating to products and services approved for purchase is included in this data set. In GCSS-Army (PLM+), the vendor master will consist of data from the Defense Logistics Information Service's Central Contractor Registry and the DOD Routing Identifier Code.
- ***Material master.*** This data set includes a homogeneous set of critical material information required by all business applications, both ERP and legacy. Included are critical elements such as item catalog information.
- ***Equipment master.*** The equipment master is a homogeneous set of equipment information required by all business applications, both ERP and legacy. Included are critical serial numbers for air and ground systems, as well as selected sets of critical components such as critical air safety items.

Business Intelligence

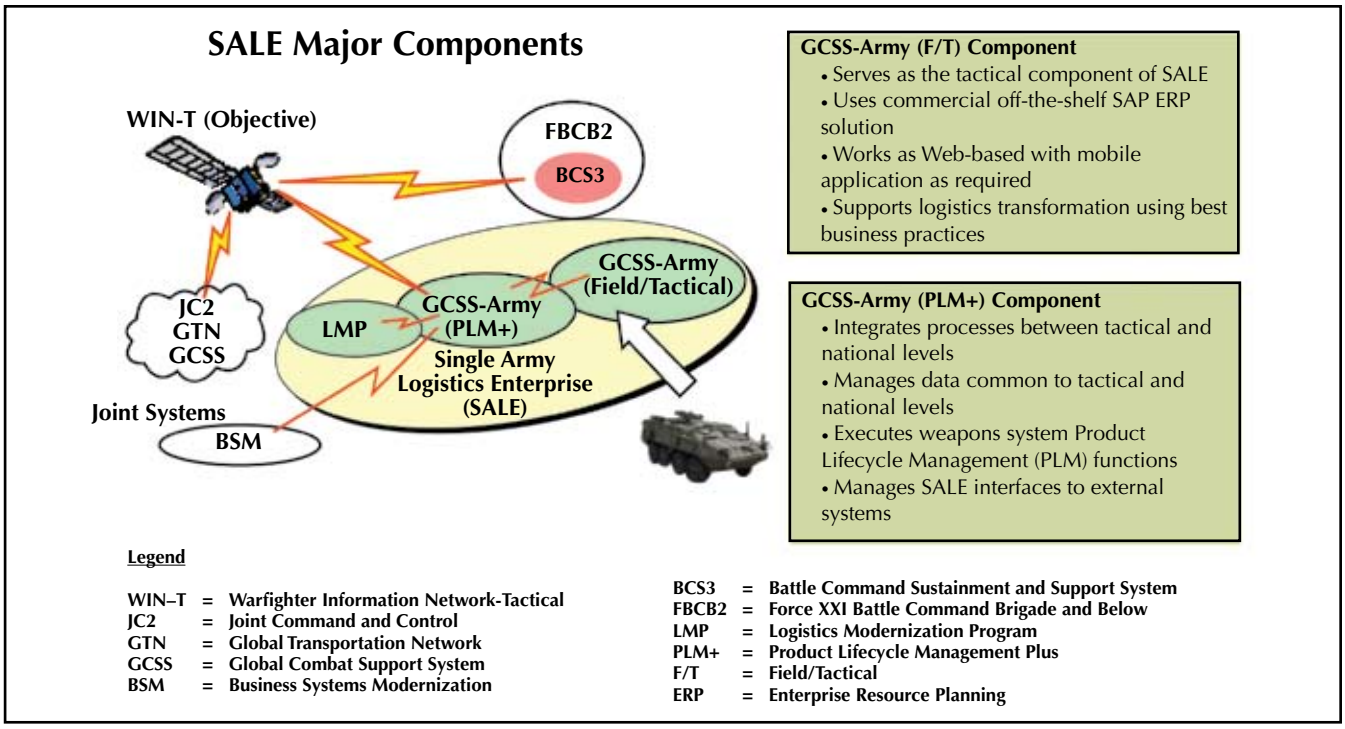
Successful use of business intelligence hinges on the ability to provide integrated and actionable logistics information across the enterprise to assist in the critical decisionmaking process. The focus of business intelligence is to support mission needs effectively and efficiently by providing enterprise-wide key performance measurements, such as logistics scorecard information. To do this, timely and content-rich information, tailored to user requirements, must be available at all times. GCSS-Army (PLM+), as the logistics information hub, will provide the catalyst for the development of content-rich information critical to all levels within the Army.

SAP Enterprise Portal

The SAP Enterprise Portal unifies key information and applications to give users a single view that spans the enterprise. GCSS-Army (PLM+) users will access the GCSS-Army (PLM+) solution through the SAP Enterprise Portal. The Enterprise Portal will allow quick and efficient integration of the SAP solutions within GCSS-Army as well as third-party applications, legacy systems, databases, unstructured documents, internal and external Web content, and collaboration tools. Workflow functions will permit notifications about required approvals as well as changes and requests to create or update master data within MDM. The Enterprise Portal will provide GCSS-Army users, partners, and customers with instant, secure, and role-based access to the information and applications they need.

Benefits of GCSS-Army (PLM+)

To minimize total ownership costs within the Army's ERP solution, with its integration of multiple instances of both SAP-deployed and non-SAP activities, the Army will move incrementally to a content-rich environment



characterized by continuous analysis of relevant logistics information across the spectrum of the logistics domains. The focus of this analysis will be to identify emerging issues, problems, and faults associated with units, platforms, and components that have a direct bearing on readiness and costs. This content-rich environment will permit greater understanding of the underpinnings of the health of warfighting elements and allow the Army to focus resources to achieve the greatest advantage.

A fully realized GCSS-Army (PLM+) solution will provide a number of benefits. Among the most vital are—

- Integrating SALE architecture, including consolidating development environments.
- Providing a basis for SALE that satisfies all the requirements of the GCSS-Army (F/T) Operational Requirements Document approved by the Joint Requirements Oversight Council.
- Enabling the concepts of total life-cycle systems management and end-to-end customer service.
- Providing visibility of logistics information on a real-time basis, available to all users, thus fulfilling the promise of assisting any authorized user, from any computer, at any time.
- Assisting in full Government compliance with the requirements of the Chief Financial Officers Act of 1990.
- Attaining compatibility with the Global Information Grid (GIG). [According to the National Security Agency, GIG "will be a net-centric system operating in a global context to provide processing, storage, management, and transport of information to support all DOD, national security, and related Intelligence Community missions and functions . . ."]
- Promoting a single set of authoritative master data.
- Achieving compliance with the standards contained in the Army's implementation of DOD's Joint Technical Architecture (Joint Technical Architecture-Army) and DOD Architecture Framework and the requirements and documentation of the DOD Business Enterprise Architecture-Logistics.
- Leveraging the considerable experience and pool of artifacts associated with DOD standards and architectures available from LMP and GCSS-Army (F/T).

Increment 1 of GCSS-Army (PLM+) should be implemented by fiscal year 2007. The timeline runs concurrently with, and is synchronized with, the GCSS-Army (F/T) program to ensure the success of the Army enterprise solution. GCSS-Army (PLM+) follow-on increments should be completed by fiscal year 2014.

Logistics modernization is a major enabler within the overall Army transformation efforts. Without this effort, the modernization of Army logistics that is so vitally necessary will fall short of the SALE vision. **ALOG**

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The Future of the Automated Logistical Specialist

BY CHIEF WARRANT OFFICER (W–3) TIMOTHY N. MCCARTER, SR.

Soldiers with military occupational specialty 92A are responsible for knowing how to operate an increasing number of continually changing logistics systems.

Just over a decade ago, after performing preventive maintenance checks and services (PMCS) on his vehicle, a Soldier would walk from the company motor pool to the maintenance section and give the completed Department of the Army Form 2404, Equipment Inspection Maintenance Worksheet, to the Unit Level Logistics System-Ground (ULLS–G) operator, an equipment records and parts specialist holding military occupational specialty (MOS) 76C. After the maintenance supervisor verified the faults, the 76C Soldier would update the equipment faults in the ULLS–G automated maintenance system, which updated the Standard Army Maintenance System (SAMS) that was operated by another 76C Soldier.

The ULLS–G operator would order the parts required to repair the vehicle and place the request on a diskette for input to the Standard Army Retail Supply System-1 (SARSS–1) at the supply support activity (SSA) warehouse. He then would deliver the diskette to the SSA, where a stock control and accounting specialist (MOS 76P) would process the diskette and print a materiel release order for the repair parts. A materiel storage and handling specialist (MOS 76V) would pull the parts from the SSA stocks.

Today, the process is basically the same. The foundation of the entire maintenance program is still the proper PMCS of the unit's equipment by a trained operator. What has changed is that all of the support Soldiers involved in the automated maintenance tracking and supply support missions now share the same MOS—92A, automated logistical specialist.

The automated accounting systems and the rapidly evolving user-level communications architecture that supports them have transformed the 92A Soldier from an automated record keeper and inventory manager to an information technology-enabled worker with many valuable skills. The catalysts for the continued evolution of the 92A Soldier are advances in the information technology field, the Army's procurement of more sophisticated inventory management and communications systems, and the continued accession of well-educated Soldiers.

MOS 92A

MOS 92A was created by combining MOSs 76C, 76P, 76V, and 76X (subsistence supply specialist). MOS consolidation is not a new Army concept. Several supply MOSs have been consolidated over the past 40 years. A 92A Soldier holds the equivalent of 16 supply MOSs from the Vietnam War era. At that time, 20 supply MOSs—from supplyman (MOS 76A) to senior supply/service sergeant (MOS 76Z)—covered the spectrum of Army supplies.

Cross-training and job consolidation are ubiquitous in modern industry. Proficient and knowledgeable workers enable organizations to be more adaptive, effective, and efficient. MOS 92A is a logical consolidation of similar jobs. More than 11,300 authorized slots in the Army personnel inventory are 92A positions, and half of those authorizations are in the ranks of specialist or below.

MOS 92A Soldiers are expected to maintain a technical proficiency commensurate with their skill levels. They have up to 85 skill-level-dependent critical tasks, each with its own required subtasks. These subtasks include—

- Supervising and performing warehouse functions in order to maintain equipment records and parts.
- Operating the automated systems that facilitate the management of supplies or maintenance.
- Manually receiving, storing, and issuing supplies.

High-Tech Equipment Training

The introduction of new technologies and equipment into a military organization that spans the globe presents a difficult challenge for the Army's institutional and unit training programs. The Army must find a way to train Soldiers effectively and efficiently on emergent systems and equipment while maintaining the current operating tempo.

For example, the Battle Command Sustainment Support System (BCS3) (the successor to the often-maligned Combat Service Support Control System) has many applications for providing logistics commanders a more complete near-real-time picture of the

MOS 92A Soldiers of the 48th Brigade Combat Team, Georgia Army National Guard, train with the new Field Pack-Up Unit Modular Storage System at the National Training Center.

situation within an area of operations than they have had in the past. BCS3 training is designated as non-MOS-specific. However, a 92A Soldier usually is tasked as the BCS3 operator in the battalion support operations office. BCS3 training is not a part of the 92A training program at the Army Quartermaster Center and School at Fort Lee, Virginia. BCS3 training, as with many emergent systems, is often provided by onsite training teams. Onsite training teams, such as those accessed through the Digital Training Management System (DTMS), are funded by individual divisions or installations to provide onsite training to their Soldiers. This can present a training dilemma for Soldiers deployed forward in the Iraq area of operations because they may not have access to onsite teams but still must be trained on emergent systems.

In some cases, the amount of effort expended by the Army to administer and sustain the training of proficient operators will outweigh the benefits of the training. Job consolidation works well until the amount of knowledge required to perform well in each of the consolidated areas becomes too great for most Soldiers to master. At some point, adding another logistics automation system to the 92A field will not be advantageous since fewer trained operators will be available.

Contracting

In addition to mastering new systems, other critical logistics requirements are falling into the MOS 92A realm of responsibility. Contingency contracting operations are a standard part of military operations. Numerous global deployments to remote areas have created the need for more Soldiers with contracting skills to coordinate host nation support for Army forces. Contracting officers belong to the Army Acquisition Corps, and contracting noncommissioned officers (NCOs) maintain the additional skill identifier (ASI) G1, contracting agent. Incorporating contracting operations into the 92A and 92Y (unit supply specialist) education system has benefited contingency contracting operations.

The growing need for contracting operations may contradict the current practice of temporarily assigning NCOs to ASI G1 positions. Managing acquisitions and contracts with a host nation is an intricate, but perishable, skill. Contracting NCOs who follow a normal permanent change-of-station schedule with average rotations of 36 months will not remain current in the constantly changing contracting field without consecutive contracting assignments and training. Improving the career and assignment management of ASI G1 Soldiers would preclude the need to create a separate MOS for contracting agents, but a separate MOS may be necessary if assignments are not carefully managed. [See related article on page 7.] Contracting agent prerequisites should include a logistics background, as the Marine Corps currently does, to help produce technically competent agents. Required sustainment training must be institutionalized to keep Soldiers' skills current.

Subsistence Supply

The inclusion of MOS 76X in the 92A consolidation seemed appropriate, given the similarity of the supply procedures for rations and repair parts. A ration platoon of MOS 92A Soldiers manages the brigade-level ration breakpoints in support of the Army Field Feeding System. While 92A Soldiers manage the receipt, storage, and issue of rations well, a food operations specialist (MOS 92G) is required to maintain the appropriate ration management forms, compute the ration breakdown, and ensure the proper handling of perishable items. Establishing an ASI for rations handlers and improving assignment management would validate the inclusion of MOS 76X in MOS 92A.

Assignment-Oriented Training

The Fiscal Year 2004 Quartermaster Branch Functional Review recommended assignment-oriented training for 92A Soldiers. This recommendation entailed dividing MOS 92A into a two-track system—one for unit-level and the other for direct support-level Soldiers. Soldiers in each track would be given assignments based on their experience. The MOS would be consolidated for Soldiers in the grade of E–6 and above. The separate assignments would develop the skills required of 92A Soldiers and ensure more specialized and technically competent NCO leadership in their respective areas.

However, the assignment-oriented training initiative fails to address a common occurrence among 92A NCOs. Many Army supply activities and materiel management centers (MMCs) are currently managed by senior NCOs who have spent their careers as ULLS clerks. They were seldom afforded any SARSS training until their promotions to E–6 forced their battalions to release them to assignments commensurate with their rank. These NCOs are expected to have the level of technical competence necessary to manage a supply activity effectively; however, in reality, they struggle to gain the knowledge they need to accomplish the mission.

Better assignment management at the installation and division levels will provide 92A Soldiers more opportunities to learn the skills they need at the different levels of supply. This means that the G/S–1 personnel managers must be aware of the cross-training needed to ensure that Soldiers are assigned to positions that broaden their experience. Force stabilization initiatives, including unit-focused stability and home basing, emphasize the need for cross-training among Soldiers because they may spend a large portion of their careers at one installation and, possibly, at the same job.

Training Solutions

After initial entry (basic) training, 92A Soldiers complete 12 weeks of advanced individual training (AIT) at

Contemporary communications systems like this Very Small Aperture Terminal at the National Training Center are part of the advanced technologies that 92A Soldiers employ.

the Quartermaster School. They learn the basics of automated supply and receive training on some of the automated supply management equipment used in the SSA warehouse, such as the Materiel Release Order Control System and the portable infrared label scanner and data collection device. They are introduced to the automated systems that manage organizational maintenance (ULLS), direct support maintenance (SAMS), and supply support (SARSS). They also learn about the procedures for managing rations under the Army Field Feeding System.

One Army solution for continued technical MOS training is the Distributed Learning System (DLS) (formerly The Army Distance Learning Program). DLS provides computer-based training at hundreds of digital training facilities via the Internet and on CD–ROM software. Information on DLS and a generous number of MOS-related courses is available on line at www.tadlp.monroe.army.mil or from unit training NCOs.

The introduction to the SSA of the Field Pack-Up Unit Modular Storage System, which is replacing the outdated M129 storage van, also presents a unique training issue. The containers are moved on palletized load system (PLS) trucks. MOS 92A Soldiers do not routinely receive driver training on the PLS truck, so the SSA loses its ability to move itself. This problem could be solved by training 92A Soldiers to drive PLSs during sergeant's time training, site training team visits, and unit training exercises.

Hands-on training also occurs for 92A Soldiers at the three Army maneuver combat training centers—the Joint Multinational Readiness Center (formerly the Combat Maneuver Training Center) at Hohenfels, Germany; the Joint Readiness Training Center at Fort Polk, Louisiana; and the National Training Center (NTC) at Fort Irwin, California. The NTC provides hands-on tactical and technical training opportunities for logistics Soldiers in a contemporary operating environment. Performing real-time supply missions using robust class IX (repair parts) stocks and working with the familiar faces of the 92A's own brigade engender confidence and experience.

NTC observations of MOS 92A Soldiers' skills, however, indicate that they need more training on the technical aspects of the SSA mission, including the use of the new satellite communications systems and wireless networking and the maintenance of automation in a harsh desert environment. Of critical importance is the need to include the ULLS, SAMS, and SARSS operators in the unit's tactical training. Computer operators may be excluded from many training events, such as convoy live-fire exercises, because of the criticality of their mission, which results in insufficient tactical training.

MOS Workshops

Developing and implementing installation-level MOS workshops could alleviate much of the disparity in technical knowledge among 92A Soldiers serving in a number of key positions, including ULLS clerks, SAMS operators, rations handlers, SSA technical supply clerks, automation management office clerks, and support operations commodities managers. These workshops also could help 92As who are cross-training in unit supply rooms.

An MOS workshop is a brief and intensive educational program for a relatively small group of people. It focuses on the techniques and skills of a specific field, such as logistics automation. Installation training facilities with fully configured logistics systems could be used to certify each system operator and would prove invaluable to gaining units that are struggling to provide on-the-job training for new Soldiers.

The workshop concept may be limited by the support provided by the installation and the command emphasis placed on acquiring highly trained supply and maintenance systems operators. For example, commanders usually will place mission requirements before training when determining their work priorities. This may prevent Soldiers from attending the workshops.

Implementing new training standards has obvious inherent pitfalls. Changing from the currently entrenched assignment-focused training system to a system based on the comprehensive teaching of emergent technical systems to every 92A Soldier at brigade level and below is an arduous task. Soldiers and their leaders may express dissatisfaction with the concept of rotating knowledgeable Soldiers to other units or even within the same unit.

Conversely, it would be a mistake to overlook how new information technologies, the privatization of key logistics functions, and reorganization of the Army's force structure will affect logistics systems and Soldiers. Proactive planning and implementation of aggressive training systems by the Army Training and Doctrine Command and Army trainers at all levels will provide the logistics community with technically and tactically competent 92A warrior logisticians for future operations. **ALOG**

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Theater Immersion: Protecting Precious Resources

BY COLONEL DANIEL L. ZAJAC AND LIEUTENANT COLONEL JAMES A. MOSSER

In the summer of 2004, First Army mobilized a number of Army National Guard units as part of the 278th Regimental Combat Team (RCT) from Tennessee and the 155th Brigade Combat Team (BCT) from Mississippi. Both combat teams were mobilized at Camp Shelby, Mississippi. The 24th Infantry Division (Mechanized) provided command and control. The 3d Brigade, 87th Division (Training Support), which is an Army Reserve training support brigade (TSB), served as the lead trainers for this mobilization. First Army introduced theater immersion, then a new approach to post-mobilization training. This technique is now the watchword for post-mobilization training throughout First Army.

Tasked to provide theater immersion training to 16,000 Soldiers from 4 National Guard brigades and several smaller units at the lowest possible cost, the Soldiers of the 3d Brigade tapped into their own creativity and the expertise of the First Army G–8. The result was a cost avoidance of more than $10.5 million.

Theater Immersion Defined

The theater immersion training technique places units into an environment comparable to the one that they will encounter in combat in order to rapidly build combat-ready formations led by competent, confident leaders and manned by battle-proofed Soldiers who embody the Warrior Ethos. One of the basic objectives of this training is to train officers to "see first, understand first, and act first." This training environment uses a multilevel approach that provides a combat training center-like experience that replicates conditions in the theater of operation.

Theater immersion training requires the award of civilian support contracts, construction of forward operating bases (FOBs) and facilities for military operations in urbanized terrain (MOUT) training, and reconfiguration of standard firing ranges to accommodate ground assault convoy and MOUT live-fire training.

Initial Investments

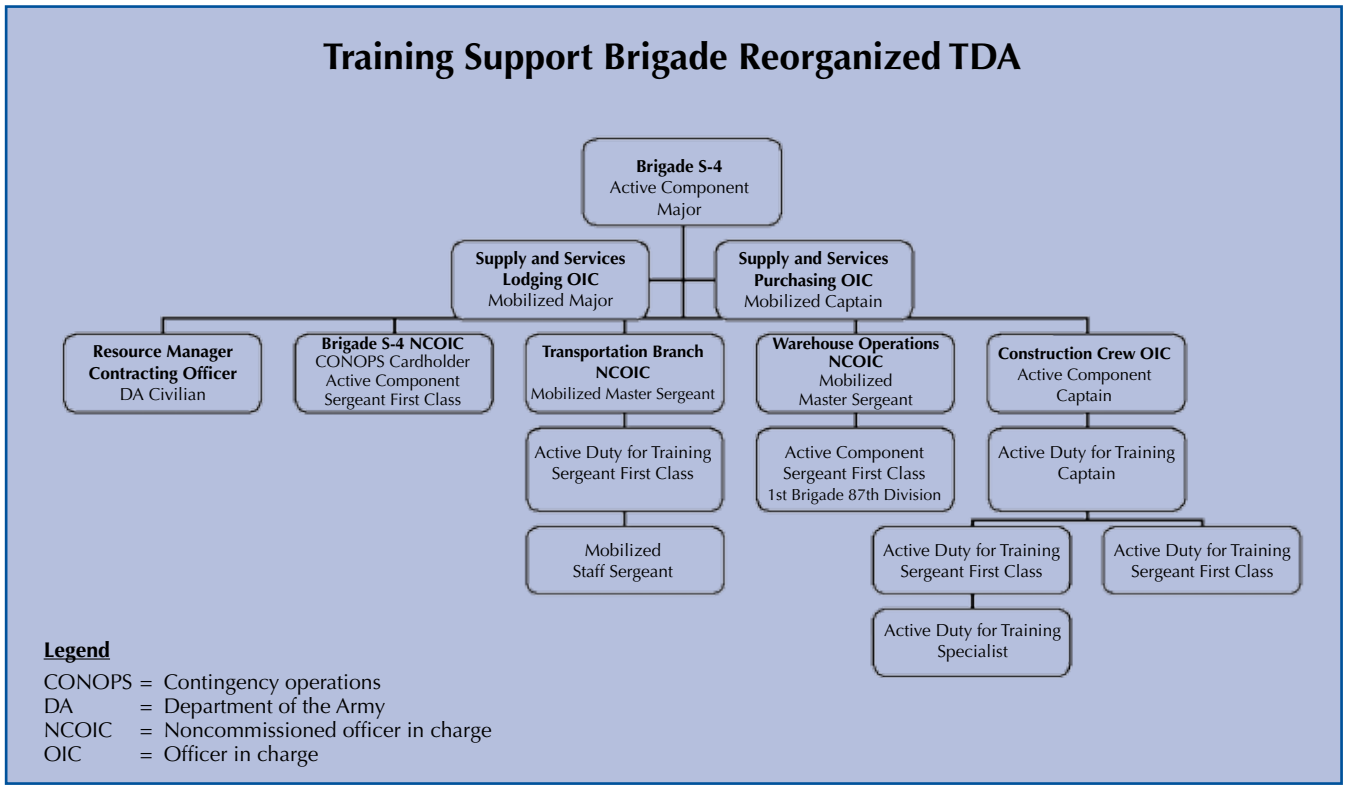
The framework for theater immersion training was created with the clear intent of conserving taxpayers' dollars. However, creating a replica of Iraq and Afghanistan in the lush terrain of southern Mississippi was an expensive endeavor. The First Army G–8 provided consistent, critical assistance and streamlined measures to approve and resource funding requests rapidly.

Initial investments were high because the schedule for the mobilization of the Camp Shelby installation staff, the arrival of the 278th RCT, and the mobilization of the 3d Brigade Army Reserve Soldiers was condensed. The 3d Brigade had to construct training sites and be ready to receive Soldiers within 90 days of receiving its warning order.

'Seeing First'

The 3d Brigade S–4 office was designed to support daily peacetime operations and surge logistics support operations for observer-controller/trainers as they trained Reserve component units during their annual training periods. Its capabilities included only maintenance oversight, logistics services, property book management, resource management, and food service oversight. Because of the magnitude of the mission the brigade and First Army faced, success depended on the brigade's optimizing its logistics capabilities. "Seeing first" required reorganizing the 3d Brigade S–4 to build an Active and Reserve component logistics team. This reorganization was the foundation of an effective cost avoidance campaign. (See chart at right.)

Although the Active Army and Active Guard/Reserve strength listed on the 3d Brigade's 2004 table of distribution and allowances (TDA) provided effective peacetime operational support, it could not effectively support the brigade's new mission. Additional Army Reserve Soldiers had to be mobilized to support the new mission. Mission analysis revealed the requirement for a support operations section manned by mobilized Soldiers with assistance from organic units. Units were canvassed to find Soldiers with expertise in transportation- and construction-related fields. Using organic resources, the 3d Brigade S–4 shop organized functional "branches" consisting of supply and services, lodging coordination, purchasing and contracting, transportation, warehouse operations, contingency operations fund management, maintenance, and construction/engineer sections designed to support the post-mobilization training mission.



The reorganized table of distribution and allowances for the Training Support Brigade S–4 section includes a mix of Active Army, mobilized Army National Guard, and Active Guard/Reserve and Army Reserve Soldiers on active duty for training.

'Understanding First'

"Understanding first" entailed understanding the role of cost avoidance in theater immersion. This knowledge enabled First Army to constantly improve its facility at Camp Shelby. With initiative and ingenuity, the 3d Brigade was able to develop a world-class training site and a model of what "right" looks like.

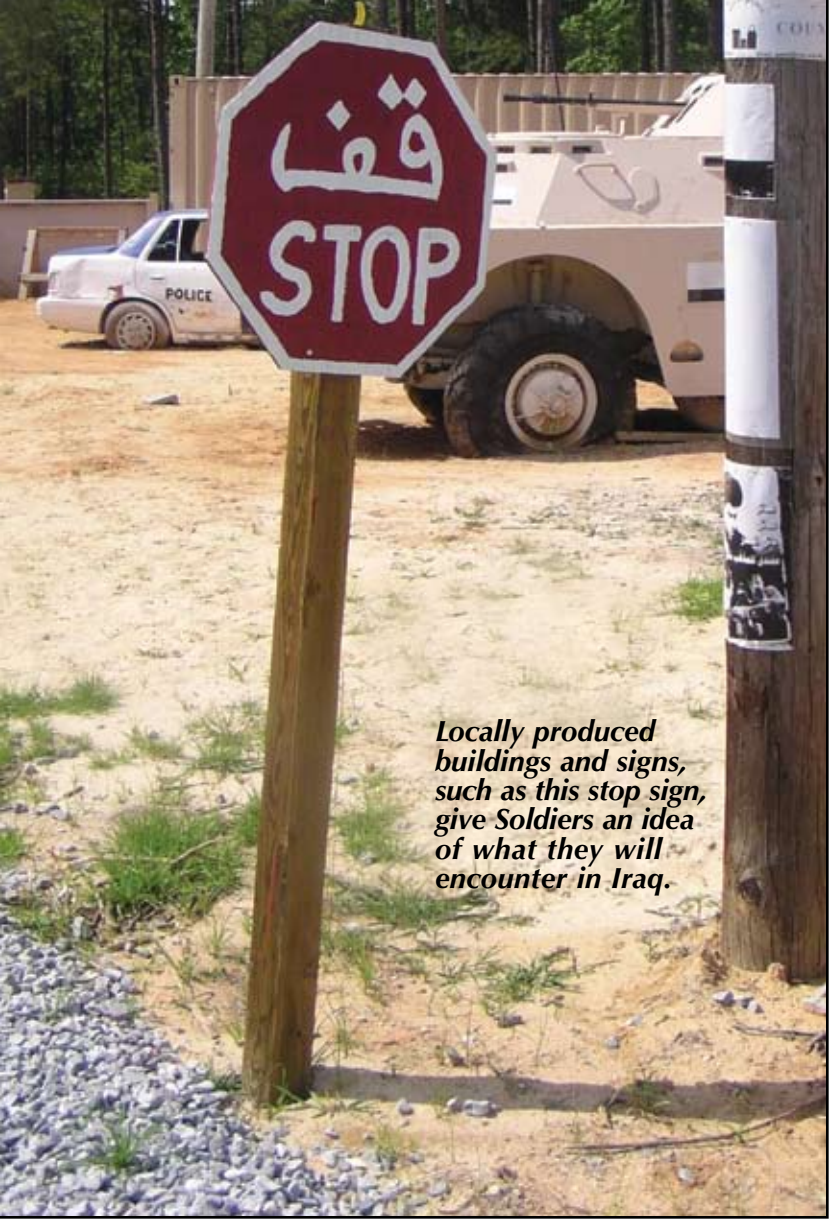
'Acting First'

"Acting first" entailed building an equipment support package. A thorough mission analysis determined that a typical TSB S–4 TDA could not logistically support the mission, so equipment would have to be borrowed. The TSB TDA includes observer-controller/trainer-related authorizations—notably, a mix of 70 percent M1008 1¼-ton cargo trucks and M1009 ¾-ton utility trucks and 30 percent M998 high-mobility, multipurpose, wheeled vehicles (humvees). Critically needed assets not on the TDA included one M109 2½-ton expansible van, one M816 5-ton wrecker, two maintenance contact trucks, and three tactical quiet generators. Brigade logisticians aggressively sought equipment from a variety of units throughout the southeastern United States.

Over 150 items were borrowed, including M915 tractor trucks, M923 5-ton cargo trucks, M872A3 "lowboy" trailers, M105 5-ton cargo trailers, M149 water tank trailers, JP–8 and diesel tanker pump units, materials-handling equipment (MHE), and a variety of tactical quiet generators. Training support equipment borrowed included sleep tents, light sets, antennas, navigational equipment, night vision goggles, and body armor.

The Unit Level Logistics System-Ground (ULLS–G) clerk immediately uploaded data on all equipment to track scheduled maintenance, preventive maintenance checks and services, and dispatches. Critical to early success was the establishment of memorandums of agreement (MOAs) with loaning units to borrow the equipment and with the local direct support maintenance activities to service it. The success of these actions was evident when the 3d Brigade's M915 tractor trucks logged over 40,000 accident-free miles.

Borrowing the needed equipment resulted in a significant cost avoidance when compared to leasing the equipment. Local quotes for commercial equipment similar to the loaned tactical equipment formed the core of the estimates. Examples ranged from monthly contracted costs of $15,000 for the civilian equivalent of the M915 tractor truck to $2,700 for a 10,000-pound forklift. Over a 12-month period, the total cost avoidance gained by using Army equipment was more than $3 million.



Locally produced buildings and signs, such as this stop sign, give Soldiers an idea of what they will encounter in Iraq.

Contracted Lodging

The complexity of lodging over 700 observer-controller/trainers and simultaneously training two brigade combat teams initially presented a formidable challenge for the 3d Brigade. Initiative, detailed cost analysis, and timely resourcing from the First Army G–8 resulted in a significant cost avoidance. With the allotted lodging rate approaching $60 daily, small savings of a few dollars per room translated into huge figures when multiplied by the number of personnel housed. The contracted lodging savings averaged $11 per day for each of more than 500 hotel rooms and $16 per day for each of more than 75 apartment beds. The total cost avoidance exceeded $2.2 million.

Supplies From DRMOs

Various Defense Reutilization and Marketing Offices (DRMOs) were large contributors to the cost avoidance campaign. The 3d Brigade logistics team constantly used the Internet to seek nonstandard sources of supply from DRMOs by visiting http://gsaxcess.gov. This Web site, which requires a user name and password, provides detailed item descriptions, condition codes, real-time available quantities, and locations of specific items.

All items obtained from DRMOs were condition code H (salvage and free issue). Significant items that the brigade obtained included more than 160 camouflage systems, 22 tents of various types, digital cameras, and numerous cell phones that were used for improvised explosive device awareness training.

More than 200 items were obtained from DRMOs at Fort Bragg, North Carolina; Fort Stewart, Georgia; Fort Jackson, South Carolina; Fort Benning, Georgia; and Tucson, Arizona, for a savings of more than $200,000.

Right-Hand-Drive Vehicles

Soldiers in Afghanistan have to use commercial right-hand-drive vehicles periodically. The easy way to facilitate training on this type of vehicle would be to lease the vehicles. The brigade's servicing contracting office determined that commercial sources would require a 12-month minimum contract. The lowest contract price for five right-hand-drive vehicles was more than $94,000 a year.

As an alternative to leasing right-hand-drive vehicles, the 3d Brigade S–4 and the 87th Division G–4 arranged for the purchase of five conversion kits for just over $1,200 each. The total cost for converting the vehicles to right-hand drive, which included onsite technical support for the initial conversion, was slightly more than $7,500, for a cost avoidance of more than $86,000.

Civilians on the Battlefield

To enhance theater immersion, contracted civilians were designated as mayors, police chiefs, and religious leaders in villages throughout Camp Shelby. Training Soldiers were required to use embedded interpreters to negotiate with the village leaders. Over 300 contracted civilians were required to conduct this activity, so cost avoidance was the 3d Brigade's watchword in executing the contracts.

The 349th Logistics Support Battalion commander served as the contracting officer's representative and synchronized specific requirements for contracted civilians. Detailed planning prevented excessive numbers of civilian role players at each site and ensured the prudent expenditure of funds by making sure that they left when training was over.

Creativity, coupled with long-range planning, enabled the 3d Brigade to reduce contracted costs further. Streamlining civilian positions, lodging foreign

language speakers on Camp Shelby, and using contracted dining facilities to eliminate per diem requirements contributed to a cost avoidance of over $2 million during the life cycle of the civilian contracts.

Projects Enabled by Cost Avoidance

Cost avoidance made funds available for other projects that otherwise would not have been possible. These included constructing live-fire MOUT shoot houses, FOBs and theater immersion villages. [Shoot houses are buildings used to facilitate live-fire room-clearing drills.]

Live-fire MOUT shoot houses. Soldiers from the 3d Brigade construction crew, affectionately titled "Acorn Construction" after the 87th Division's unit insignia, and the 349th Logistics Support Battalion designed and constructed two live-fire shoot houses to further enhance training. All construction materials except ballistic shielding were purchased locally to reduce shipping charges. Contractor-designed and -built shoot houses typically cost over $600,000 each. However, with ingenuity and expertise, 3d Brigade Soldiers constructed both shoot houses for $120,000, saving nearly $1.1 million.

FOBs. Through close coordination with various agencies, including the First Army G–8 and the Camp Shelby Directorate of Public Works, the 3d Brigade spearheaded efforts to construct three FOBs capable of training battalion-sized formations. With details from deployed Soldiers and information gained from theater reconnaissance, these FOBs were duplicates of those in theater. Replicating theater FOBs meant emplacing 8-foot berms, entry-control points, powered sleep tents, unit tactical operating centers, blast-protection walls, and hygiene trailers—all enclosed with concertina wire and guard towers.

> We are in a war with no rear areas or front lines. We have to instill the Warrior Ethos into the mobilized Soldiers we train. Every Soldier must be able to function as an Infantryman. Soldiers must have tough, realistic, hands-on, repetitive training until their response is intuitive. When Soldiers get off the bus at the mobilization station, they must feel they have arrived in Iraq or Afghanistan.
>
> —Lieutenant General Russel L. Honoré
> *Armor*, May–June 2005

The Camp Shelby cantonment area provided another opportunity for significant cost avoidance and training. To eliminate construction costs, the 3d Brigade developed Camps Hit and Phoenix within the cantonment area, replicating Camp Phoenix in Afghanistan. These camps were very similar to other FOBs with entry-control points, bunkers, guard towers, and concertina wire. With the FOBs in the Camp Shelby training area and Camps Hit and Phoenix in the cantonment area, an entire BCT can be dispersed in situations similar to those it would encounter in Iraq and Afghanistan.

The 223d Engineer Battalion of the Mississippi Army National Guard provided most of the groundwork for one FOB during its annual training, saving more than $150,000. Using organic operators on loaned equipment to construct three FOBs resulted in a total cost avoidance of over $400,000. By borrowing sleep tents from other First Army TSBs, the 3d Brigade saved over $148,000 that new tents would have cost. Soldiers designed and constructed each guard tower for $850—a considerable saving from the $8,300 cost of a commercially produced guard tower. The total cost avoidance for 10 towers was nearly $75,000.

Opposing Force provides a realistic feel for the situations Soldiers will encounter in theater.

Over 300,000 sandbags were needed to construct the three FOBs. Camp Shelby range control provided a "sandbagger" machine capable of filling four bags at a time, with an optimal output of only 1,800 bags a day. A viable labor force and time were the 3d Brigade's greatest concerns with filling the needed sandbags. Through the combined efforts of 3d Brigade Soldiers, Camp Shelby Replacement Company Soldiers, and Mississippi Department of Corrections trustees, the bags were filled, saving over $300,000 in contracted labor costs.

Theater immersion villages. The construction of five villages, each capable of accommodating a company-sized formation, was possible only through the combined efforts of many agencies and staffs. The core component used to construct each village was a 40-foot container, which is similar to a typical Iraqi or Afghan residence. The current price of a commercially purchased container is approximately $14,000. Commercially available options included paint, prefabricated windows, and doors. To save money, the 3d Brigade S–4 procured 40-foot containers for $2,100 each and 20-foot containers for $1,500 each. Mobilized Army Reserve Soldiers painted and safely cut windows and doors in the containers. Avoided costs to supply one village with 10 containers exceeded $119,000.

The "Acorn Construction" crew built privacy walls, municipal buildings, taxi stands, tunnels, election facilities, joint coordination cells, tombs, low-hanging telephone wires, schools, and mosques with minarets to enhance the realism of the villages. Conservative cost avoidance estimates for this construction range from $500,000 to $750,000 as a result of using brigade resources rather than contractor designs and labor. The 3d Brigade logistics team also coordinated with local salvage yards to emplace over 40 wrecked cars painted as Iraqi and Afghan police cars and taxi cabs throughout the training area to enhance theater immersion. All were acquired at no charge, thanks to the support of the local community.

To emulate the Iraqi culture, logisticians placed authentic-looking duplicates of election posters and Arabic newspapers in the villages, and Arabic music and the call to prayer were broadcast from loudspeakers throughout each village.

Reorganization Lessons Learned

When the 3d Brigade reorganized, its officers and noncommissioned officers had to change the ways they thought and operated in order to make theater immersion training successful. The important issues they faced were highlighted in the theater immersion after-action review.

The brigade S–4 officer in charge (OIC) must immediately analyze personnel capabilities and form a mobilization support team. This team should perform daily operational roles, but its primary mission is to provide mobilization support. The S–4 OIC must develop a sustainment plan that includes contractor and support point-of-contact lists, checklists, and desktop standing operating procedures. He must have a close working relationship with the S–3 and the commander. He also must know and understand the training plan.

The brigade S–4 noncommissioned officer in charge (NCOIC) is responsible for contingency operations. He must be a capable battlestaff NCO who is organized and able to brief support plans. As the

The "town" of "Al Jaffah" is used for theater immersion training at Camp Shelby, Mississippi.

contingency operations fund bankcard holder, he must be experienced and organized and have an in-depth knowledge of applicable budgetary laws and regulations. He must keep records by class of supply and unit or lane area. He must take the lead on systemic bookkeeping by maintaining accurate reports of after-action reviews, point-of-contact lists, and purchased item reference materials and reviewing them monthly.

The supply and services lodging OIC must be highly motivated, multifunctional, experienced, and capable of understanding the mobilization training plan as it relates to incoming observer-controller/trainers. He must be a capable battlestaff officer who is organized and able to brief support plans. He must assume the lead on lodging management and visit all lodging locations personally and develop close working relationships with the hotel and apartment managers.

The supply and services purchasing OIC must be aggressive in seeking nonstandard sources of supply for unusual items and services. He must have a working knowledge of construction or engineering and of Department of Defense and Army purchasing regulations and laws. He must keep records of source-of-supply contacts and prices. As the mobility support accountable officer, he must keep accurate records by class of supply and unit or lane area. Daily oversight of warehouse operations is a must. Hand receipts must be well organized and updated monthly. He must develop a concise issue and unit closeout plan and a plan for secure storage of all returned items.

The resource management and contracting OIC, or Department of the Army civilian in the 3d Brigade's case, must be experienced with all aspects of resource management, contracting, and contingency operation fund management. He must be multifunctional and able to handle mobilization duties in addition to his regular job. Detailed planning and forecasting are critical if mobilization support is provided in more than one fiscal year. He must keep separate, detailed logs of contracts, purchase orders, and military interdepartmental purchase requests (MIPRs). Since he assists with lodging management, he also must personally visit all locations and develop close working relationships with all hotel and apartment managers.

The transportation NCOIC must be flexible and enterprising. He must be licensed on M915 tractor trucks, M923 5-ton trucks, and 4,000- to 10,000-pound forklifts. He should be a master driver with military occupational specialty 63B (light wheel vehicle mechanic) or 63W (wheel vehicle repairer). Transportation assets are likely to be borrowed equipment, so the transportation NCOIC should establish contacts early to acquire a robust equipment fleet. He should enter unit information into the ULLS–G immediately and forecast class IX (repair parts) costs. The workload will be extensive, so he should keep the fleet accessible 24 hours a day, 7 days a week, and have a minimum of four licensed operators. Records of all daily missions performed should be maintained.

The construction crew OIC or NCOIC must have construction or engineering experience. He also must be flexible and enterprising. The 3d Brigade peaked at 13 construction crew personnel, with an average of 4. For optimal operation, at least 8 to 10 personnel should be on board at all times. The OIC or NCOIC must be able to aggressively seek nonstandard sources of supply for unusual items and services daily. All crewmembers should have a working knowledge of construction or engineering. The OIC or NCOIC must keep daily and weekly records of tools and repair parts used and the projects on which they are used, and he should take photos for use with final class IV (construction and barrier materials) accounting procedures.

First Army is approaching its third full year of mobilization at Camp Shelby. The lessons learned there will be employed Army-wide. Logisticians and various installation staff representatives from First Army have visited Camp Shelby to learn about the cost avoidance campaign and to share their logistics support experiences. Detailed briefings, tours, techniques, and information on sources of supply are gladly shared. Options for cost avoidance while supporting theater immersion continue to be exploited in an effort to provide the most effective training possible for America's finest as they continue the fight in the Global War on Terrorism. **ALOG**

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Words Matter

BY COLONEL CHRISTOPHER R. PAPARONE, USA (RET.)

The author fears that the Army is not only incorporating business terms into its vocabulary, but also distorting the meanings of words that are defined clearly in doctrine.

Even as our Nation's attention is focused on the war in Iraq, I notice the increasing incorporation of commercial or popular management terminology into the profession of military logistics. Frankly, words like "enterprise management," "portfolios," "business rules," "Lean Six Sigma," and "national partners" make me cringe. I sometimes wonder whether I should consult *Harvard Business Review* or *Army Logistician* when I want to increase my professional logistics knowledge.

Even some who wear military uniforms and others who are part of the Department of Defense civilian logistics corps have begun to assume that business terms like these hold a shared meaning for the rest of us. I believe I speak for the majority of us in the military profession of logistics when I say, "No, they do not."

I remember attending a meeting years ago during which a lieutenant colonel disrupted discussion of an Army Logistics Civil Augmentation Program (LOGCAP) contract issue when he said, "I do not like the way you use the word 'event' instead of 'operation.' We should use the word 'operation' because those are Soldiers out there, not kids running a cross-country race." Boy, was he right!

Because the duties of my last assignment entailed writing, reviewing, and commenting on logistics doctrine and future operating concepts, I found myself in a constant struggle with those (many in senior grades) who simply had not stayed abreast of their professional art. The military logistics profession is about the uncommon sense that sets us logisticians apart from laymen. Part of our shared sense-making is our artful use of words that seem esoteric to those outside the profession. Words such as "general support," "supporting commander," "lines of communication," and "lines of operation" are distinctive and enhance our ability to communicate effectively (a key aspect of any profession).

We logisticians are not only letting business terms encroach on our profession but also allowing ourselves to distort the meaning of words that are defined clearly in doctrine. For example, in doctrine written over the last decade, the modifiers "strategic," "operational," and "tactical" have been paired with logistics levels of organization and support. These terms originally were conceptualized as levels of war, not levels of organization or support. Joint Publication 3–0, Doctrine for Joint Operations, states—

> The levels of war, from a doctrinal perspective, clarify the links between strategic objectives and tactical actions. Although there are no finite limits or boundaries between them, the three levels are strategic, operational, and tactical. They apply to both war and MOOTW [military operations other than war]. Actions can be defined as strategic, operational, or tactical based on their effect or contribution to achieving strategic, operational, or tactical objectives.

In Field Manual 3–0, Operations, the Army has also recognized that the use of these terms is focused on the effects of activities and should not be confused with levels of organization—

> The levels of war are doctrinal perspectives that clarify the links between strategic objectives and tactical actions. Although there are no finite limits or boundaries between them, the three levels are strategic, operational, and tactical. Understanding the interdependent relationship of all three helps commanders visualize a logical flow of operations, allocate resources, and assign tasks. Actions within the three levels are not associated with a particular command level, unit size, equipment type, or force or component type. Instead, actions are defined as strategic, operational, or tactical based on their effect or contribution to achieving strategic, operational, or tactical objectives.

We professional military logisticians should be careful not to use terms such as "operational logistics" or "strategic logistics," as used in Joint Publication 4–0, Doctrine for Logistics Support of Joint Operations, because we do not know if logistics actions by organizations at any level will actually achieve certain objectives (or to what degree they will contribute to or enable them) until after the fact. Joint Publication 4–0 states—

> The Joint Staff and Service staffs concentrate on strategic logistics matters. Serving as supported commanders, the geographic combatant commanders as well as supporting commands and agencies link strategic and operational level logistics to support their assigned missions. Subordinate commanders blend operational logistic and tactical support to accomplish tasks assigned by the commander of a combatant command…

This excerpt contains a flagrant misuse of the words "strategic," "operational," and "tactical." Their use here seems to suggest a commercial, businesslike interpretation of "strategic management." In retrospect, the last time logistics was militarily "strategic" probably was during the Berlin Airlift, when military logistics (transport aircraft) did achieve national strategic objectives. When logistics actions are the main effort of an operation, as was the case during the recent relief actions following Hurricane Katrina and the Pakistani earthquake, we might have a case for "operational logistics," but that must be determined on a case-by-case basis.

We need to use agreed-upon terms to describe the kind of support rendered, such as "area," "general," or "direct" support. I also believe that we should use "national," "joint force," and "unit" when we refer to organizational levels of logistics.

I believe that we should use the word "national" to describe support provided by forces that are assigned to a continental United States-based service or agency or the U.S. Transportation Command but are not assigned or allocated to a geographic combatant commander. National support capability, by virtue of supporting-to-supported command relationships and direct liaison authorization, may be collocated in theater with the theater-level support capability. Joint deployment and distribution operations centers are an example of this collocation to help ensure a "seamless" transition from national- to joint-force-level logistics distribution.

I believe that "joint force" should mean general or area support that is common to one or more theaters of operations, theaters of war, or joint operations areas. "Unit," I believe, should refer to support forces that are highly integrated, or "organic," and that are acting in direct support of combat formations, task groups, or task forces.

Cultural symbols, such as language and icons, are increasingly "free-floating" and lack the concrete meanings of the industrial era. In an article published in *Teaching Ethics and Values in Public Administration: Innovations, Strategies, and Issues,* Charles J. Fox, a postmodern theorist, claims that people in post-industrial societies are caught in a world of unstable meanings because "language loses its ability to communicate the discrete workaday reality." He claims that the "unanchoring" of meaning is a sign of an emergent postmodern era. If he is right, the result could be "deprofessionalized" logisticians who are utterly dependent on outsiders.

"I sometimes wonder whether I should consult *Harvard Business Review* or *Army Logistician* when I want to increase my professional logistics knowledge."

According to Fox, we have had 10 major management fads in 25 years. This rapid diffusion of different movements suggests that science is not the culprit but that the "hyperreal" symbols of transformations are. From a critical thinking perspective, these transformations are only shifts in vocabulary and not in tangible product. For example, fads such as Management by Objectives and Total Quality Management are merely alterations in the ongoing search to satisfy the perception of effectiveness and perhaps serve more as anxiety-reduction mechanisms than actual performance enhancements. "Lean Six Sigma" and "Balanced Scorecard" are offshoots of the same quest. Nothing really new is created. Fox calls such management symbols and movements "plastic, disposable reifications" (something abstract that is regarded as a material or concrete thing). The work-force becomes cynical as these waves of plastic, disposable fads are constantly reintroduced.

It is incumbent on all of us to study the words of our profession, use existing terms correctly, and suggest new terms only when warranted. We should avoid the copycat mentality that seeks to import business terms and perhaps corrupt our profession as a result. We should guard against the use of plastic, disposable definitions and popular management fads that disguise false learning, fail to challenge old knowledge or provide us with knowledge that is truly new, and do not lead to positive achievement or change.

Colonel Christopher R. Paparone, USA (Ret.), recently retired after 28 years of active duty as a Quartermaster Corps officer. In his last assignment, he served as the Deputy Director (J–3/4) for Logistics and Engineering at the U.S. Joint Forces Command. He has a Ph.D. from Pennsylvania State University.

Fuel-Oil Blenders Save Time, Money, and Lives

BY LIEUTENANT COLONEL ALBERT M. VARGESKO, USA (RET.)

Environmental professionals at the Army Engineer School found a way reduce oil disposal problems in Iraq by using commercial off-the-shelf equipment.

Used oil is a major waste stream for a deployed army. The Army generates an estimated 20,000 to 30,000 gallons of used oil per week in Iraq. Although contracts that provide for its disposal are in place, insurgents make the already difficult job dangerous. Convoys are frequent targets of enemy attacks, so commanders have reduced or stopped completely the transport of waste such as used oil. The resulting stockpiling of used oil presents a significant problem.

In the Army, used oil is handled as many as eight times before its ultimate disposal, which generates an unacceptable drain of available time and money. How can the Army eliminate this costly waste stream? That is the question the team of Army environmental professionals in the Army Engineer School's Directorate of Environmental Integration (DEI) asked themselves.

Kurt Kinnevan, a professional engineer and a DEI division chief, found a potential solution in a commercial off-the-shelf (COTS) item called the Oil-CAT (Change Alternative Technology). The Oil-CAT is a fuel-oil blender built by Clarus Technologies, LLC, of Bellingham, Washington. It blends oil drained from the crankcase of an individual piece of equipment during a scheduled oil change with diesel or JP–8 from the vehicle's fuel tank. The Oil-CAT filters the oil and returns it to the vehicle's fuel tank to burn as blended fuel. One gallon of used oil equals 1 gallon of JP–8. Engine performance is sustained, a large waste stream is reduced or eliminated, and used oil handling requirements are cut. The replacement filters, which must be handled as a hazardous waste, are the only recurring cost.

Kinnevan saw the Army using Oil-CATs during a visit to Camp Eagle in Bosnia in 2004. With more research, he found that they have been used effectively at Fort Drum, New York, Fort Lewis, Washington, Fort Campbell, Kentucky, and Fort Irwin, California. After further study, Kinnevan made some recommendations on how to make the Oil-CAT more user-friendly to Soldiers in the field.

Working with the U.S. Central Command (CENTCOM), Kinnevan helped draft an operational needs statement (ONS) for fuel-oil blenders that would be suitable for the CENTCOM area of operations. The ONS was endorsed by the Engineer School and the Army Combined Arms Support Command at Fort Lee, Virginia.

The Oil-CAT pays for itself in a short period of time. A unit costs around $3,000, which includes sufficient filters for approximately 1 year of use. Other benefits of using the Oil-CAT include the following—

- It supports the Army Strategy for the Environment's goal of zero-footprint base camps for the Future Force.
- Vehicle emissions after oil is processed meet Environmental Protection Agency standards when the oil is blended with diesel or JP–8 in percentages of 7.5 or less.
- Its construction is relatively simple, making it easy to use.

Fuel-oil blending is not to be confused with adding lubricants such as motor oil or transmission fluid directly to the fuel tank. Reports from the field indicate that this has been done to offset the reduced lubricity of JP–8 fuel. This practice, which is prohibited by the Army, is not the same as fuel-oil blending.

Blending used oil in an area of operations such as Iraq would not only save time and money but also could save the lives of Soldiers who would otherwise be engaged in the dangerous task of used oil disposal. **ALOG**

The portable Oil-CAT can be positioned beside individual vehicles to collect and blend used oil during routine oil changes.

LIEUTENANT COLONEL ALBERT M. VARGESKO, USA (RET.), IS A DOCTRINE, ORGANIZATION, TRAINING, MATERIEL, LEADERSHIP AND EDUCATION, PERSONNEL, AND FACILITIES (DOTMLPF) INTEGRATION SPECIALIST IN THE DIRECTORATE OF ENVIRONMENTAL INTEGRATION AT THE ARMY ENGINEER SCHOOL AT FORT LEONARD WOOD, MISSOURI. HE HAS A BACHELOR'S DEGREE IN GEOGRAPHY FROM INDIANA UNIVERSITY OF PENNSYLVANIA AND A MASTER OF MILITARY ART AND SCIENCE DEGREE FROM THE ARMY COMMAND AND GENERAL STAFF COLLEGE.

Servant Leadership

BY CHAPLAIN (COLONEL) PAUL L. VICALVI

Editor's Note: The following article is based on remarks Colonel Vicalvi delivered before the National Prayer Breakfast at Fort Lee, Virginia, on 23 February.

In my almost 29 years on active duty, I have witnessed two types of leadership. I can sum up these two different types like this: those leaders who saw themselves as, and led as, servants of their Nation and their subordinates, and those who led expecting their subordinates to serve them and make them look good. Put another way, there were those who believed they were in leadership to take care of and support those they led and those who were there to be taken care of by those they led.

Someone once described it like this: The boss drives his men; the leader coaches them. The boss inspires fear; the leader inspires enthusiasm. The boss says, "I"; the leader says, "We." The boss says, "Get here on time"; the leader beats them all to it. The boss fixes the blame for breakdowns; the leader fixes the breakdowns. The boss makes work a drudgery; the leader makes it interesting. The boss says, "Go"; the leader says, "Let's go."

Now think back. Have you seen both types of leadership? I honestly believe that both types produce results. Servant leadership produces results by encouraging and teaching. The other kind produces results by threatening, intimidating, and manipulating. I would propose that the leader who produces results by encouraging and teaching has longer lasting results because he builds future leaders who learn to believe in themselves and their abilities and strengths. The intimidator produces people who either become tyrants themselves or do things out of fear or punishment; when the fear is gone, they don't produce anymore.

Back in August 1879, Major General John M. Schofield, in his address to the Corps of Cadets at West Point, said—

> The discipline which makes the Soldiers of a free country reliable in battle is not to be gained by harsh or tyrannical treatment. On the contrary, such treatment is far more likely to destroy than to make an Army.
>
> It is possible to impart instruction and to give commands in such a manner and such a tone of voice to inspire in the Soldier no feeling but an intense desire to obey, while the opposite manner and tone of voice cannot fail to excite strong resentment and a desire to disobey.
>
> The one mode or the other of dealing with subordinates springs from a corresponding spirit in the breast of the Commander. He who feels the respect which is due to others cannot fail to inspire in them regard for himself, while he who feels, and hence manifests, disrespect toward others, especially his inferiors, cannot fail to inspire hatred against himself.

This is getting back to the basics of soldiering and leadership the right way.

The Army values—loyalty, duty, respect, selfless service, honor, integrity, and personal courage—are great values. Some just memorize them, and some live them.

We might think that servant leadership is supposed to go only from high to low—from superior to subordinate—but this is not so. My first assignment was as a battalion chaplain in the 82d Airborne Division. I remember that one of the first leaders I turned to was a first lieutenant—a seasoned Vietnam veteran who had come up through the ranks. Now I was a captain, but he took me under his wing and never made me feel dumb. He patiently showed me how to rig a rucksack for jumping and told me what to expect on a tactical jump. He went out of his way to serve me.

The next person I remember learning from by observing him was a staff sergeant who taught me how to really care for Soldiers. The Soldiers in his platoon knew that he would die for them, and he knew that they would do the same for him. He did something that I seldom see anymore. He was single, and at that time he lived in the barracks. On Sunday morning, he cared enough about the spiritual needs of his Soldiers to lead them to chapel. I would see them coming like baby ducks following their mother. He led the way in their moral and spiritual development. Maybe this is one of those basics of soldiering and servant leadership that we need to dust off these days.

I remember those servant leaders even today, and they have inspired my leadership through all these years. I built their lives into mine, and I am better for having served with them.

Being a servant leader does not always mean that those who we lead like the things we do. At times, it means that we must discipline our Soldiers and that we must expect more out of them than just getting by.

It means correcting them and at times having them do jobs they really don't want to do. Sometimes it means kicking them in the pants.

I believe that the trademarks of a good servant leader are competence, courage, and compassion. Those trademarks don't always come easily. Many times, they come from hard knocks in our own lives. I learned some of my lessons on what makes an effective servant leader by serving under some pretty ineffective tyrant leaders. I vowed never to be like them.

True servant leadership is not age or gender specific. At the Green Ramp fire at Pope Air Force Base, North Carolina, in March 1994, many ran for their lives from this inferno, and I don't fault them. The first Soldiers that I saw when I came around the corner into the flame and smoke were a young female first lieutenant aviator and a young specialist Signal Corps Soldier. With disregard for their own well-being, they gave all they had. They could have died, but they put themselves on the line, and they each received the Soldier's Medal for their servant heroism. They were true servant leaders.

I pray that, no matter whether we wear stripes, bars, leaves, eagles, or stars, we will continually get back to the basics of true soldiering—of true servant leadership. May God bless you all, and may God bless America. Pro Deo et Patria—For God and Country!

Chaplain (Colonel) Paul L. Vicalvi is the Commandant of the Army Chaplain Center and School at Fort Jackson, South Carolina. He holds a B.A. degree from Houghton College, a master of divinity degree from Gordon Conwell Theological Seminary, a master of theology degree from Princeton Theological Seminary, and a master's degree in national security studies from the National War College.

LOG NOTES

What's In a Name?

Enjoyed, as always, the latest issue of *Army Logistician*. Hope you don't mind if a mere engineer, working in an outfit teeming with loggies, offers some technical corrections and comments.

The photograph on page 54 of the January–February 2006 issue does not show a Condor. The airplane is an Antonov AN–124–100 Ruslan cargo heavy-lifter, operated by Volga-Dnepr Airlines. The AN–124's are the second largest cargo planes in the world, in terms of payload. The Russian military version of the same aircraft is the AN–124 Condor. Antonov named the Ruslan after a heroic, mythical Ukrainian knight, while Condor is the NATO designator for the Russian military aircraft. The Antonov Design Bureau is a Ukrainian state enterprise, not Russian, since the breakup of the U.S.S.R. Volga-Dnepr is a privately-owned Russian air freighting company.

In the same photo, the loading vehicle is a Systems & Electronics, Inc., Tunner—a 60,000-pound-capacity, 5-axle, loader/transporter/conveyor, often called a "60K." The vehicle is not a 5-ton truck. In the photo, the loading ramp on the Ruslan is folded away. The cargo containers are being lifted from the 60K directly into the aircraft by the Ruslan's own internal hoisting system.

I also want to comment on your article on gun trucks, which appeared in the same issue, on pages 45 through 47. "Canned Heat" was a rock band, formed in 1966, while "Eve of Destruction" was a chart-topping Vietnam-war protest song from 1965. The caption on page 45, ". . . derived from contemporary popular culture" is such a sterile-sounding description of where those names came from!

"Canned Heat" is an obviously appropriate name for a gun truck, since "heat" is slang for gun, and the "can" is armor. A popular Canned Heat song lyric, made famous by the band at Woodstock—"Now babe, pack up the truck. You know I got to leave today. Just exactly where I'm goin' I cannot say."—certainly sounds like a typical gun truck mission!

Perhaps the very first of the 'Nam protest songs (Phil [P.F.] Sloan wrote it, Barry McGuire sang it) says it best: "You're old enough to kill, but not for votin'! You don't believe in war? What's that gun you're totin'? . . . We're on the Eve of Destruction!"

Ah, the good old days of "One, two, three, four . . ." and "Gimme an F!" Now where are those tie-dyed bell-bottoms and love-beads?

William Ellis
Rock Island, Illinois

LOGNet Provides Good Information

The Army has a firm stance on bloggers, with good reason. We must be sure that we don't compromise our missions by discussing the five W's of operational planning. The desire to share, collaborate, and make things better is a basic tenet of any strong organization. Many agencies have collaborative Web sites, formerly referred to as "chat rooms." Each site may offer open and free exchange of ideas with the security afforded to the parent site. Still, one must assess the operational sensitivity of the information before revealing it on the site.

Army logisticians should revel in the capabilities found within LOGNet, the logistics portion of the Battle Command Knowledge System (BCKS) sponsored by Fort Leavenworth (https://lognet.bcks.army.mil). Logisticians now have the opportunity for direct connection to the policymaking arm of their functional areas and the ability to collaborate with other logisticians in the field and in classrooms Army-wide. There is no longer a distinction between the Reserve component and Active Army for the purposes of information-sharing.

Each Soldier in the combined force has experience in several duty locations and unit organizations and in many chains of command. In fact, many Soldiers have experience in both Active and Reserve components. That experience becomes a logistics multiplier, for lack of a better term. I strongly suggest that those who need to educate themselves on the informational barriers facing our logistics transformation take the time to read what the logistics professionals in our Army are concerning themselves with on LOGNet.

LOGNet is only a piece of the BCKS pie. Every Army functional area is covered in the BCKS informational realm (https://bcks.army.mil). Intersecting fields of information are readily available that can assist Soldiers with working toward a smaller logistics footprint and eliminating redundancy. I recommend frequent visits to these interactive Web sites.

Staff Sergeant Mike Winkler
Oshkosh, Wisconsin

Gun Truck History

The article on gun trucks in the January–February 2006 issue ["Gun Trucks: A Vietnam Innovation Returns," by Major Dean J. Dominique] was most excellent! I appreciated its lessons relearned from the Vietnam-era gun trucks theme and how that experience can be applied in today's world. However, armored 2½-ton cargo "deuce" cabs may have had their beginning *before* Vietnam. Attached is a photo of a World War II-era Army CCKW 2½-ton truck with an armored cab that I saw during a visit to the *SS John Brown* Liberty Ship memorial in Baltimore, Maryland, in October 2005. This truck was formerly part of the U.S. Army Ordnance Museum outdoor exhibit at Aberdeen Proving Ground, Maryland.

William T. "Tom" Buonaugurio
Aberdeen Proving Ground, Maryland

ALOG Provides Useful Information

I would like to commend you and your staff at *Army Logistician* for sharing logistics expertise. The January–February 2006 issue has been especially helpful to me. The article titled "Joint Force Logistics: Keeping Track of Forces on the Move" by Lieutenant Colonel James Bates, USA (Ret.), is very well written and insightful. As a new Army Materiel Command equipment specialist intern, I found the explanations and examples of military supply chain logistics very useful. After reading this article, I now have a much clearer understanding of Army logistics management. I look forward to reading the next issue of *Army Logistician*.

Vance K. Jackson
Warren, Michigan

Log Notes provides a forum for sharing your comments, thoughts, and ideas with other readers of ***Army Logistician***. If you would like to comment on an ***Army Logistician*** article, take issue with something we've published, or share an idea on how to do things better, consider writing a letter for publication in ***Log Notes***. Your letter will be edited only to meet style and space constraints. All letters must be signed and include a return address. However, you may request that your name not be published. Mail a letter to EDITOR ARMY LOGISTICIAN, ALMC, 2401 QUARTERS ROAD, FT LEE VA 23801-1705; send a FAX to (804) 765-4463 or DSN 539-4463; or send an e-mail to alog@lee.army.mil.

ALOG NEWS

(continued from page 1)

to $147 million), generators (from $34 million to $69 million), and materials-handling equipment (from $4 million to $21 million).

QUADRENNIAL DEFENSE REVIEW SETS VISION FOR FUTURE

The Quadrennial Defense Review (QDR) released by the Department of Defense (DOD) in February calls for DOD and the armed services to continue the transformation of military capabilities and forces that has been unfolding since 2001. The 2006 QDR—the first of the congressionally mandated studies to be performed in wartime—serves as a blueprint for setting DOD's direction for the next 20 years.

The QDR is based on the National Defense Strategy published in March 2005. The strategy requires DOD to continue to adjust its capabilities to meet a wider range of challenges while maintaining its dominance in traditional warfare. These new challenges include irregular warfare waged by nonstate combatants; terrorism involving weapons of mass destruction; and nontraditional, asymmetric challenges to U.S. military dominance and power-projection capabilities.

The QDR defines "two fundamental imperatives for the Department of Defense—

- Continuing to reorient the Department's capabilities and forces to be more agile in this time of war, to prepare for wider asymmetric challenges and to hedge against uncertainty over the next 20 years.
- Implementing enterprise-wide changes to ensure that organizational structures, processes and procedures effectively support its strategic direction."

In reorienting U.S. forces and capabilities, the QDR calls for continuing the evolutionary progress of recent years toward improved joint warfighting capabilities; forces that are lighter, more agile, and more expeditionary; and increased capabilities to project forces quickly around the world. The QDR emphasizes the need to adjust the overseas U.S. military posture to reflect post-Cold War strategic realities; to increase use of Special Operations Forces and multilateral and bilateral partnerships; and to foster and improve information management and connectivity, precision weaponry, and intelligence use.

The QDR vision for ground forces states that the Army and Marine Corps "will continue to take on more of the tasks performed by today's special operations forces. The result will be a new breed of warrior able to move more easily between disparate mission sets while preserving their depth of skill in primary specialties. Future warriors will be as proficient in irregular operations, including counterinsurgency and stabilization operations, as they are today in high-intensity combat. They will be modular in structure at all levels, largely self-sustaining, and capable of operating both in traditional formations as well as disaggregating into smaller, autonomous units." The QDR endorses the Army's transformation of units and headquarters into modular designs and the incorporation of Future Combat Systems technologies into modular units through a spiral development approach.

A key effort in implementing Defense business transformation is DOD's move to a capabilities-based logistics system. The QDR stresses the need to achieve greater visibility of the costs and performance of supply chain logistics, find ways to measure improvements in performance, and develop "realistic and defendable strategic performance targets for focused logistics capabilities to guide both capital investment and process improvement." Important initiatives in improving logistics include the designation of a single deployment process owner (the U.S. Transportation Command), the use of active and passive radio frequency identification technologies, and "the implementation of continuous process improvement tools like Lean, Six Sigma and Performance Based Logistics."

LOGISTICS INFORMATION WAREHOUSE FIELDED

The Army Materiel Command Logistics Support Activity (LOGSA) has made significant progress toward creating a single, authoritative source of logistics information for the Army. In January, LOGSA fielded the Logistics Information Warehouse (LIW) Initial Operational Capability (IOC), which provides a common point of entry to the existing Web capabilities of the Logistics Integrated Data Base (LIDB), the Integrated Logistics Analysis Program (ILAP), and other LOGSA tools. The LIW IOC is the first step in the Army-directed merger of all LIDB and ILAP capabilities. The merger began in early 2005 with transfer of ILAP program management authority to the LOGSA commander.

The LIW main Web page, which replaced the WebLOG Web page, simplifies access to former WebLOG tools, restructures the LOGSA System Access Request (SAR) process, and provides single-sign-on access to the full capabilities of both WebLIDB and ILAP. With the fielding of the LIW IOC, WebLIDB and ILAP are accessible only through the LIW Web site. Forward ILAP sites will be converted to "LIW Forward" sites.

A one-time user name conversion process transfers all existing LIDB and ILAP access privileges to the LIW. A single login based on the user's Army Knowledge Online (AKO) account provides access to the LIW Web page (https://liw.logsa.army.mil). Army-affiliated LIW users are required to use their AKO login to continue current access or obtain new access. Non-Army affiliated users can obtain a local non-AKO login.

TWO MORE CIVIL SUPPORT TEAMS CERTIFIED

The Department of Defense has certified two additional Weapons of Mass Destruction Civil Support Teams (WMD–CSTs), bringing the total number of certified teams to 36. In February, the Wisconsin and Nebraska National Guard teams were certified. These teams are among the 12 authorized in the Defense Appropriations Act for fiscal year (FY) 2004. Two others, the New Jersey and Indiana National Guard teams, were certified last November. The remaining 8 FY 2004-authorized teams and 11 more that were authorized in FY 2005 are expected to be certified by March 2007. The U.S. Congress mandated that DOD would provide at least one team in each state, territory, and the District of Columbia.

WMD–CSTs are designed to deploy rapidly, assist local first-responders in determining the nature of an attack, provide medical and technical advice, and pave the way for the arrival of follow-on state and Federal response assets.

RAPID EQUIPPING FORCE SPEEDS HIGH-TECH EQUIPMENT TO TROOPS

An innovative acquisition concept is proving successful in getting high-tech equipment into the hands of Soldiers much faster than the traditional acquisition process. The Army's Rapid Equipping Force (REF) identifies an immediate warfighting need and seeks out the best way to meet it. The REF receives operational guidance from the Department of the Army G–3 and reports directly to the Vice Chief of Staff of the Army.

Rather than going to the drawing board to come up with a solution to a problem, the REF evaluates what is already available commercially or in the production pipeline. Partnering with military services, military and commercial laboratories, and private companies helps fill critical equipment requests.

By using off-the-shelf technology, even if it needs modifications to meet military requirements, the REF is able to get equipment to the troops in weeks rather than months or years. In several instances, requests have been filled within 48 hours.

Among the equipment procured through the REF's efforts is the multifunction agile remote-controlled robot (MARCBOT), a small, wheeled robot with a video camera that checks for improvised explosive devices while keeping troops at a safe distance. Another more recent but less sophisticated acquisition is green laser pointers. The battery-operated pointers are about 50 times brighter than the familiar red laser pointers and are visible in dark conditions. They have proven to be effective in dissuading aggressive drivers in Iraq. In the past, bright

Soldiers enter a building after a MARCBOT (center) found no improvised explosive devices in the area.

spotlights shined at drivers did little to stop them from speeding through checkpoints. However, aggressive driving has declined by 60 to 80 percent since the new devices were introduced.

The REF staff travels to Iraq and Afghanistan seeking feedback and visits military hospitals to talk to wounded troops in search of information that will improve equipment sent to the field as a result of REF initiatives. The REF works with vendors to make improvements in future equipment that incorporate Soldier feedback and observations made at the tactical level.

WIN–T PASSES FIRST TEST

A key component of the Army's efforts to develop a network-centric, knowledge-based warfare capability, the Warfighter Information Network-Tactical (WIN–T), recently completed its first test successfully at Fort Huachuca, Arizona.

WIN–T is designed to allow commanders and Soldiers to communicate with each other from remote locations dispersed across the battlefield. In essence, it will create a mobile network environment that allows even small groups of Soldiers to send and receive information while on the move. It will correct communications problems experienced during Operation Iraqi Freedom in operating on the move and communicating over great distances (beyond the line of sight of the existing Mobile Subscriber Equipment). WIN–T will provide seamless and secure voice, video, imagery, and data communications that will enable decisive combat actions. It will connect Future Combat Systems (FCS) vehicles beyond the line of sight and link those vehicles to distant units and command and control centers. WIN–T also will interface with the Joint Tactical Radio System (JTRS), which will operate in individual ground vehicles.

WIN–T is a component of LandWarNet, which is the Army's portion of the Department of Defense's Global Information Grid (GIG) and the Army's counterpart to the Air Force's ConstellationNet and the Navy's FORCENet. GIG is DOD's foundation initiative to create a seamless, secure, and interconnected information environment. LandWarNet will provide networks to the Active Army, Army National Guard, and Army Reserve forces and the sustaining base.

While the first test of WIN–T took place on the ground at Fort Huachuca, it also included the use of beyond-line-of-sight network connections to Fort Hood, Texas, and Fort Monmouth, New Jersey.

The estimated cost of the completed and fielded WIN–T is $10 billion, with initial fielding planned for 2008.

FCS TEST SITE ANNOUNCED

The Army announced in January that Fort Bliss, Texas, will be the location for the Evaluation Brigade Combat Team (EBCT) that will test and evaluate Future Combat Systems (FCS) technology. Fort Bliss was selected because of its proximity to White Sands Missile Range, New Mexico, which has the land, airspace, and facilities needed to train Soldiers to train and evaluate and test FCS capabilities.

The FCS program consists of 18 manned and unmanned systems connected by a secure network designed to enhance Soldiers' capabilities. It is the core of the Army's modernization program.

The EBCT's mission will be to evaluate FCS operational concepts while training Soldiers on FCS equipment in realistic environments and to provide continuous feedback that will allow the Army to determine what adjustments and improvements are needed. The EBCT, which will be created from a 1st Armored Division heavy brigade combat team, will be ready to begin FCS evaluation in June 2007. The first fully equipped FCS unit is expected to be operational in 2014.

COMPRESSED MEALS WILL OFFER QUALITY AND PORTABILITY

The Natick Soldier Center's Combat Feeding Directorate has developed a lighter, leaner individual ration that can be carried inside Future Combat Systems vehicles.

Compressed meals (CMs) are one-third smaller in size and weight than the conventional meals, ready to eat (MREs), but offer the same fresh-food flavor and calories. Smaller packaging, less stringent storage and handling requirements, and dehydrated entrées account for the CMs' weight and volume savings. Because rations are lighter and more compact, more meals can be packed together, thereby decreasing the frequency of replenishment and reducing the overall logistics footprint in theater.

Oregon Freeze Dry, Inc., of Albany, Oregon, manufactured the CMs according to specifications provided by Combat Feeding Directorate food scientists. Some components currently found in MREs, such as crackers and Hooah bars, are included in the CMs. Shelf life of the CMs can extend well beyond the required minimum 3 years at 80 degrees Fahrenheit or 6 months at 100 degrees with no degradation of quality.

In May 2005, an evaluation team from Natick visited Fort Lewis, Washington, to gather comments on the new meals from a focus group of Stryker brigade Soldiers. The CM menus included meat and vegetarian selections and egg entrées. The Soldiers felt the entrées were a great improvement over those in MREs. "The Soldiers were asking for more coffee and caffeinated beverages because they said that's what kept them alive in Iraq," said project officer Joel McCassie. We're looking at different options, such as cappuccino and cocoa."

To prepare an entrée, a Soldier must cut open the CM pouch, break apart food clumps, add 12 ounces of boiling water, stir thoroughly, fold the pouch top down to retain heat and wait 10 minutes. The meal will then be ready to eat. Although the Soldiers praised the taste and compactness of the meals, they questioned the availability of the hot water needed to prepare hot meals in the Stryker vehicle and the time needed to prepare the ration in a tactical environment. A separate project that involves several military organizations is exploring options that could solve the hot water shortage.

The Fort Lewis focus groups confirmed that the CM project was on the right track. The next step will be to conduct a field evaluation. Initial fielding could begin late in 2007.

The executive officer of the 840th Distribution Deployment Support Battalion examines a cargo container at Logistics Support Area (LSA) Anaconda in Iraq. The battalion has been tracking down borrowed commercial cargo containers and replacing them with Government-owned containers, thereby saving millions of dollars in monthly detention charges, or late fees, assessed by commercial carriers. Because not enough Army-owned containers were available to deploy all the equipment needed for Operation Iraqi Freedom 1, commercial cargo carriers loaned containers to the Army. After a grace period, the carriers started charging the detention fees. When the battalion arrived at LSA Anaconda last year, these fees were running over $10 million a month. Using a Web-based program called Container Management Software Tool and battalion inventorying teams augmented by personnel from the 184th Transportation Company, Mississippi Army National Guard, the battalion found many of the carrier-owned containers. In January, detention charges were down to $377,880 for all of Iraq.

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