

ARMY LOGISTICIAN

SEPTEMBER-OCTOBER 2007



"Support the Action": The 15th Sustainment Brigade

Also in this issue:
Training Strategies for Sustainment Brigades
Building Iraqi Logistics
An Automated Log for Managing FRAGOs

Report Documentation Page

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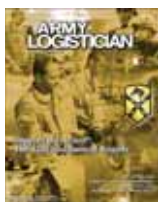
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Cover: This issue of *Army Logistician* is largely devoted to a profile of the 15th Sustainment Brigade's service in Iraq during the last year. In the 16 articles beginning on page 10, the Soldiers of the brigade tell their stories and, in the process, demonstrate the breadth of the support that the Army's new sustainment brigades can provide to the warfighters. That breadth is graphically portrayed in the array of photos on the cover. In the deserts of Iraq, these logisticians truly lived up to their motto—"Support the Action." (Cover design by SFC Maria Levitre, SFC Alexia Lane, and SGT Adryen Wallace.)

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Thoughts for Sustainment Brigade Commanders: An Interview With the CASCOM Commanding General

Major General Mitchell H. Stevenson, the Commanding General of the Army Combined Arms Support Command (CASCOM), was recently asked about the progress of logistics transformation and, in particular, the effect of eliminating division support commands (DISCOMs) and creating sustainment brigades that are part of a single logistics command within a theater of operations. The questions we asked and his responses follow.

Major General Stevenson, what do you think is the single most important key to success for sustainment brigade commanders?

I think the most important point to remember is that, though sustainment brigades, most often, will not be assigned to divisions, there will always be a sustainment brigade in support of a division and its BCTs [brigade combat teams] and any support brigades assigned. The sustainment brigade must be the “single face to the supported unit.” Sustainment brigades will always have assigned areas of operations—specific geographic areas for which they are assigned to provide support through their CSSBs [combat sustainment support battalions] to brigade support battalions (who are supporting their BCTs/brigades) or to directly support non-brigade-aligned units. This is true both in peacetime stationing and when deployed.

Sustainment brigade commanders need to ensure their supported units know that the sustainment brigades are the *one-stop shop* for echelons-above-brigade support and that the brigades will then coordinate with their parent sustainment command for what they need help with. This is especially critical for supported division commanders and their ADCs [assistant division commanders], who need to feel like their supporting sustainment brigade commander is a member of their team, but it is equally true for all supported units.

But if sustainment brigades are not normally assigned to the division, how will this work at home station?

Though our doctrine says that, most likely, when deployed, sustainment brigades will be under the

command and control of a sustainment command, when not deployed, most sustainment brigades in CONUS [continental United States] will be on an installation where the senior mission commander is a division commander, and so their training, readiness, and oversight [TRO] will be administered by that division commander. That is not a violation of our modular force logistics concept in any way. However, all need to understand that, through the ARFORGEN [Army Force Generation] process, sustainment brigades are not likely to deploy in support of the division commander from whom peacetime TRO comes.

Similarly, sustainment brigades are not likely to deploy with the CSSBs they command and control at home station, nor are the CSSBs likely to deploy with all of their subordinate companies. This makes it critically important to know how to quickly build relationships with a new higher headquarters and with new customers. It’s essential for the sustainment brigade commander to recognize this and then to teach and mentor CSSB and company commanders on how to build these relationships.

Speaking of mentoring, can you tell us what the relationship of the sustainment brigade commander should be to brigade support battalion (BSB) commanders? Since the BSB commander has no colonel-level logistics commander in charge of his development, isn’t that a problem?

That’s a very good point. Though there will likely never be a command and control relationship between brigade support battalion commanders and the sustainment brigade that supports them, there is much a colonel can do to help develop lieutenant colonel BSB commanders into good sustainment brigade commanders, and so we need our sustainment brigade commanders to coach, teach, and mentor the BSB commanders they support, in a collaborative way. I believe most will be very appreciative of the effort. Regular events like a quarterly review and analysis, a forum in which all logisticians on an installation or in a geographic area can meet and have professional

discussions about logistics performance, are an incredibly useful tool in this regard.

What about the new Army Sustainment Command (ASC), the so-called “CONUS TSC” [theater sustainment command]? What’s their relationship to the sustainment brigades in CONUS?

For CONUS-based Active Component [AC] units, the Army Sustainment Command (headquartered at Rock Island Arsenal, Illinois) is the supporting sustainment command. ASC partners with installation DOLs [directorates of logistics] to provide support locally for things such as rations, water, bulk POL [petroleum, oils, and lubricants], and even ammunition support. Automated supply support (SARSS [Standard Army Retail Supply System] 2A functions) will come from Headquarters ASC at Rock Island and may be provided through local “materiel management teams.” OCONUS [outside CONUS] units and USAR [U.S. Army Reserve] and ARNG [Army National Guard] units all have TSCs that support them, much like ASC does for CONUS-based AC units. When the sustainment brigade is deployed, ASC will step in and

fill the gap left by the sustainment brigade; when the sustainment brigade is not deployed and mission capable, they must continue to be the “single face to the supported unit” I mentioned before, just as they would for those they support when deployed, and maximize the support they provide to units on the installation.

These have been helpful thoughts. Any concluding comments for current and future sustainment brigade commanders?

I try to get out and meet all our sustainment brigade commanders, and I know many of them personally. They are all, to the man or woman, absolutely outstanding logisticians who will have no trouble with these thoughts. In fact, they are the source of most of them. They understand logistics modularity and are embracing it, while at the same time ensuring first-class support to their supported units, as all good logisticians do. I could not be more proud of them.

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

LOGISTICS BRANCH IMPLEMENTATION UPDATE



The July–August 2007 issue of *Army Logistician* introduced the new Logistics branch and mentioned that the establishment of the branch was slated for 1 July 2007. The implementation of the Logistics branch is pending final review from the new Chief of Staff of the Army. Currently, the implementation is expected to occur early in fiscal year 2008.

The Logistics branch will comprise commissioned officers in the grades of captain through colonel who have graduated from the Combined Logistics Captains Career Course, any logistics (Quartermaster, Ordnance, Transportation) Reserve Component Captains Career Course, or from earlier versions of logistics officer advanced courses. The Logistics branch was designed to meet the Army’s need for multifunctional logistics expertise and multiskilled logistics leaders. For more information, see the July–August 2007 issue of *Army Logistician*.

ARMY LOGISTICIAN ON LOGNET

Army Logistician now has a topic site on LOGNet. The purpose of this site is to provide a forum for readers to share their thoughts about articles published in *Army Logistician*. Through this site, readers can contradict or concur with statements and ideas written in the magazine. The LOGNet topic site provides Army logisticians with the ability to share expertise and participate in discussions. This topic supports the magazine’s goal of providing a medium for disseminating and exchanging logistics information and expressing original and innovative thoughts about logistics support.

LOGNet (<https://forums.bcks.army.mil/>) is one of the Army’s primary tools for facilitating the exchange of knowledge between Army logisticians. To view *Army Logistician*’s topic site, log into LOGNet using your Army Knowledge Online (AKO) password or your common access card and personal identification number. Under “BCKS Explorer” on the left side, click on “Sustainment Center of Excellence (SCoE)” and then “Army Logistician.” To add a comment or start a discussion, go to “Participate” and click on “Contribute.”

To directly visit *Army Logistician*’s topic site, go to <https://forums.bcks.army.mil/secure/community-browser.aspx?id=397443>.

Training Strategies for Sustainment Brigades and Echelons-Above-Brigade Logistics Units

BY COLONEL DARRELL WILLIAMS, MAJOR GEOFFREY DETINGO, AND RAE LYNN MICHELLE GRAHAM

At the 3d Infantry Division Logistics Conference in September 2006, Major General Rick Lynch, the division commander and the host of the conference, challenged logisticians to train as the Army fights in theater and under modularity. During the course of presentations on logistics modularity and the current theater logistics infrastructure concept of support, Major General Lynch commented that logistics training should replicate logistics operations in Operations Iraqi Freedom and Enduring Freedom.

More specifically, he wanted elements of the 3d Sustainment Brigade and 3d Infantry Division to replicate theater logistics command and control (C2) and the flow of information through Standard Army Management Information Systems (STAMIS) during National Training Center (NTC) exercises for the brigades of the 3d Infantry Division. This article documents how logisticians responded to Major General Lynch's challenge.

In an effort to meet this challenge, the commanders of the 3d Sustainment Brigade and its subordinate combat sustainment support battalions (CSSBs) aggressively sought out opportunities to provide direct, general, and area support to divisional units that would mirror the sustainment brigade's mission in theater. Three NTC rotations for the 3d Infantry Division's 1st, 2d, and 3d Brigade Combat Teams (BCTs) offered the 3d Sustainment Brigade the opportunity to train as they would fight. These training events were held both at the NTC at Fort Irwin, California, and at NTC-sponsored home station mission readiness exercises (MRXs). The 3d Sustainment Brigade participated in the 1st BCT's home station MRX at Fort Stewart, Georgia, called NTC 06-10; the 2d BCT's home station MRX at Fort Stewart called NTC 07-05; and the 3d BCT's training event at the NTC called NTC 07-04.

Logistics Task Forces

In order to support the 1st BCT during its home station MRX, the 3d Sustainment Brigade established a logistics task force (LTF). The LTF was built around the 87th CSSB from Fort Stewart forming LTF 87. LTF 87 consisted of the 87th CSSB's headquarters and headquarters company (HHC), the 135th Quartermaster Company (Petroleum Bulk Storage), and the 226th Quartermaster Company (Supply and Services). In addition, LTF 87 was augmented with elements, equipment, and personnel from the 260th Quartermaster Battalion and communications assets from the 3d Sustainment Brigade's special troops battalion.

The 3d Sustainment Brigade provided C2 to LTF 87 from a tactical operations center (TOC) located at Fort Stewart. The 3d Sustainment Brigade received logistics requirements from the 1st BCT through the brigade's forward operating base (FOB) logistics report and through the BCT's Battle Command Sustainment Support System (BCS3). The 3d Sustainment Brigade used the daily distribution management board process to plan and coordinate combat logistics patrols (CLPs), support customer units, and turn requirements into mission tasks for LTF 87.

The task organization and concept of support for the 1st BCT's NTC exercise put the 3d Sustainment Brigade on track for meeting Major General Lynch's guidance of replicating the current theater logistics infrastructure, C2, and STAMIS flow during predeployment training. However, in order to more accurately replicate a sustainment brigade operating in theater, the 3d Sustainment Brigade developed an exercise concept to support brigades (the 2d and 3d BCTs and the 3d Sustainment Brigade) operating at multiple geographically dispersed FOBs.

The 3d Sustainment Brigade established two more LTFs with units deploying to Operation Iraqi Freedom 07-09. LTF 13 was built around the 13th CSSB

stationed at Fort Benning, Georgia. LTF 13 consisted of two companies from the 13th CSSB (the HHC and the 104th Medium Transportation Company), and two companies from the 87th CSSB at Fort Stewart (the 135th Petroleum Bulk Storage Company and 226th Supply and Service Company). The 3d Sustainment Brigade's special troops battalion also participated to provide medical and signal support.

Successfully integrating EAB logistics units into training events is possible. The challenge is identifying units that will be deployed together in Southwest Asia in time to program them into the training events.

The final LTF was again built around the 87th CSSB and provided multiclass distribution in support of the 2d BCT's collective training in preparation for their MRX during NTC 07-05. The 87th CSSB's LTF consisted of the 87th CSSB's HHC, the 632d Field Maintenance Company, and the medium transportation company from the 260th Quartermaster Battalion at Hunter Army Airfield, Georgia.

The 3d Sustainment Brigade commander and 30 members of the brigade staff established a TOC at Fort Irwin for C2 of the exercise and to receive the logistics reports from all 3 brigades. The commander of the 260th Quartermaster Battalion (Rear), 4 company commanders, 12 noncommissioned officers, and the NTC observer-controllers externally evaluated LTF 13. The 3d Sustainment Brigade deputy commanding officer and the remainder of the brigade staff externally evaluated LTF 87.

Cooperating With the 7th Sustainment Brigade

The 3d Sustainment Brigade TOC was unique in that it combined two brigade staffs. The 3d Sustainment Brigade developed a partnership with the 7th Sustainment Brigade, which was formerly the 7th Transportation Group from Fort Eustis, Virginia. The 7th Sustainment Brigade integrated 15 members of its brigade staff into the 3d Sustainment Brigade staff at Fort Irwin. The two staffs integrated seamlessly under the 3d Sustainment Brigade's Colonel Darrell Williams for the first half of the rotation and then under the 7th Sustainment Brigade's Colonel Mark Barbosa for the second half of the rotation. In addition to the 3d and 7th Sustainment Brigade staffs, the TOC had liaison teams from the 603d Aviation Support Battalion, Hunter Army Airfield, and Task Force 1-3, and the senior logistical analyst (contractor) from the 3d Sustainment Brigade. Critical to the success of the operation were the transportation assets of the NTC's echelons-above-brigade

support battalion (EAB SB) that were placed under the operational control of the combined TOC of the 3d and 7th Sustainment Brigades. The distribution crews and vehicles of the EAB SB also were integrated into convoys under LTF 13's C2.

During the exercise, the 3d and 7th Sustainment Brigades further replicated current theater logistics C2 by incorporating C2 elements from the 316th Expeditionary Sustainment Command (ESC). The 316th ESC would perform as the logistics headquarters for all sustainment brigades in the Iraq area of operations and would fall under the C2 of the 1st Theater Sustainment Command. As they would in theater, the 316th ESC provided logistics guidance when needed. The 316th ESC, in conjunction with the NTC observer-controllers, provided scenarios for the 3d and 7th Sustainment Brigades to exercise. The staffs at Fort Irwin, Fort Stewart, Fort Bragg, North Carolina, and Fort Eustis conducted video teleconference battle update briefs every 3 days in order to maintain operational situational awareness and work through training and operational challenges.

During this exercise, the 3d and 7th Sustainment Brigades' TOC received logistics status reports from units at Fort Irwin and Fort Stewart using BCS3. The forward staff combined logistics requirements from the 2d BCT, the 3d BCT, the 3d Sustainment Brigade, and the 7th Sustainment Brigade into reports and forwarded the information to the 316th ESC. The 316th ESC used BCS3 client privileges at each BCS3 node to review automated input from units at both Fort Irwin and Fort Stewart. The 316th then analyzed all reports and information, provided logistics guidance, and sent the reports to the 1st Theater Sustainment Command. The CSSB used the Movement Tracking System and BCS3 to track CLP movements throughout the brigade battlespaces and to develop alternate courses of action in the event of a movement delay.

Training as They Would Fight

The 3d Sustainment Brigade gained valuable experience supporting NTC 06-10 and NTC 07-04 and was prepared to support again when the order was given to move the 2d BCT's NTC 07-05 from Fort Irwin to Fort Stewart. The 3d Sustainment Brigade, along with the 17th CSSB's headquarters at Fort Richardson, Alaska, deployed to Fort Stewart and established an LTF built around the 10th Transportation Company and the 416th Transportation Company. Although the 3d Sustainment Brigade conducted the detailed coordination, the deployment only occurred because of the backing of the 3d Infantry Division's Commanding General of Support, Brigadier General Cardon, the 3d Infantry Division staff, and the United States Army Alaska. The 17th CSSB, which was to be task-organized to the 3d Sustainment Brigade for a future Operation Iraqi Freedom

rotation, received its first collective training opportunity since reflagging in July 2006. The NTC's EAB SB, with the 2d Heavy Equipment Transportation Company, also deployed from Fort Irwin to Fort Stewart to establish an LTF for additional support to NTC 07-05.

Both LTF 17 and the NTC's EAB SB were under the C2 of the 3d Sustainment Brigade during the pre-deployment MRX. In addition to supporting the 2d BCT during NTC 07-05, the 3d Sustainment Brigade and the LTFs conducted multiclass distribution in support of the 4th BCT's home station preparation for the NTC 07-06 field training exercise, which was being conducted simultaneously with the 2d BCT's NTC 07-05. Both LTFs were resourced with vehicles, equipment, personnel, and training from the 13th CSSB, the 87th CSSB, and the 260th Quartermaster Battalion.

Given the requirement for logistics units to support operations across the full spectrum of conflict, units should train with the many different kinds of units that they will be working with while deployed.

To prepare the 17th CSSB for its mission, the 13th CSSB from Fort Benning conducted a 3-day after-action review with the 17th CSSB, using lessons learned from the 13th CSSB's NTC 07-04 rotation. The process covered such critical areas as the commander's update briefings, the distribution management board, battle rhythm, battle drills, and C2 of CLPs. The after-action review also covered lessons learned on integrating companies from different battalions into unit operating procedures.

Integrating EAB Units Into Training Events

Successfully integrating EAB logistics units into training events is possible. The challenge is identifying units that will be deployed together in Southwest Asia in time to program them into the training events. These units must be far enough along in their Army Force Generation cycle that they have the equipment and personnel to participate in the training, but they also must be far enough out from their latest arrival date that the training event is a force multiplier and not a distraction. The recommendation is that EAB logistics units be programmed into combat training center (CTC) exercises. This would require major commands to provide support in identifying, linking, and simultaneously training EAB logistics units that will deploy together.

This requirement exists for EAB logistics units because, for many, it is the first time they will work collectively. This process also will enable EAB units to train with units other than their parent units. Given

the requirement for logistics units to support operations across the full spectrum of conflict, units should train with the many different kinds of units that they will be working with while deployed. Planning and executing distribution operations and CLPs are complex missions, and units should be familiar with these processes at all levels.

The opportunity to conduct quality multi-echelon training at CTCs currently exists for BCTs and their subordinate brigade support battalions. The opportunity also exists for CTCs to provide training for EAB logistics units. However, EAB units are not presently integrated into these events. Clearly, the 3d Sustainment Brigade's experience with the NTC indicates that it is not only possible but invaluable. Our training experience over the past 7 months is not the only way, but it represents "a way" to more effectively train EAB units.

This aggressive approach to training opportunities for 3d Infantry Division units proved extremely successful. The 3d Infantry Division is, without question, a better trained and more confident organization today as a result of the NTC exercises. Other EAB units and sustainment brigades can glean ideas from these training experiences. Establishing a habitual linkage between BCT and EAB units during CTC rotations would benefit the Army for years to come. **ALOG**

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Building Iraqi Logistics

BY LIEUTENANT COLONEL WILLIAM SCHIEK AND CAPTAIN PHOEBE PRICE

The 4th Sustainment Brigade Troops Battalion helped Iraqi logistics units with their transition to independence. Their dedication to mentoring Iraqi soldiers led to a successful transfer of authority and well-trained Iraqi Army logisticians.

In September 2005, the 4th Sustainment Brigade Troops Battalion (BTB) deployed to Taji, Iraq, in support of Operation Iraqi Freedom 05–07. Although we were told we would be working with the Iraqi Army, we had no idea just how involved we would be with forming the foundation of their logistics capability.

Camp Taji, located 15 miles north of central Baghdad, is the home of the Taji National Depot (TND), the Iraqi Army Service Support Institute, the 6th Motorized Transportation Regiment (MTR), and one of five National Maintenance Contract sites. During Saddam Hussein's rule, we believe Taji was the center of the Iraqi Army's logistics universe. As we executed our transfer of authority (TOA) with the 46th Corps Support Group (CSG) and later with the division support command (DISCOM) of the 3d Infantry Division, it was obvious that our role in developing Iraqi Army logistics systems would be significant.

As part of a newly transformed sustainment brigade, we fell in at Taji to execute the CSG mission of providing area support to non-division units and the old DISCOM's role of providing logistics support to the division troops in our area. Our brigade was assigned to the 3d Corps Support Command (COSCOM), and our primary direct support mission was to support the 4th Infantry Division in Multi-National Division-Baghdad. Because we conducted a TOA with two units that worked for two different headquarters, we inherited both mission sets and initially reported our progress to both the 3d COSCOM and the 4th Infantry Division Iraqi Security Force (ISF) cell, which was located in the division headquarters. At the time of our TOA, the 46th CSG was partnered with the 6th MTR and the 3d Infantry Division DISCOM was partnered with the G–4 cell of the 6th Iraqi Army Division (IAD). Thus, our unit picked up both the MTR mission and the 6th IAD G–4 mission.

Cultural Conceptions

Before deploying to Iraq, our unit received a standard regimen of cultural training. We were taught a smidgen of the Arabic language, a few cultural traditions, and what were considered critical social taboos. As a support unit with many female Soldiers, we were all concerned with the Arab culture's view of women. We

were led to believe that our Iraqi counterparts would exhibit a range of reactions from indifference to disdain toward female Soldiers. The preconceptions we had from our cultural training could not have been further from the reality we experienced in Iraq. Iraqi businessmen, contractors, soldiers, officers, and noncommissioned officers that we dealt with on a daily basis treated our Soldiers as equals—both the men and the women. Our feelings of respect and genuine regard for the Iraqi people were quickly reciprocated by all of the Iraqis with whom we worked. They treated us as friends, comrades, and advisors. Most of the Soldiers and leaders in our unit experienced this same rewarding rapport.

It turned out that the most important lesson was one we learned as children: treat others the way we wish to be treated. The values of respect, courtesy, and consideration that accompany that lesson go a long way toward being a good advisor and an effective diplomat. Our work with our Iraqi counterparts supported our reasons for training Army values and consideration of others and for learning the Soldier's Creed.

Initial Impressions

At first, each logistics organization we dealt with in the Iraqi Army was like a separate fiefdom with an "I got mine" mentality. There was little coordination, if any, between adjacent units, which placed an additional burden on the Coalition Force units to pick up and distribute equipment.

One of the first steps we took was assembling the logistics players to establish some ground rules and plant the seed of customer support. We conducted our initial meeting at the TND in October 2005. In attendance were two officers from the 6th IAD G–4 shop, the commander and deputy commander of the TND, the Multi-National Security Transition Command-Iraq (MNSTC-I) advisor at the TND, and the operations officer and military transition team (MiTT) chief from the 6th MTR. Although some of these officers had worked together in similar roles in the old Iraqi Army, none of them knew the others worked at Camp Taji until we got them all together.

The difficulty with coordinating a meeting like this was exacerbated by the inconsistent Iraqi communications network. Cell phones were the primary means of



An Iraqi 6th Motorized Transportation Regiment soldier celebrates the unit's first independent resupply mission.

communication used by the Iraqi officers, and the lack of organizational diagrams with work phone numbers made coordination nearly impossible. Once we got them all together and exchanged cell phone numbers, we had cleared the first hurdle. This was one minor victory.

We knew our major challenge was to use all of our tools to get the required equipment and supplies into the hands of the maneuver units in the Iraqi Army. We viewed the 6th IAD as the customer, the TND as the supplier, and the MTR as the distributor. Given the fledgling logistics infrastructure and ever-changing priorities for support, how could we help outfit the 6th IAD?

Innovations in the 6th IAD

We were fortunate to have two superb Iraqi officers working with us from the 6th IAD G-4 cell. Their division headquarters was in Baghdad, but they were in a much better position to influence logistics support for their division from the center of Iraqi Army logistics, Taji. Convincing the 6th IAD deputy commander that Taji was the place for them to work was a tough sell, but, in the end, the deputy commander was extremely pleased with his decision.

Initially, the 6th IAD G-4 officers were going to work out of our battalion headquarters, but we felt they could be more influential if they were positioned at the depot. The pros far outweighed the cons. They could see what was on the ground and in the warehouses at the TND and provide real-time asset visibility to their leaders. By placing representatives in the TND, reporting became significantly more accurate. The depot commander was skeptical about the placement of the 6th IAD G-4 officers at the depot. He felt we were placing spies in his midst—which we were—to report directly to an Iraqi general about the goings on at the depot. Eventually, the depot commander warmed up to the idea and offered an onsite trailer so the G-4 representatives could have an office at the TND compound.

As it turned out, having two division G-4 representatives at the depot was the smartest thing we did. The benefits of this move were felt by the 6th IAD almost immediately, and the two officers were the heroes of the division staff. Our battalion S-4 section was given the extra duty of working closely with the 6th IAD G-4 section and with the 4th Infantry Division ISF cell. The S-4 section's task was to act as the

go-between for the ISF cell and the 6th IAD MiTT to enforce the priorities set by the division and expedite shipments from the TND to the brigades in the 6th IAD. Our Soldiers worked closely with the 6th IAD MiTT, the brigade MiTTs, the ISF cell, and the Iraqi officers from the 6th IAD G-4.

We were pleased that supplies and equipment began moving to the end users in the 6th IAD soon after the G-4 representatives were placed at the TND and a single coordination meeting was conducted. The 6th IAD G-4 representatives were expeditors for their division. Once a materiel release order was cut at the depot, the Iraqi officers coordinated the transportation with the 6th MTR and took inventory of the supplies and equipment at the TND before and after they were loaded. They completed the coordination at the receiving end for receipt and inventory of the equipment, and they rode in the convoys to deliver the supplies to the units in their division. We immediately cut down on equipment that was lost in transit or incorrectly shipped. Customer satisfaction at the brigade level began to rise, and the officers and commanders in the 6th IAD began to trust the system.

Working with the MTR

In October 2005, the Iraqi Army was in the process of standing up 10 MTRs—1 for every division in the Army. It was later decided to create only nine MTRs since the 9th Mechanized Division was going to stand up logistics battalions with organic truck companies. The 6th MTR on Camp Taji had a 10-man U.S. Army MiTT serving as advisors to the regiment. The 3d COSCOM task-organized the 6th MTR and the MiTT to our brigade and subsequently attached them to our BTB.

The values of respect, courtesy, and consideration . . . go a long way toward being a good advisor and an effective diplomat.

When we received the 6th MTR, they were running missions tasked down by Multi-National Security and Transition Command-Iraq through the 3d COSCOM. We knew the 6th MTR would eventually be task-organized to the 6th IAD and realized the need to develop a habitual support relationship between the 6th IAD and the MTR. The regiment was operating at roughly 80-percent strength, had not yet received M1151 high-mobility multipurpose wheeled vehicles (HMMWVs) for its security company, and had no communication capability. Our goal for the regiment was to prepare them for the eventual TOA from our unit to the 6th IAD.

Just as our battalion S-4 section was the workhorse for the 6th IAD G-4, our S-3 section was given the

MTR mission. The procedure we developed was to have our S-3 write an operation order after receiving the mission from the 3d COSCOM, have the translator translate it into Arabic, and then issue it in English and Arabic to the MiTT team and the regimental operations officer. For the first 5 months of our deployment, we provided gun truck support for all MTR missions and had the MTR conform to our standing operating procedures. It was only after the MTR received M1151 HMMWVs that we were able to reduce our influence in the MTR missions. We provided much-needed new equipment training on the HMMWV, and, by the time we left Iraq, the regiment had not had a single vehicle rollover. In February 2006, the regiment received enough high-frequency (HF) radios to outfit each of its gun trucks and its S-3 shop. Our signal company assisted the MTR with installing, operating, and maintaining the new radios.

Finally, in March 2006, the 6th MTR put it all together. They planned, rehearsed, and executed their first independent mission, which included delivering class IX (repair parts) to the 6th IAD headquarters and picking up supplies at Camp Taji for the Ministry of Defense. This milestone was a huge morale boost for the MTR, the MiTT, and our unit. Between March and August 2006, the 6th MTR executed more than 30 independent missions, moving supplies and equipment to the 6th IAD in Baghdad. They displayed courage and discipline as they moved over some of the most dangerous roads in Iraq. They achieved a 100-percent mission accomplishment rate with no casualties and only minor vehicle damage from small-arms fire. Although we were out of the gun truck business with the MTR, we remained actively involved with the MiTT in mission planning, mission tracking, and supervision of unit administrative functions, such as pay, leave, maintenance, supply, and equipment accountability.

At a TOA ceremony in August 2006, the 6th IAD officially gained control of the 6th MTR. We were extremely proud of what all our Soldiers had done to contribute to this historic day. The MiTT showed great professionalism and selfless service as the Iraqis took the lead and received accolades. Without the MiTT embedded in the MTR, the regiment would not have been ready to be placed under Iraqi control. The officers and noncommissioned officers of the 6th MTR MiTT were an exceptional team who demonstrated Army values daily.

Establishing Procedures

The Iraqi soldiers and officers in the 6th MTR responded very well to our recommendations on the standing operating procedures. We hosted the 6th MTR leadership on several occasions so they could visit our motor pools, direct maintenance shops, machine shops,

Do not try to do too much with your own hands. Better the Arabs do it tolerably than that you do it perfectly. It is their war, and you are to help them, not to win it for them. Actually also, under the very odd conditions of Arabia, your practical work will not be as good as, perhaps, you think it is. It might take longer, and it might not be as good as you think, but if it is theirs it will be better.

— T.E. Lawrence,
Arab Bulletin, 20 August 1917

welding shops, supply rooms, and arms rooms. We discussed similarities between our units and exchanged ideas on how to make things work more efficiently and effectively. We sent our mechanics to teach Iraqi mechanics how to perform operator and organizational maintenance on their HMMWVs. They sent welders to work in our sister units' welding and machine shops. Our signal Soldiers worked with their operations section to install HF antennas, enabling the MTR to monitor their convoys. We had such great success with the HF communication in the 6th MTR that we exported a team from our signal company to help the 8th MTR in southern Baghdad install their communications equipment.

With the approval of the 6th MTR commander, we began a series of staff assistance visits to his company supply and arms rooms. Our purpose was twofold. First, we needed to ensure the equipment the unit had been issued was still on hand. Second, we wanted to see if there were accountability and serviceability procedures in place. We were able to make a few recommendations that the unit leaders embraced and implemented almost immediately. While many units in the Iraqi Army were experiencing theft, neglect, and loss, we felt very comfortable that the 6th MTR leaders were actively involved in their command supply discipline program. With permission from the regimental commander, we prepared certificates of achievement (printed in Arabic) for the unit's supply personnel and armorers to acknowledge their hard work, expertise, and attention to detail. We ensured the certificates were presented by the Iraqi leaders and not the U.S. Soldiers. Unit pride and morale were at an alltime high.

After the 6th MTR TOA ceremony in August 2006, the 6th IAD commander commended the regimental commander for his expertise in supply accountability and equipment serviceability and his well-maintained unit area. The division commander commented that the best unit in the division was the MTR. This was quite a compliment coming from an Iraqi maneuver commander and immediately validated the hard work of our BTB and the MiTT.

What We Learned

Before every ISF planning meeting conducted at the 4th Infantry Division headquarters, the quote above by

T.E. Lawrence (a.k.a. Lawrence of Arabia) was displayed. Reading this quote before we deployed did not mean as much as it does now. It is important to know the differences between the U.S. Army Warrior Ethos and the work ethic of the Iraqi soldier. Most Soldiers in our Army will do whatever it takes to get things done. The difficulty when working with the ISF was holding our Soldiers back to let the Iraqi soldiers execute.

Army training does not teach tolerance and patience, but tolerance and patience are very useful when dealing with Iraqi soldiers. Because our Army is so mission-focused and result-oriented, it is difficult for our leaders to accept anything other than immediate and precise execution of an assigned task. But, when dealing with other armies, we must learn to settle for tasks not completed to standard, tasks not completed on time, and, in some cases, tasks not completed at all.

During our time in Iraq, we were extremely successful in the execution of our ISF missions. We are proud of what our unit accomplished and what we helped the ISF accomplish in over 1 year in Iraq. Our Soldiers were true professionals and demonstrated daily why we are part of the greatest Army in the world. **ALOG**

LIEUTENANT COLONEL WILLIAM SCHIEK HAS COMMANDED THE 4TH SUSTAINMENT BRIGADE TROOPS BATTALION SINCE DECEMBER 2004. HE HAS A BACHELOR'S DEGREE IN POLITICAL SCIENCE FROM JAMES MADISON UNIVERSITY AND A MASTER'S DEGREE IN STRATEGIC INTELLIGENCE FROM THE JOINT MILITARY INTELLIGENCE COLLEGE AT THE DEFENSE INTELLIGENCE AGENCY.

CAPTAIN PHOEBE PRICE IS THE COMMANDER OF THE HEADQUARTERS AND HEADQUARTERS COMPANY OF THE 4TH SUSTAINMENT BRIGADE TROOPS BATTALION. WHILE DEPLOYED IN IRAQ, SHE WAS ASSIGNED AS THE 4TH SUSTAINMENT BRIGADE TROOPS BATTALION S-4 AND WORKED AS AN ADVISOR AND LIAISON FOR THE 6TH IRAQI ARMY DIVISION G-4, THE TAJI NATIONAL DEPOT, AND THE NATIONAL MAINTENANCE CONTRACT SITE AT CAMP TAJI. SHE HAS A BACHELOR'S DEGREE IN PSYCHOLOGY FROM THE UNITED STATES MILITARY ACADEMY, AN M.S. DEGREE IN HUMAN RESOURCES DEVELOPMENT FROM INDIANA STATE UNIVERSITY, AND AN M.S. DEGREE IN CRIMINOLOGY AND CRIMINAL JUSTICE FROM FLORIDA STATE UNIVERSITY.



The 15th Sustainment Brigade in Iraq

BY COLONEL AUNDRE F. PIGGEE

This article and the ones that follow on pages 13 to 45 profile the service and the achievements of the 15th Sustainment Brigade during its Operation Iraqi Freedom (OIF) 06–08 tour. They offer an overview of what we did, what we contributed, and what we learned. The men and women of our unit came from units in many locations across our Nation—Alaska, Kansas, Nebraska, Texas, many other states, Puerto Rico, and the Virgin Islands—and Germany. These articles tell our stories, which reflect great credit on our Soldiers and leaders and their Families.

Unit History

On 6 July 2005, the Division Support Command (DISCOM) of the 1st Cavalry Division was inactivated and redesignated as the 15th Sustainment Brigade. The DISCOM's subordinate forward support battalions were redesignated as brigade support battalions (BSBs) and task-organized under their supported maneuver brigades.

The 15th Sustainment Brigade is the descendent of the historical 15th Support Brigade, which was originally constituted on 4 May 1966 in the Regular Army as a headquarters and headquarters company and was first activated on 1 July 1966. The 15th Support Brigade later inactivated at Fort Lewis, Washington, on 21 March 1973 after receiving campaign credits for its support for Counteroffensive Operations (Phases II and III) in Vietnam.

The 1st Cavalry Division DISCOM participated in all major campaigns of the Vietnam War and distinguished itself in battle. It received the Presidential Unit Citation for action in Pleiku Province and the Valorous Unit Award for action in the “Fish Hook” area of Cambodia. The DISCOM also received three Meritorious Unit Commendations and four Republic of Vietnam Cross of Gallantry awards.

In January and February 1991, the DISCOM provided support throughout Operation Desert Storm, leading to a quick liberation of Kuwait. The command was awarded the Meritorious Unit Commendation for OIF II for its service from 8 March 2004 to 8 March 2005.

Deployment to OIF 06–08

As a new separate brigade—no longer an organic unit of the 1st Cavalry Division—and task-organized under the 13th Sustainment Command (Expeditionary) [13th SC (E)], the 15th Sustainment Brigade deployed to Iraq in July 2006. It deployed in advance of both

the 1st Cavalry Division and 13th SC (E) headquarters units and transitioned with the 4th Sustainment Brigade and the 4th Infantry Division in Multi-National Division-Baghdad (MND–B).

The 15th Sustainment Brigade assumed command and control of three combat sustainment support battalions, a brigade troops battalion, a personnel services battalion, and the Camp Taji Mayor's Cell—units that together numbered over 4,000 Soldiers. Our mission was to synchronize and provide sustainment in direct support (DS) to MND–B and by area support to MND–Central (MND–C). Our sustainment would allow combat forces to conduct full-spectrum operations to secure Baghdad, its population, and its surrounding area in order to reduce sectarian violence and facilitate the continued transition of Baghdad to Iraqi security control. In this endeavor, we provided support to 13 brigade combat teams (BCTs) and numerous echelons-above-brigade corps units totaling over 100,000 Soldiers.

Throughout the entire tour, the brigade was fully involved in developing the concept of support and executing logistics for every major combat operation in MND–B and MND–C. Significant operations included Operation Together Forward, in which we played a critical role during the phase II barrier moves that established blocking positions throughout Baghdad; Operations Constant Solidarity and Watchful Purpose, in which MND–B provided forces to disrupt anti-Iraqi forces (AIF) and Al Qaeda in Iraq cells in MND–C; and, most importantly, the current Baghdad Security Plan and Surge Operation, which is allowing for the continued transition to Iraqi security self-reliance and governance.

Distribution was the key to our success. Over the course of the deployment, we conducted over 6,545 combat logistics patrols (CLPs), which involved 111,916 vehicles and 186,667 Soldiers driving over 4 million miles. We experienced over 40 incidents involving detonated and found improvised explosive devices (IEDs), more than 50 attacks by small-arms fire, and 25 direct-fire actions.

We accomplished our mission by resourcing and training subordinate battalions and companies. Our efforts ensured that these units were properly equipped and prepared and, therefore, confident in their ability to effectively execute all assigned missions. We implemented and executed a brigade standard for planning, rehearsing, conducting precombat checks and inspections, and executing CLPs. Knowing that intelligence

drives operations and recognizing that we arguably were traversing the most dangerous main supply routes (MSRs) in Iraq, we implemented systems to develop and track AIF attack trends.

We aggressively instituted countermeasures against AIF attacks. These countermeasures included ensuring that we did not follow set patterns of movement, shifting start-point times and planning remain-overnight actions, traveling different routes, improving stockage capability on forward operating bases (FOBs), organizing training and conferences for CLP commanders, providing training on CREW (counter radio-controlled IED electronic warfare) systems, conducting training for escalation-of-force actions, and implementing standardized load plans and battle drills.

Supply Operations

The 15th Sustainment Brigade's general supply office received over 90 million gallons of bulk fuel, delivered over 178 million gallons of bulk fuel, issued 250,810 meal cases, produced over 10.5 million cases of bottled water, issued 3.5 million cases of bottled water, and filled over 2 million class IX (repair parts) requisitions, of which 13,030 pallets were moved by air. We increased the fuel capacity of fuel farms at the Victory Base Complex and Camp Taji from 4.7 million gallons of storage capacity to 7.4 million gallons—an increase of 2.7 million gallons. We also provided Iraqi Security Forces over 1.2 million gallons in bulk fuel support.

We established, improved, and supervised 10 authorized stockage lists (ASLs), with a total of 39,672 lines valued at \$278 million, within the MND–B area of responsibility (AOR). We ensured that each of the 10 ASLs was properly designed to support its customers. This allowed us to achieve a zero balance and a due-out rate of less than 8 percent for each of the 10 ASLs. We retrograded over 100,000 lines valued in excess of \$620 million. We established routines and procedures to ensure the timely turn-in of overaged repairable items, resulting in the brigade leading all supply support activities in meeting standards in Iraq. We established a referral process that ensured that we had visibility of all ASLs within MND–B, thus reducing customer wait time. We implemented the mandatory use of portable data collection devices in order to ensure same-day processing of receipts and issues to over 10,876 Department of Defense activity address codes.

Maintenance Operations

The maintenance management office (MMO) oversaw and coordinated the installation of over 10,163 vehicle up-armored enhancements. This effort began with the M1114 high-mobility, multipurpose, wheeled vehicle legacy kits, but over time it progressed to

include kits for the light medium tactical vehicle, M113 armored personnel carrier, fuelers, and even the M1 Bradley infantry fighting vehicle under-armor program. A great deal of effort went into planning and coordinating the up-armored effort for the 82d Airborne Division's division ready brigade as part of the Baghdad surge. The MMO coordinated for the installation of 384 M1151 Objective Frag 5 Kits within a 22-day period, which was a feat unmatched within the Iraqi theater of operations.

The MMO's maintenance managers regularly coordinated with 13 brigades, and at times more, within the MND–B AOR. The managers worked with BCT S–4s, BSB maintenance officers, shop officers, and personnel at every level up to the wholesale to support the Soldiers in the field. They researched and assisted the maneuver units in obtaining the hard-to-locate and backordered parts needed to bring their equipment to a fully mission capable status.

Transportation Operations

The transportation integration division (TID) refined the execution of the consolidated receiving and shipping points (CRSPs), thus creating a single point for receiving and issuing classes II (clothing and individual equipment), VII (major end items), and IX within MND–B. The operation of the CRSPs reduced the number of theater resupply convoys on MND–B MSRs, reduced time of materiel on station, increased the retrograde of excess class VII and IX items to Kuwait, and facilitated the delivery and retrograde of class VII and IX items to BCTs. The result was a single point in MND–B for receipt and delivery of over 25,000 military-owned demountable containers (MILVANS) and pallets and the retrograde of over 7,157 MILVANS, thereby drastically decreasing transit time for theater distribution assets.

In conjunction with the 1st Cavalry Division Combat Aviation Brigade, the TID provided aerial logistics in support of all units in the MND–B area of operations. Moving over 13,030 pallets by air to the FOBs in support of MND–B units and Multi-National Corps-Iraq separate units reduced the number of ground vehicles in use by 4,166 and the number of CLPs by 250. The TID also coordinated with the 13th SC (E) to improve the coordination of fixed-wing flights from Balad to Baghdad International Airport and retrograde flights from Baghdad (for over 7,830 pallets) to Kuwait and Balad. The TID was instrumental in the initial planning to receive fixed-wing aircraft at FOB Taji. This further reduced both requirements for and the risks associated with CLPs moving on MND–B roads.

In November 2006, the TID extended the contract of the Iraqi Truck Company (ITC) and the escort mission. The TID continued the integration of ITC drivers

into CLPs in order to transport critical cargo. The ITC became an integral part of the brigade's mission. In all, the brigade provided escort protection to over 3,076 ITC vehicles on 338 missions.

Contingency Contracting

The brigade's contingency contracting officers worked as a team to process over 303 contract actions for Iraqi reconstruction and for critical non-construction materials and services with a value of over \$43 million. These contracts were critical to maintaining the force protection of U.S. Army and coalition personnel in our area of operations and to providing ongoing services needed to maintain a high state of readiness. Some of the major contracts covered billeting renovation, Frag 5 kits, leasing of nontactical vehicles, escalation-of-force operations at Taji and Victory Base Complex, construction of a DS maintenance facility, ITC services, improvements to the CRSP yard and the water plant site, bus leasing, and general labor.

The combined efforts of the contingency contracting officers allowed the U.S. Government to seek over \$2.5 million in savings on executed contracts for the brigade. The contracting function was a major segment of the 15th Sustainment Brigade's acquisition process and was critical to mission success.

Logistics Automation

The combat service support automation management office (CSSAMO) provided direct support for four organic battalions as well as general support and assistance to the entire MND-B AOR. The CSSAMO completed over 600 work orders involving various levels of hardware, software, and operator training support. It also conducted multiple assistance visits to each FOB within the MND-B AOR, personally interfacing with and providing tailored support for each brigade CSSAMO. The CSSAMO also provided hardware and supplies to several other CSSAMOs throughout our AOR in the form of desktop computers, power supplies, and other automation components. The CSSAMO was instrumental in developing alternate methods of communicating Standard Army Management Information Systems data, thereby streamlining the data transfer process from forward patrol bases.

Ammunition Operations

The ammunition management office (AMMO) provided seamless support to MND-B by filling ammunition basic load (ABL) shortages and mission support requirements. In doing so, the unit processed over 200 requisitions, which equated to the movement of over 6 million rounds of munitions. The AMMO also facilitated the division's retrograde plan by turning in over 4 million rounds of excess ammunition, which directly

contributed to the ability of all ammunition transfer handling points (ATHPs) to reduce their net explosive weights by 45 percent.

The AMMO was directly involved in planning and executing the Camp Liberty ATHP and ammunition supply point (ASP) expansion project. The MND-B ASP at Camp Liberty now provides immediate ammunition capability to units operating in and around Baghdad. Thanks to intensive management by the AMMO, all BCTs were able to maintain a fill rate of 90 percent for the ABL high-usage Department of Defense Identification Code items.

Other Support

In exercising our expeditionary capability, the 15th Sustainment Brigade deployed shower, laundry, and clothing repair teams, maintenance support teams, and forward logistics elements to forward locations on the battlefield to better support the customer.

In our efforts to partner with Iraqi logistics units, we supported Iraqi Security Forces by partnering with the 6th Motorized Truck Regiment and the Iraqi Army Regional Support Unit. Our support contributed to the successful execution of over 40 independent missions. We provided training and oversight of the Taji National Depot, which led to increased effectiveness and efficiency by the depot in equipping 10 Iraqi Army divisions. We implemented training programs for Iraqi Soldiers on how to receive, store, and issue classes II, IIIP (packaged petroleum, oils, and lubricants), V (ammunition), and IX.

The 15th Sustainment Brigade set the standard for multifunctional logistics support during its 15 months of service in Iraq. Its commitment to excellence and unmatched customer service contributed immensely to the success of the 13th SC (E) and the 1st Cavalry Division. Throughout all of the countless efforts to make our mission a success, our Soldiers, noncommissioned officers, and officers maintained the professionalism of true logisticians, demonstrated the Warrior Ethos, and exemplified what it means to be Total Soldiers. Support the Action!

ALOG

COLONEL AUNDRE F. PIGGEE IS THE COMMANDER OF THE 15TH SUSTAINMENT BRIGADE. HE IS A GRADUATE OF THE QUARTERMASTER OFFICER BASIC COURSE, ORDNANCE OFFICER ADVANCED COURSE, COMBINED ARMS AND SERVICES STAFF SCHOOL, ARMY COMMAND AND GENERAL STAFF COLLEGE, ARMY WAR COLLEGE, AND LOGISTICS EXECUTIVE DEVELOPMENT COURSE. HE HOLDS A B.S. DEGREE IN BIOLOGY FROM THE UNIVERSITY OF ARKANSAS AT PINE BLUFF, AN M.S. DEGREE IN MATERIAL ACQUISITION MANAGEMENT FROM THE FLORIDA INSTITUTE OF TECHNOLOGY, AND A MASTER'S DEGREE IN MILITARY STRATEGY FROM THE ARMY WAR COLLEGE.



Building a FOB From the Ground Up

BY CAPTAIN JENNIFER L. HUGHES AND CAPTAIN ALLISON H. JASLOW

In early January 2007, 4 years after Operation Iraqi Freedom began, President George W. Bush announced a plan to bring security to chaotic Baghdad. In addition to changing the combat focus of the troops that were already on the ground, the President ordered the deployment of close to 20,000 troops to the region to assist with the Baghdad security plan. This strategy, devised at the highest echelons, raised this question: Where would the incoming troops be located? Part of the solution to this dilemma was to locate the entire 3d Brigade Combat Team (BCT) of the 3d Infantry Division at a range complex just east of the capital city. Called Butler Range, this patch of land in the Iraqi desert looked starkly different from most of the forward operating bases (FOBs) of this well-established war effort.

Located in an austere environment, Butler Range lacked almost all of the conveniences that other FOBs enjoyed. There were no dining facilities in sight, no showers to speak of, and no established sleep or work areas. The only protection the location offered was a berm and a few guard towers. Clearly, something needed to be done about the condition of this soon-to-be FOB, so the order came down through the 13th Sustainment Command (Expeditionary) to the 15th Sustainment Brigade to make it happen. Planning began for accommodating the 4,000 Soldiers and Airmen who would soon occupy the land.

Assembling the Team

The 68th Combat Sustainment Support Battalion (CSSB) had been on the ground in Iraq for only 8 days when it was tasked to command a forward logistics element (FLE). The FLE, made up of units from throughout the 13th Sustainment Command (Expeditionary), was tasked with establishing the logistics infrastructure for the FOB. In the middle of learning their new combat mission, the battalion had to change focus, assemble the required components—a maintenance

support team (MST), a fuel team, and a class I (subsistence) supply team—and deploy in less than 72 hours.

The timeline was short, and little time was available to get familiar with their subordinate units. The 598th Maintenance Company from Fort Benning, Georgia, arrived in Iraq a few days after the 68th CSSB's headquarters, and the 192d Quartermaster Company from Milan, Ohio, arrived the day the CSSB got word of the FLE mission. This prompted the battalion commander to appoint members of his own staff—the support operations officer and the noncommissioned officer in charge—to lead the FLE. Then, the rush began to get the team on the ground and prepared to execute.

Planning

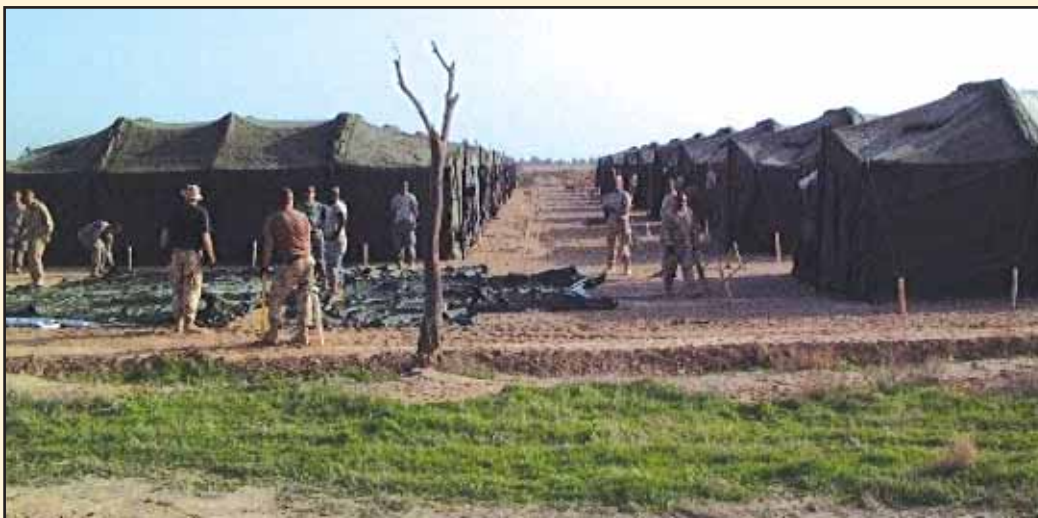
The 68th CSSB received word of the FLE mission at the tail end of their transfer of authority (TOA) with the 393d Corps Support Battalion. Unfamiliar with their new subordinate units, they had to trust that they would receive the best Soldiers to complete this mission. As an echelons-above-division unit, the CSSB did not have the luxury of deploying with its organic units and, therefore, lacked familiarity with their strengths and weaknesses.

With less than 72 hours between the notice of the FLE's operation and the execution, the time for mission analysis was limited. There was practically no time to send up requests for information and get questions about the mission answered. There was little direct communication with the units already at Butler Range. No one on the ground could give accurate feedback on the current situation of the site, so the FLE had to make many assumptions. They packed their containers and moved out just 4 days after the first whisper of the mission.

The advanced stage of the war made this task more difficult than most would expect. For one, few in the theater anticipated this mission, making contingency planning for the FLE nonexistent. Most unit missions in Iraq had been so well established and forecasted

that units commonly left home station without the ability to conduct contingency operations.

Soldiers construct the FOB's tent city, which was known as "Harvest Garden."





Another problem was that contractors in Iraq had been providing most of the theater-quality life support and even some of the regular Army logistics functions. The prevalence of contracted dining facilities meant that few units still maintained mobile kitchen trailers in theater. Needless to say, the ration cycle had to be straight meals, ready-to-eat (MREs) for the FLE until a more suitable long-term solution was devised. Contractors also had been responsible for much of the water support. The FLE's inability to produce their own potable water supply posed a problem; instead of the FLE being able to purify it themselves, water had to be trucked in from nearby FOBs. Someone also made the assumption that the FOB needed portable latrines; after all, other FOBs had them. Instead of digging an old-fashioned ditch, portable latrines were emplaced. But, unlike those other FOBs, no contracts were in place to service the latrines. No elaboration is needed to explain what happened as a result.

On the Ground

The FLE had little rest once they arrived. Tents had to be constructed for work and living areas before the operating tempo became too great. At the same time, they began accepting a steady stream of convoys that brought the many components needed to begin building this new FOB. The team had trouble maintaining communication with units that were supposed to be assisting in the effort. The communications support team was unable to move with the command and control element of the FLE, so they had to use the communications assets already available onsite, which enabled only one telephone call a day. So, forecasting was restricted and the FLE had little or no visibility of convoys delivering the

Soldiers conduct retail fuel operations. Issuing fuel directly from the tanker enabled operations to begin almost immediately.

Soldiers download some of the over 15,000 cases of bottled water that were delivered to the FLE.

supplies needed to stand up the FOB. With more time to coordinate, the FLE might have secured some of the highly mobile and easy-to-use communications systems that were available in theater.

Although communication was limited, the FLE transmitted pertinent information and the plan continued to progress. They established the retail fuel operation almost immediately, which enabled the many convoys to top off before departing. The onsite fuel also enabled Soldiers to use heavy construction equipment to build the FOB without having to wait for fuel. Another priority was emplacing the class I breakpoint. Upon arrival, bottled water and MREs had already been dropped, but a significant amount of preparation had to take place before 4,000 Soldiers could be fed. The site needed to be set up to enable the use of refrigerated containers for storing ice and, eventually, a perishable food supply.

Establishing operations was the easy part; keeping the FOB supplied was another story. Resupplying the FLE proved to be much more difficult than planned. First, it took several days for the forecasting to be effective. The first few days of resupply were planned for with little knowledge of what would transpire on the ground. But, once appropriate feedback was received through daily status reports, forecasting became easier. Second, even though the 68th CSSB could fulfill every request for supply that the FLE sent, transportation was a challenge. The 68th CSSB was responsible for command and control of the FLE, but it did not control the priority of movement for supplies to Butler Range. Although logistics packages were arranged and ready to move forward, they often sat in a holding pattern until transportation assets were allocated.

Once the FLE had addressed the necessities, shower, laundry, and clothing repair (SLCR) teams from the 442d Quartermaster Company set up and began operating. Laundry service was a luxury that the military transition team stationed at Butler Range had





Engineers build the berms for the bulk fuel farm.

done without, so the SLCR teams were a welcome sight. The SLCR teams faced problems initially with a questionable water source and no real plan in place to deal with gray water. The new Laundry Advanced System, with the ability to recycle water, mitigated part of this problem. Once a greater supply of water was transported to the FOB, the Soldiers were able to have at least one shower a day and clean clothes.

Construction then began on a small bulk fuel farm for the FOB. The FLE deployed with a rough plan for the fuel farm that had been developed at the sustainment command level, but a platoon of the 148th Quartermaster Company (Petroleum, Oils, and Lubricants) arrived to execute this mission and identified needed modifications. The proposed site and design were neither conducive to berm emplacement nor ideal for the kind of customer support a fuel farm provides. The platoon constructed a more user-friendly and efficient bulk fuel site by altering the bag placement plan and creating more issue and receipt points than were proposed. Having support from the 411th Engineer Brigade onsite accelerated the fuel farm to completion well before the suspense.

The lack of force protection at the range complex also needed to be addressed. Up until this point, the area had never been occupied by a sizeable force, so the modest security measures had been adequate. However, with a major influx of troops to the area following a well-publicized surge, the protective posture of the FOB needed to be upgraded. The mere four guard towers and hastily built berm would not deter an attack for long. The initial solution to this dilemma was to have a quick reaction force (QRF) from the closest FOB on standby. Quick, however, meant 30 minutes. The sheer absurdity of this idea prompted a request for this QRF to be physically located at the fledgling FOB, and the request was eventually approved. The FLE also had a shipment of HESCO [Hercules Engineering Solutions Consortium] barriers delivered to improve their indirect fire defense.

Once again, the outstanding engineer support enabled them to amend the situation with record speed.

Transfer of Authority

As the TOA neared, another oversight came to light. The 3d Brigade's equipment was shipped ahead of the main body, with only the torch party to receive it. With hundreds of vehicles and containers rolling in over the course of several nights, the FLE had to assist in clearing the brigade's equipment from the cargo reception area. With many Soldiers not licensed on the heavy brigade's vehicles, this task was not as easy as it might seem, but the FLE made it happen.

Soon after the arrival of the 3d BCT, the Soldiers of the 203d Brigade Support Battalion (BSB) were eager to assume the operations on the FOB that the 68th CSSB and the FLE had spent the past 30 days building. At this point, the bulk fuel farm was fully operational and the class I yard was stocked full of food. Almost 15 days ahead of schedule, Soldiers from the 3d BCT began assuming control of the site. This enabled many of the FLE Soldiers on the FOB to begin a phased return.

Unfortunately, the date that contracted shower and laundry operations were supposed to be emplaced came and went. The TOA occurred with the 203d BSB and the FLE vacated the FOB, but the FLE's SLCR teams had to stay behind to provide support until the contractors were operational. Weeks passed before the contractors could establish the services they had agreed to, but, eventually, the shower and laundry Soldiers were able to return to their unit.

In the end, despite the hiccups of a hastily planned mission, the FLE accomplished all of its assigned tasks and helped build the FOB. While the Soldiers were thrust out of their comfort zones and into an undeveloped area, they rose to every task. The Soldiers executed the mission successfully and ensured the plan to bring security to Baghdad could be executed. **ALOG**

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Tankers Without Tanks

BY CAPTAIN ETHAN J. DIVEN

Tankers love to fight from tanks. Most tankers joined the Armor Corps because they envisioned themselves moving across jagged terrain, spewing fire from the gun tube, and destroying enemy targets many kilometers away. However, that dream was deferred for the deploying Soldiers from Bravo Company, 1st Battalion, 34th Armor Regiment, stationed at Fort Riley, Kansas. During the early spring of 2006, the tankers were ordered to transform into a security forces company to train and deploy in support of Operation Iraqi Freedom. They were task-organized with the 541st Combat Sustainment Support Battalion (CSSB) of the 15th Sustainment Brigade, 13th Sustainment Command (Expeditionary).

Transformation

Bravo Company, called the “Bounty Hunters,” cleaned and serviced their M1A1 Abrams Integrated Management tanks for turn-in and reorganized from a 63-man tank company into a 170-man security forces company. The company’s MTOE (modification table of organization and equipment), with 3 platoons of 16 Soldiers, was reorganized into an EMTOE (exception to modification table of organization and equipment) with 3 platoons of 45 Soldiers each, a headquarters section, and a maintenance section. The additional Soldiers allowed the integration of various combat-multiplying military occupational specialties (MOSs), such as mechanics, medics, cooks, infantrymen, fuel handlers, transporters, administrative clerks, and artillerymen.

A standard 16-man tank platoon typically consists of 4 tanks, each crewed by a tank commander, a gunner, a loader, and a driver. Transforming the company to have 9 squads, each with 15 Soldiers, allowed Bravo Company to keep a low leader-to-led ratio, which is a hallmark of tank platoons. Each squad was led by a lieutenant or sergeant first class with training and experience as a former tank platoon leader or tank platoon sergeant. These leaders took on the responsibility of being convoy commanders and were supported by seasoned staff sergeants serving as the assistant convoy commanders. Each squad organized into five three-man gun truck crews, each consisting of a vehicle commander, a gunner, and a driver.

After the reorganization ceremony in May 2006, the company began a rigorous 90-day predeployment training cycle. Initial training focused on individual Soldier marksmanship and basic Soldier skills. Bravo Company completed crew-served weapons qualification on the M240B machinegun, the M249 squad

automatic weapon, the M2 .50-caliber machinegun, and the MK19 40-millimeter grenade launcher. After this, each platoon practiced motorized crew gunnery, with daytime and nighttime engagements, followed by two squad live-fire exercises with all five motorized crews engaging targets simultaneously. The culminating events were two motorized gun truck situational training exercises that required convoy commanders to integrate logistics vehicles into the fight. The commanders were required to show proficiency in standard battle drills when reacting to enemy- and event-driven scenarios. Bravo Company then deployed to Kuwait and conducted another round of live-fire and situational training exercises before moving into Iraq.

Integration

Once they were in Iraq and attached to the 541st CSSB, Bravo Company integrated themselves into the logistics realm. Although the CSSB was also from Fort Riley, Bravo Company had never established a habitual relationship with them. The tankers were challenged with learning the different types of logistics sections and unit capabilities. The first question that many tankers asked was, “Who is this SPO [support operations officer] guy everyone is talking about?” Having the support operations section as the hub of logistics information and planning is foreign to combat arms Soldiers. The S-3, or operations officer, is typically responsible for all plans, operations, and training, but the SPO executes many of these functions in the logistics world.

Bravo Company Soldiers quickly familiarized themselves with logistics operations. The only prior experience Bravo Company had with palletized load systems, 5,000-gallon fuel tankers, and heavy equipment transport trucks was when someone else coordinated for these supporting assets from outside of the battalion. But the tankers soon found themselves working with them on a daily basis. Bravo Company learned the load capabilities, characteristics, and, most importantly, the constraints of these logistics vehicles. Coordinating with truck drivers from Kellogg, Brown and Root, the Professional Warehouse Company, and the Iraqi Trucking Company became second nature. Bravo Company learned to familiarize these contracted truck drivers with battle drills and convoy techniques to ensure the success of their convoys. Contractors need a certain amount of information to successfully execute each mission, so Bravo Company also learned to balance the amount of information they gave the contractors with maintaining operational security.



3d Platoon Soldiers with their up-armored high-mobility multipurpose wheeled vehicles and armored security vehicles.

Conducting convoy briefings, battle drill rehearsals, and precombat checks and inspections has always been characteristic of tank company operations, but Bravo Company missed the familiar tasks of establishing a support-by-fire position and executing fire-and-maneuver or cordon-and-search operations. Nonetheless, basic tank platoon maneuvering principles apply when conducting a combat logistics patrol. In the event of enemy contact, every tanker knows to deploy, report, choose a course of action, and violently execute that course of action until the threat is eliminated. But combat logistics patrol Soldiers have the additional challenge of ensuring the constant security of the escorted vehicles while destroying the enemy or communicating with another element to complete the engagement.

Challenges

Bravo Company Soldiers learned different operating styles and schools of thought while attached to the 541st CSSB. The first obstacle was repressing the ingrained search-and-attack mentality and the desire to find, fix, and destroy the enemy. As a combat logistics patrol commander, a Bounty Hunter leader understood that his tactical task was to secure the logistics assets during movement with the purpose of sustaining combat operations. At times, it was tough for Bravo Company Soldiers to know that they were providing support to Soldiers who shared their experience, skills, and MOSs, and they were not out there shooting with them.

Operationally, Bravo Company was often challenged with having to coordinate with other units while transiting their areas of operations. Instead of generating intelligence from the operations officer and sources within an assigned area of operations, Bravo Company used compiled intelligence from units throughout the multiple areas of operations that they patrolled.

Maintaining

While the goal of any commander deployed in combat is to execute his assigned mission successfully and redeploy with every Soldier he deployed with, he also has the duty to develop his subordinates. The most significant challenge of the Bounty Hunter leaders was ensuring that the Soldiers sustained proficiency in their MOSs even though they were executing a nonstandard

mission for armor Soldiers. The Bounty Hunter Soldiers, noncommissioned officers (NCOs), and officers would return to Fort Riley and conduct a permanent change-of-station move to another armor unit, where they would be expected to be proficient in the armor skills associated with their ranks. This expectation deserved the attention of all leaders in the company and could only be met through training.

Weapons sustainment training is the combat standard, but a dedicated leader professional development program is just as important to ensuring the future success of the Armor Corps. Soldiers must know how to be tank drivers, loaders, and gunners. Junior NCOs must know how to be tank gunners and tank commanders. Mid-grade and senior NCOs must know how to be tank commanders and tank platoon sergeants. Lieutenants must know how to be tank platoon leaders and tank company executive officers. This challenge rested squarely on the shoulders of the Bravo Company's leaders, as their Soldiers may be called on to deploy again, either as part of tank companies or as armor Soldiers assigned to other units.

The Bounty Hunter Soldiers successfully trained, deployed, and integrated themselves into the logistics world and dutifully executed every assigned mission. They learned the capabilities and limitations associated with securing commodity vehicles in a country where the enemy does not care what unit you are assigned to or what your MOS is. Back at Fort Riley and reunited with their tanks, Bravo Company soldiers have a greater appreciation for logistics operations. If anyone ever wants to know who the SPO is, a Bounty Hunter Soldier can reply, "I know that guy, and I know what he can do for me." Even so, it is obvious that you can take the Soldier out of his tank, but you can never take the tank out of the armor Soldier.

ALOG

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Distribution is the Center of Gravity for Success

BY MAJOR AARON HARDY, JR.

The Army is transforming to maintain U.S. military preeminence in the face of unpredictable changes in the strategic security environment. This transformation focuses on current and emerging strategic and operational challenges. To achieve success on the battlefield, the Army must continually transform and seek innovations to defeat future adversaries on the battlefield.

In order to provide the logistics support needed to sustain combat units, the Army has formed modular sustainment brigades for sustaining its modular brigade combat teams (BCTs). The 15th Sustainment Brigade from Fort Hood, Texas, is one of the newly reflagged sustainment brigades. The 15th Sustainment Brigade deployed to Operation Iraqi Freedom in August 2006. In garrison, the brigade has a brigade troops battalion and a personnel services battalion in its task organization. However, once deployed, the 15th Sustainment Brigade gained three combat sustainment support battalions.

Logistics Center of Gravity

The 15th Sustainment Brigade's mission was to provide direct support to units operating in the Multi-National Division-Baghdad (MND-B) area of

operations (AO). Providing support to the units in the MND-B AO was difficult, but it was critical to the success of Coalition Forces. Arguably the most important mission performed by the 15th Sustainment Brigade was the transportation and distribution mission supporting the BCTs at all of the forward operating bases (FOBs) in its area of responsibility. The transportation officers, noncommissioned officers, and Soldiers in the brigade were referred to in the brigade as the "logistics center of gravity" for MND-B. Joint Publication 5-0, Joint Operation Planning, defines the friendly center of gravity as ". . . the capabilities, characteristics, or sources of power from which the force derives its strength, freedom of action, and will to act." These capabilities are exactly what the truck drivers, cargo handlers, and transportation planners provided daily at both the battalion and brigade levels.

Each day, 15th Sustainment Brigade Soldiers conducted combat logistics patrols (CLPs), delivering all classes of supply, including mail, to all of the BCTs and nondivisional units based on FOBs in the MND-B AO. These CLPs delivered all of the commodities that allowed the BCTs to conduct operations. Although mail is not critical for mission execution, it is very important



Transportation Soldiers discuss current operations during their shift.



Laptop computers are important to logistics Soldiers in Iraq. Here, a Soldier uses a laptop to complete reports at his desk.

for the Soldiers' morale. The 15th Sustainment Brigade made mail a priority and scheduled daily mail delivery to the units by either ground or air.

Even though the brigade's mission was to provide direct support to the MND-B AO, 15th Sustainment Brigade troops supported various missions throughout Iraq. They traveled as far south as Diwaniyah, as far north as Mosul, and as far west as Al Asad to support unit moves and short-notice missions that required unit equipment and cargo to be moved quickly to respond to operational requirements. In less than 6 months, the 15th Sustainment Brigade drove more than 2,147,213 miles and had more than 3,672 Soldiers on the road conducting missions.

Central Receiving and Shipping Points

The 15th Sustainment Brigade operated two central receiving and shipping points (CRSPs), one at Victory Base Complex (VBC) and the other at Camp Taji. The VBC CRSP, which was much smaller in area than most, was one of the busiest CRSP yards in theater. When the surge of units into theater brought two additional BCTs to Camp Taji, the Taji CRSP also experienced a dramatic increase in the volume of cargo that it processed. Between September 2006 and April 2007, the Taji and VBC CRSP yards together retrograded over 5,000 pieces of cargo to Kuwait and processed over 45,717 pieces of cargo that were delivered to and from the CRSP yards.

The CRSP yards handled all classes of supply except class V (ammunition). Data on all cargo that came into the yard were entered into a database and sent to the brigade support operations transportation officer in charge. The officer in charge created a consolidated report that he sent to the movement control battalion,

providing cargo visibility for all units within the Iraqi theater. The data were also used when assigning internal CLPs and coordinating for external transportation. The Soldiers who worked at the CRSP yards ensured that cargo was placed in the appropriate lane for onward movement to the final destination.

The Soldiers who operated the CRSP yards were just as important as the troops on the road since they spent countless hours processing cargo, delivering cargo to local units, and ensuring that all materiel in the CRSP had radio frequency identification tags with the proper data to provide in-transit visibility as cargo moved into theater.

Security

In February 2007, MND-B began emplacing joint security stations and combat outposts throughout Baghdad. The joint security stations are intended to give the Iraqi National Police a secure area from which to respond to situations. The 15th Sustainment Brigade supported the joint security station and combat outpost missions by transporting barriers to each joint security station and combat outpost location. In just 4 months, the 15th Sustainment Brigade delivered over 7,000 barriers of various sizes, creating secure bases of operation for the BCTs and Iraqi National Police. This was a critical mission for the BCTs and MND-B, and the 15th Sustainment Brigade was a key part of mission success. Working hand-in-hand with both the combat units and combat engineers, 15th Sustainment Brigade Soldiers made Baghdad safer for everyone.

The 15th Sustainment Brigade supported the action by providing world-class transportation support to MND-B units and other units throughout Iraq. This support provided by the 15th Sustainment Brigade ensured that no operational missions failed because of logistics constraints.

ALOG

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Contracted Transportation

BY CAPTAIN GEORGE PLYS

Contracting has become an important force multiplier in current military operations. During Operation Iraqi Freedom, for example, Kellogg, Brown, and Root (KBR) and the Iraqi Transportation Company (ITC) provided essential transportation augmentation for the 541st Combat Sustainment Support Battalion (CSSB) of the 15th Sustainment Brigade. Since there were not enough military transportation assets on the battlefield, these contracts helped the CSSB fulfill its transportation requirements. Both groups of contractors formed strong working relationships with the 541st CSSB by focusing on constant communication.

When the CSSB planned combat logistics patrols (CLPs), both KBR and ITC procedures had to be considered. Conducted twice daily, truckmaster meetings brought together unit truckmasters and transportation personnel from the CSSB's support operations office (SPO) to discuss the mission requirements for the next 24 to 96 hours. Here, trucks were assigned to specific missions and any issues with common-user land transport assets were addressed.

Kellogg, Brown, and Root

KBR had been conducting transportation missions in Iraq for quite some time, so the CSSB felt comfortable working with them. KBR's assets included seven 8,000-gallon fuel tankers and 50 tractor-trailers. This augmentation was equivalent to about one squad of fuelers and almost one light-medium truck company. KBR provided a liaison officer who met with the SPO transportation section once a week and ensured that KBR was meeting the mission intent. KBR also provided a senior operations coordinator who performed the same job as a truckmaster in a military transportation company.

The senior operations coordinator for KBR played an important role in planning and resourcing CLPs that involved KBR assets. He attended all truckmaster meetings and coordinated closely with the SPO transportation section. Once all missions were sourced and all loads were planned, the senior mission coordinator assigned the loads to KBR drivers. If there were any issues, the senior operations coordinator came back to the transportation section to work them out. All KBR personnel who drove in the CLPs attended the convoy commander's CLP brief to ensure that the tactics, techniques, procedures, and battle drills were known throughout the CLP.

Iraqi Transportation Company

The ITC had been doing transportation missions in Iraq for a while, as well. The ITC's assets included seven 8,000-gallon fuel tankers and 42 tractor-trailers. Like KBR's augmentation, this was equivalent to about one squad of fuelers and almost one light-medium truck company. The ITC had a manager who worked directly with the platoon leader assigned to the ITC mission.

The ITC was made up of local nationals from all over Iraq, so working with them was slightly different than working with the Americans of KBR. Because of the threat of attack by insurgents, the ITC drivers met in locations that regularly changed and then came through the gates together. During the convoys, one U.S. Army noncommissioned officer always accompanied the ITC trucks and served as a loadmaster to ensure that the load was properly secured and that all paperwork was in order. As a security precaution, the ITC drivers did not attend the CLP briefs like KBR drivers did; instead, the ITC got a convoy brief from the convoy commander at the ITC motor pool before leaving the forward operating base (FOB).

There were some challenges to having the ITC involved in the CLPs. For example, there had to be at least one Arabic language interpreter on every CLP. Another problem was that the ITC trucks were the only vehicles that were not up-armored. All of the other vehicles that left the FOB, including KBR vehicles, had been up-armored. The Iraqi manager of the ITC regularly came to meet with our battalion to address these types of concerns in an open forum. This relationship kept the operation running smoothly and made the mission happen.

Contracted transportation assets were force multipliers, but a great deal of planning had to accompany the augmentation. Whether dealing with the ITC or KBR, communication was the key to meeting mission requirements and priorities of movement for all classes of supply. Communication built working relationships and made working together easier to accomplish.

ALOG

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Army Logistics Contractors on Combat Logistics Patrols

BY SERGEANT FIRST CLASS NICHOLAS J. CONNER

Every night, Soldiers from the 15th Sustainment Brigade traveled the roads of Iraq as part of the vital logistics train that supported all coalition forces within the Multi-National Division-Baghdad (MND-B) area. Running the gauntlet right alongside them were civilian drivers. Contracted employees, manning specially designed trucks, supported the 15th Sustainment Brigade's mission of supplying and sustaining over 75,000 combat troops that were on the ground in MND-B.

One such contractor, Steve Mathis, was not a stranger when it came to working with the military. After spending 10 years in the Army infantry, he was the civilian convoy commander in charge of making sure the massive freight haulers got where they needed to be. "[Being prior service] makes it easier for us to come out here and do what we do," he said. "We understand what is going on, and it helps us."

Moving everything from heavy equipment to food and water, Mathis and his partner, Mike Winters, counted on the armored International 5000-MV heavy equipment transporter to pull loads in excess of 180,000 pounds. "I've put a lot of stuff behind it and it hasn't bogged down yet," said Mathis. "I've taken an IED [improvised explosive device] that ripped out the engine and I'm OK. I feel safe in it."

Within a 15th Sustainment Brigade convoy, the difference between military and civilian did not matter. The men were adamant about the fact that everyone worked together as a team and looked out for one another during the combat logistics patrols. When a military vehicle rolled over during one mission, Mathis and Winters did not even have to think about what needed to be done. With fuel leaking from the overturned truck, Mathis grabbed a combat lifesaver's bag and ran to help extract the Soldiers. Both Winters and Mathis had completed the Army's combat lifesaver

Contractors use the International 5000-MV to haul supplies and equipment for the 15th Sustainment Brigade.



course, adding to the medical capabilities of the convoys they supported.

In addition to bringing combat lifesaver experience to the convoys, contractors alleviated some of the burden for the brigade's Soldiers. More trucks in a convoy meant more supplies hauled at a time, which equated to fewer runs per night. Mathis and Winters also brought additional communications systems to the convoys. While the contractors could not talk on military channels, their high-frequency radios could reach areas where troops had difficulty communicating. By placing contractor-owned handheld radios in each of the military security vehicles, the contractors acted as relay stations to contact their company's dispatch hubs at either Logistics Supply Area Anaconda in Balad or Victory Base Complex in Baghdad. They also could assist by calling for help from quick reaction forces and explosive ordnance disposal teams and for medical evacuation.

Colonel Gregg Gross, Chief of the 13th Sustainment Command (Expeditionary) Distribution Management Center, said that contractors played a crucial role on the battlefield. "Contractors are part of our formation. They live, eat, work, pray, sweat, and sacrifice side-by-side with our Soldiers everyday," said Gross. "A day without contractors is like a day without food, fuel, water, ammo, clean latrines . . . well, suffice it to say, it's a lousy day."

Mathis and Winters logged more than 12,000 miles after getting their new truck in August 2006. The routes they took were in some of the most dangerous areas in Iraq, but they preferred driving with the Soldiers—doing what they said comes as second nature—to everything else. Both would smile energetically whenever calls came in to take them back out on Iraqi roads.

"We love livin' in this truck, we love workin' in the truck," said Winters. "I'm happy with what I'm doing."

ALOG

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Fabricating to Save Soldiers' Lives

BY MAJOR THOMAS J. CUNNINGHAM

Soldiers saving Soldiers lives: Hollywood producers and book publishers around the world dedicate volumes to combat arms Soldiers on the battlefield going beyond the call of duty. However, another warrior—little known to others but in high demand on today's battlefield—is out there working to save the lives of their comrades in arms. You see them everyday; yet, you may not recognize the contributions they are making to the safety and welfare of Soldiers in the battlespace. They are the allied trades technicians and mechanics.

Allied trades technicians and mechanics take an innovative approach to producing lifesaving products and enhancements. These unsung heroes use existing materials and products in innovative ways to give the

Soldier on patrol that needed edge against the enemy. From fabricating new tools for explosive ordnance disposal (EOD) robots to refining older designs for high-mobility multipurpose wheeled vehicle (HMMWV) improvised explosive device (IED) rollers, today's allied trades mechanics are essential combat multipliers in Operation Iraqi Freedom.

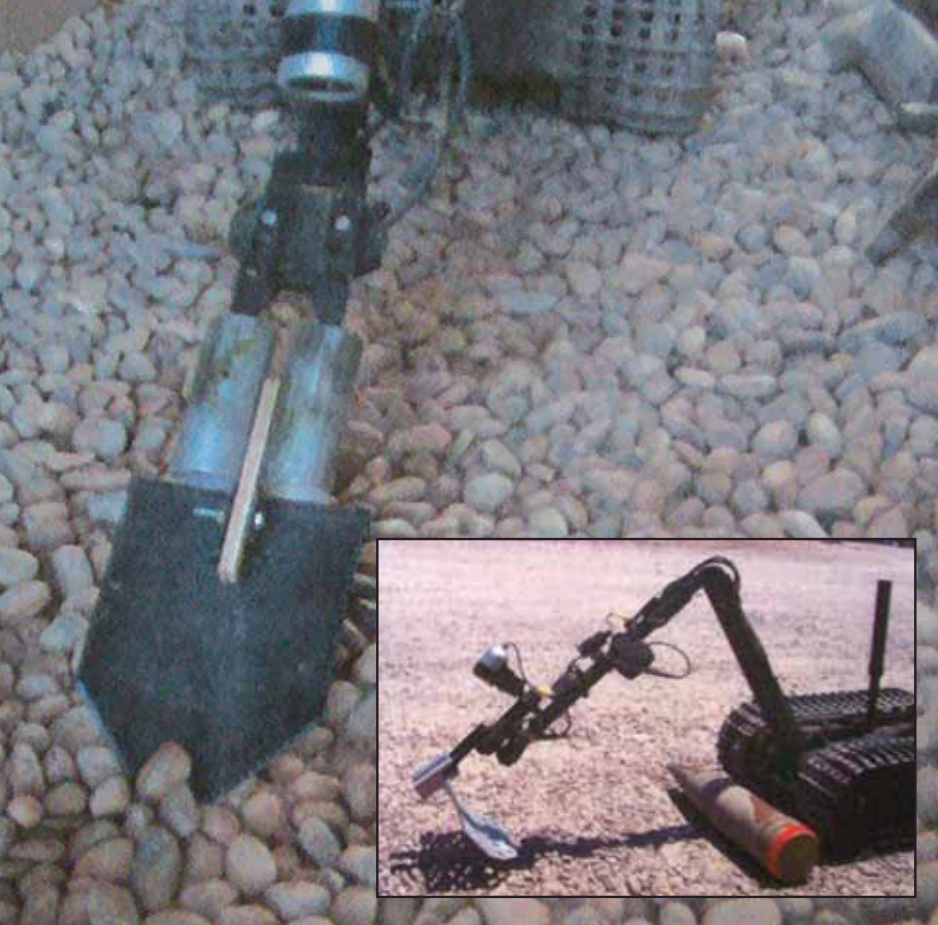
In garrison, the Army takes the approach that the time and resources required to fabricate or repair a particular item are not economical; everything is ordered or purchased with a credit card. Thus, our garrison allied trades technicians and mechanics are relegated to routine repair activities, extracting bolts and occasionally plasma cutting [cutting steel and other metals using a plasma torch] or spot welding.

They have little opportunity to be innovative and demonstrate their creativity.

In a deployed environment, welders and machinists become a central component of the maintenance company's capability and flexibility. Who else in the battlespace could take a squad leader's concept of adding ballistic glass to the M1114 up-armored HMMWV's gunner's turret to turn it into "Pope's Glass?" ["Pope's Glass" is the term used by Soldiers to describe the 2-inch ballistic glass shield installed around the gunner's turret because it reminds them of the bulletproof glass box that the Pope travels in.] Who else could fabricate a special tool from stock aluminum for a field service representative?

An allied trades technician designed and built the Hobart scoop (at left) to be used on the front of the robot for digging and for moving things remotely.





Explosive ordnance disposal Soldiers attached an entrenching tool to the front of a robot to enable them to dig remotely. The inset shows a robot with a Hobart scoop attached.

create products from scratch. When an S&R section earns a reputation around camp as outside-the-box thinkers and quality builders, work comes their way. An EOD team leader brought a challenge to the 98th Maintenance Company. The EOD team was using an entrenching tool jury-rigged to the front of their robot to dig and move objects. One of the maintenance company's machinists developed a lightweight, multifunctional tool that increased the functionality of the EOD robot, called the Hobart scoop (named after the sergeant who designed it).

That EOD team became true believers and realized what a combat multiplier the allied trades mechanics are in the deployed environment. Bringing two blown-up robot bodies to the 98th

The U.S. industrial base does not deploy with the Army. The allied trades mechanics must take concepts from the whiteboard and turn them into lifesaving products or needed tools. These tools are often duplicated by the industrial base and sold back to the Army. Allied trades mechanics are not concerned with trying to patent their ideas or products. They are generally too busy finishing the mission and getting to the next job. They want to get their products out to the field and in use.

A perfect example of a tool fabricated by allied trades mechanics is the HMMWV IED roller that two noncommissioned officers from the 3d Forward Support Battalion (FSB) Service and Recovery (S&R) Section designed and built. Pressure-activated IEDs were common within the 3d FSB's battlespace, and something was needed to activate them before a vehicle made contact. Thus was born the design for the HMMWV IED roller. Two rotations later, that same design is still being passed around and built. Each unit is putting its own spin on it, but the basic design is still being used. The allied trades community uses Internet working groups to pass designs and techniques around the force. With the original IED roller design still making the rounds, allied trades technicians from the 512th Maintenance Company improved the original design and spread their improvements across the 15th Sustainment Brigade.

The machinists and welders not only improve on previous designs; they also think outside the box and

Maintenance Company's S&R Section, the EOD knew they were taking a long shot. Their command had already told the team that no replacement robots were available and that new robot bodies from the continental United States would take a long time to arrive. The 98th Maintenance Company team took the two broken robot bodies and rebuilt them into one functional piece. That type of work would never have been done, or even attempted, in a garrison environment.

In our Army's push toward modularity and transformation, every section and military occupational specialty (MOS) is being evaluated to determine its future viability. If the decision to downsize or combine MOSs and sections were to be based on garrison workload and production, the allied trades community would be a ripe target. Yet, when viewed through the deployment prism, that target disappears. As the 15th Sustainment Brigade learned in Iraq, allied trades mechanics play an invaluable part in the field.

ALOG

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Redesigned Personnel Service Support in the Field

BY CAPTAIN JEAN ANNE P. DEAKYNE

Operation Iraqi Freedom (OIF) 07–09 ushers in the true test of the Army’s personnel services delivery redesign (PSDR) on a theater-wide scale. For the first time since the inception of PSDR, all deployed brigade headquarters will have the organic essential personnel service (EPS) capabilities that previously resided in the personnel services battalions (PSBs) of the legacy divisions.

PSDR is the Army human resources community’s component of Army transformation. Under the redesign, the core of personnel service support (PSS) is moving to brigade and battalion S–1 sections. [Under PSDR, “PSS” will be referred to as “EPS.” “PSS” is used for legacy units like the 15th PSB.] This new structure—creating brigade S–1s that are as adaptive and self-sufficient as the brigades they are charged to support—sounds good in briefings, and the Army has manned and equipped brigades to succeed in their PSS mission. Yet, while the PSDR machine is already in motion, the question remains: How do we train our S–1 Soldiers to execute this new concept?

The 15th PSB of the 15th Sustainment Brigade is responsible for performing the newest function (“manning”) of the Army’s new sustainment brigade formation. It is also one of two remaining legacy PSBs deployed to the Iraqi theater of operations. So the 15th PSB has a unique operational perspective on how brigades that are now transforming under PSDR can develop strategies for successfully providing EPS while deployed in a theater, even though they lack the safety net of area support personnel detachments and the benefit of years of lessons learned.

The 15th PSB is, in effect, acting as the “training wheels” for PSDR, providing both a fall-back organization for performing PSS and subject matter expertise for the newly developed human resources operations cells of the sustainment brigade’s support

operations (SPO) sections. The 15th PSB thus allows brigade combat teams (BCTs) to tackle these tough challenges posed by a new human resources configuration: the systems and equipment are technical, Active and Reserve component Soldiers are integrated as never before, and the distances between supporters and supported populations make the execution of EPS difficult.

In spite of these challenges, the 15th PSB determined four advance planning training factors, gained from hard lessons learned and victories won, that make supporting the force more efficient in the Iraqi theater of operations. Here is our guide to success.

Develop Reserve Component Experts

The best thing that could have happened to the 15th PSB’s deployed task organization was the incorporation of U.S. Army Reserve (USAR) personnel units into our formation. Detachment 4, 847th PSB, and Detachment 5, 376th PSB, provided a wealth of USAR technical expertise that we were able to use across the battalion, especially in the areas of PSS and personnel accountability.

Active component units with brigade S–1s that have undergone PSDR likely will not be so fortunate as to have

A postal clerk for the 376th Personnel Services Battalion sorts through mail.





The 15th Personnel Services Battalion's Emergency Operations Noncommissioned Officer in Charge accounts for personnel after a react-to-indirect fire drill at Camp Liberty, Iraq.

RLAS does have intheater connectivity issues, which the 15th PSB worked to help resolve. RLAS routinely fails to connect through Citrix Web and Virtual Private Networking avenues from Iraq. The “workaround” solution in place at this time is that all RLAS updates are requested through the 3d Personnel Command in Kuwait, which has no difficulty bridging back to the continental United States (CONUS). A theater point of contact for RLAS is available by calling DSN 318–430–6065 or sending an email message to theaterepd@arifjian.arcent.army.mil.

resident USAR or Army National Guard (ARNG) subject matter experts (though a number of BCT S–1s will be responsible for ensuring that ARNG and USAR units that fall under their deployed task organizations receive the same level of EPS as Active Army units). The key to ensuring success in supporting ARNG and USAR units is learning how to support ARNG and USAR Soldiers *before* deployment and understanding how ARNG and USAR promotions, evaluations, and other personnel actions differ from Active Army EPS. Brigade S–1s also must gain access to, and understand how to operate, the Regional Level Application Software (RLAS) and the Reserve Component Automation System (RCAS), which are the ARNG and USAR equivalents of the Electronic Military Personnel Office (eMILPO).

The 15th PSB's personnel service centers used RLAS as the primary database for providing PSS to ARNG and USAR Soldiers on an area support basis. RLAS is a software application developed to provide the USAR with a client-server, Web-enabled application for managing personnel and resources. RLAS contains four modules: personnel, training, finance, and RLAS support. RLAS interfaces with the Standard Army Financial System for processing financial data, the Training Assessment Module for processing training data, the Defense Joint Military System for processing pay transactions, and the Retirement Points Accounting System for tracking retirement points. Information contained in the databases of the USAR's 14 regional support commands is transferred electronically to the U.S. Army Reserve Command, then sent on to external systems. The RLAS personnel module is the only module required to assist in updating records in a deployed theater and, like other Army personnel management databases, requires several weeks to process user account requests.

Conduct Realistic PSS and Soldier Skills Training

Combat training centers (CTCs) and field training exercises (FTXs) are notoriously ineffective at evaluating PSS systems. The brigade S–1 is responsible for ensuring that his section is trained to support the force as it will fight in a forward-deployed environment. Although CTC rotations may provide dedicated time to exercise critical systems, BCT S–1s must develop a separate validation method to ensure that the S–1 team is ready to support.

The biggest hurdle for training PSS Soldiers is the competing requirements of training for war while continuing to support the force. The 15th PSB developed two methods to accomplish both missions, with no degradation in quality of service. First, we decentralized PSS by pushing traditional PSB-level functions down as close to the supported unit as possible (which is a fundamental tenant of PSDR). Second, we rotated the remaining PSS missions that could not be accomplished at the BCT level among the remaining PSB Soldiers (we called this “PSS Time”) while providing predictable blocks of time for personnel detachment commanders to focus on training Soldier skills (we called this “Prime Time Training”).

As the 15th PSB prepared for deployment in support of OIF 06–08, we frontloaded forward area support teams (FASTs) to organic 1st Cavalry Division brigades located in our deployed area of responsibility. The BCTs integrated, trained, and validated the FASTs, with technical oversight provided by the PSB, over a 3-month period in the following phases—

- Phase I. Access to and proficiency in operating personnel systems, including eMILPO, RLAS, the Enlisted Distribution and Assignment System, and the Total Officer Personnel Management Information System.
- Phase II. Testing of supervisory knowledge and technical skills.

- Phase III. Sustained ability to successfully perform all PSB-level functions while physically located at the brigade S-1.

- Phase IV. CTC validation (in conjunction with brigade rotations to the National Training Center at Fort Irwin, California, or the Joint Readiness Training Center at Fort Polk, Louisiana).

- Phase V. Brigade S-1 feedback and outbrief.

We ensured that the Soldiers who remained within the PSB's deployed formation met and exceeded the standard for competence in all Army Forces Command and division-mandated predeployment tasks. In the 6 months of ramping up for deployment, we conducted detachment-level training exercises, culminating in a battalion-level FTX and convoy live-fire exercise, both focusing on deployed Soldier skills. Detachments rotated responsibility for remaining PSS missions with "prime time training" in blocks of 30 days; this meant that the remaining personnel detachments had 60 dedicated days of Soldier skills training over a 90-day period. Both PSS and deployed Soldier skills training were successes, with tough, realistic, scenario-driven external evaluations executed by both senior PSS noncommissioned officers (NCOs) and combat arms experts drawn from units within our garrison's supported population.

The net result was a forward-deployed force that could operate as both FASTs embedded with legacy maneuver brigades and PSB Soldiers operating on an area support basis. This force was trained, ready, and combat-tested in react-to-contact battle drills ranging from indirect fire to unexploded ordnance.

Emphasize CAC and ID Tag Machine Training

Few S-1s have operated in a deployed theater under PSDR. Few S-1s have executed the mission of producing common access cards (CACs) or identification (ID) tags while forward deployed. Success in this mission, again, lies in system access and technical proficiency. Beyond systems access and training, however, are a host of issues unique to the deployed theater.



Here are some issues affecting CACs and ID tags and sources of assistance.

CACs. The Defense Enrollment Eligibility System (DEERS) goes down periodically throughout the day because of server outages at the local, theater, and CONUS levels. The causes and estimated down-times vary and often are unpredictable. For CONUS-based connectivity issues, users should contact the DEERS/RAPIDS [Real-time Automated Personnel Identification System] Assistance Center at 1-800-3RAPIDS (800-372-7437) or at DSN 312-698-5000.

CAC printers occasionally malfunction and produce defective cards in which the photo or information is misaligned. For printer-related issues, contact the DEERS/RAPIDS Assistance Center at 1-800-3RAPIDS (800-372-7437) or at DSN: 312-698-5000.

Personnel issuing CACs sometimes are not fully trained on the methods for correcting individual records that have discrepancies. The Defense Manpower Data Center Support Office conducts DEERS record research when discrepancies are found in a service member's DEERS record. The main switchboard number at the office for assistance is 831-583-2500 or DSN 878-3261,-2659, or -3335.

Most Department of Defense (DOD) contractors and civilians receive their CAC support on an area support basis. Information on policy-related questions on CAC service to DOD contractors and civilians is available from the theater civilian personnel advisor at DSN 318-822-4908.

ID tags. Though manual ID machines are authorized on unit modification tables of organization and equipment, automated machines provide a more reliable and efficient means of producing ID tags. The good news is that many BCTs fall in on automated ID tag machines that were purchased in country and will remain as theater-provided equipment. Manual machines, if properly maintained and serviced, continue to be the best means of servicing outlying locations, where moving or maintaining an automated ID tag machine is not feasible. Manual machines should be used to supplement automated machines.

S-1 personnel should have user's manuals for automated machines; most service issues can be resolved at the unit level as outlined in the manuals. The most common issues that cannot be resolved by the user are broken keyboard port connections and misalignment of the mechanical drum.

The manufacturer for most manual and automated ID tag machines in the Army inventory is Card Imaging

Realistic training during a battalion field training exercise prepared the Soldiers of the 15th Personnel Services Battalion for deployment in support of OIF 06-08.

The 15th Personnel Services Battalion S-3 gives a block of instruction on emerging PSS systems in a forward-deployed theater of operations.

Master (CIM). For maintenance issues related to CIM ID tag machines, users should contact the Technical Division Manager at 1-305-639-3040 (extension 308) or CIM USA Inc. by calling 1-305-639-3040 or fax 1-305-639-3060.

Train and Resource for Decentralized EPS

One of the unforeseen challenges of fielding redesigned BCT S-1s in a forward theater of operations was how to provide EPS to task-organized outlying units at and below the company level. PSDR provides for manning and equipping brigade and battalion S-1s, but it does not provide for servicing the outlying company or detachment located at a patrol base or strong point. Most of this problem is supposed to be mitigated—in theory—by the Internet, using digital senders and email as means of transmitting evaluations, promotions, and actions between geographically dispersed units and their supporting S-1s.

However, several problems undercut this solution. Connectivity was unreliable, scanners and digital senders broke down, Soldiers conducting patrols day in and day out did not rank providing their own PSS as a priority, and certain elements of PSS, including CAC production and CAC personal identification number (PIN) resets, required a Soldier to be physically present to perform the service. Decentralizing support was the most viable solution. Conducting regular PSS “rodeos” (as the 1st Cavalry Division calls them) to outlying units brings PSS to the Soldier, without taking the Soldier away from the fight.

The 15th PSB, as a part of the 1st Cavalry Division, employed the rodeo concept during OIF 2 as a method of bringing postal support to units that were located away from Army post offices. Soldiers convoyed by ground and air from their locations at forward operating bases (FOBs) to locations where Soldiers needed support, bringing all of the equipment needed to conduct outbound postal parcel operations, and provided service for periods that usually lasted no longer than 24 hours. These rodeos continued through OIF 05-07.

When the 15th PSB deployed in support of OIF 06-08, we incorporated PSS into the services provided to units located outside the scope of our area support PSS centers. These services included CAC and ID tag production; CAC PIN resets; Department of Defense Form 93, Record of Emergency Data, and Servicemen’s Group Life Insurance (SGLV) updates; and promotions assistance. During most rodeos, we partnered with finance agencies in order to conduct



cash disbursements, pay inquiries, and allotment changes. Teams of four PSS Soldiers traveled with two Tuff bins, including a complete, deployable CAC system, two laptop computers, a printer, and associated supplies. These missions enhanced PSS to Soldiers in a geographically dispersed area of operations, reduced the need for Soldiers to “get on the road” (and possibly face combat operations) in order to conduct routine PSS, resulted in faster processing of personnel actions, and increased overall operational effectiveness.

Has the Army trained our functional area 43 (human resource management) majors or branch-detailed officers or junior Adjutant General’s Corps captains how to lead the charge to make PSDR work on the battlefield, in spite of not fully mission capable equipment, sporadic Internet connectivity, and geographic dispersion? Probably not, but, in all fairness, the Army has had a lot going on lately. Experience, lessons learned, and thinking outside of doctrine will train us to make PSDR work. Whether or not the Army’s human resources community passes this test depends largely on the brigade S-1 and on the S-1’s ability to support more Soldiers more effectively and across more areas of operations. **ALOG**

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Contingency Contracting and LOGCAP Support in MND-B, Iraq

BY MAJOR WALTER LLAMAS

Contingency contracting plays a critical role in our operations in Iraq. Contracts are an integral part of the overall logistics plan. Contracting helps rebuild Iraq both physically and emotionally, and it helps tremendously in our relationship with Iraqis.

The U.S. Army uses contracts for a wide variety of products and services. The 15th Sustainment Brigade's support operations section handles all contracts internal and external to the brigade. Our contracts usually range from \$2,000 to tens of millions of dollars, depending on the service or product requested. We have open contracts that are just for small construction projects, like repairing or constructing a sidewalk. We also have major construction projects, such as building renovations for work or living areas or the construction of buildings for maintenance operations. All of this work is being performed by Iraqi citizens who want to live peaceful lives and provide for their families. When the time comes for us to end operations in Iraq, everything that we have built will be transferred to the people of Iraq.

Local Contractors

As we improve a building or a worksite, we are improving Iraq's economy by using local contractors. When we use local contractors to perform any kind of improvement around Iraq or inside our operating bases, we are showing Iraqis that we care and that we trust them to work with us, sharing their goal of improving and rebuilding their country.

The process for hiring local contractors is not simple. We must follow many rules to ensure the safety of our troops and the Iraqi citizens. Local contractors must compete for contracts just the same as contractors in the United States. Once a contract is awarded to a particular company, a background check is run on the workers who will be accessing the facilities where we work. Contract workers also have to go through many daily safety and security checks before entering an operating base. The inconvenience of these requirements is offset by the wages they earn that enable them to care for their families and improve the quality of their lives.

The contractors, however, also face a level of risk. Obviously, Iraq has good citizens who want to do well,

but it also has criminals. Some contractors and workers have found themselves without pay after finishing an arduous day at work because they were robbed as soon as they left our facilities. Moreover, some workers have been killed by their own people just because they were working for us. Every person that we hire is one less person for insurgents to recruit.

LOGCAP Contractor

Kellogg, Brown, and Root (KBR), the Logistics Civil Augmentation Program (LOGCAP) contractor, plays a large role in supporting our operations in Iraq. They perform a wide variety of services for the military, which helps free up Soldiers to focus on the mission at hand. KBR has civilian workers embedded with military logistics operations at every operating base 24 hours a day, 7 days a week. Even though KBR is a profit-based corporation, they display a genuine sense of caring and desire to support the military because many of their employees and managers have prior military experience.

The wide variety of services that KBR provides for the military includes base life support (laundry, living quarters, showers, dining facilities, morale and welfare), logistics support for all classes of supply, and transportation support. However, I will limit my comments to the logistics support—specifically fuel and maintenance operations.

During its deployment to Iraq, the 15th Sustainment Brigade provided logistics support to units operating in the entire Baghdad area. It had subordinate units located on different bases. KBR operated side by side with brigade personnel on each of those bases and traveled on the road with them between those bases.

One of the best examples that I can use to describe the level of integration of civilians into brigade operations is the way that bulk fuel operations were conducted. Fuel is a critical commodity in Iraq, with significantly high levels of demand. KBR ran one of the main fuel farm operations in Baghdad. Military personnel only provided oversight for the accountability of fuel and the quality of operations to military specifications. A military representative evaluated operations every month and established the best relationship possible between workers and customers to ensure exemplary support. Using KBR to



Contractors play an important role in Operation Iraqi Freedom logistics operations.

execute bulk fuel operations gave commanders the flexibility to use their Soldiers in other areas where their skills were required and to conduct internal refuel operations. This operation has been so successful that plans were made for KBR to take over operation of a

second fuel farm in Baghdad following the same model as the previous one.

Another example of civilian integration on the battlefield is maintenance operations. As U.S. forces conduct daily operations, equipment is damaged and wears out. Because of this, maintenance operations are an essential daily commitment. Forces performing dangerous convoy and resupply operations throughout Baghdad require equipment that is dependable and responsive when it needs to be. Maintenance is one of the most important operations, will never cease, and will always be critical to operational success.

KBR has civilian mechanics who augment military units to help with their maintenance workloads. They provide a wide variety of expertise at all levels of maintenance and can assist with any piece of equipment that needs repair. For the most part, KBR contractors can perform the same maintenance tasks that Soldiers perform. KBR maintenance operations are collocated with military units at all major operating bases to provide efficient support to customers when needed. They also have small maintenance teams that can rapidly deploy to another location where expertise is needed but not permanently available.

Similar to fuel operations, KBR eventually will run some of the maintenance operations in the Baghdad area. They will completely take over operations, with military oversight to ensure compliance with military specifications. This is beneficial for maintaining continuity in the areas of personnel and operations since many different units rotate every year in and out of the area of operations. If we keep the same contractors working onsite for over a year, they get to know the area and specific requirement, which enables them to better support new customers.

Military-Contractor Relationship

The only drawback that I saw with the integration of civilians on the battlefield was that sometimes they felt that they were part of the decision process. They got so involved in operations to support the warfighter that sometimes it appeared that they were trying to have too much control over operations and decisions.

The overall relationship between the military and KBR is very professional and productive; they have the same goal of performing the mission at hand for the benefit of our Soldiers. The military integrates civilians into daily operations by the wise and efficient use of liaison officers. KBR has a brigade-level or higher liaison officer for every major area in the logistics arena. We tried to use the KBR capabilities as much as possible—sometimes before we used certain military capabilities—for the simple reasons that we were paying for their services and that their use allowed commanders to use Soldiers for other tasks.

Security and force protection in Iraq are extremely important. This operation belongs to the military personnel. We hire and integrate civilian contractors to decrease the demands on our Soldiers, allowing the Soldiers to focus on the mission and so we can avoid pulling them to different areas.

When visiting different operating bases in the Baghdad area, I saw civilians and military personnel working together in many different areas. Whether in an office environment, in a maintenance shop, at a fuel site, or at a subsistence warehouse, professionalism and complete integration were always common. The civilians on the battlefield were definitely a critical force enabler. The integration of local contractors and KBR-type personnel into our operations will remain the same or possibly increase in future logistics planning.

Having dedicated civilian experts perform certain logistics operations while Soldiers perform military duties and responsibilities has proven worthwhile. As we continue operations in Iraq, we will continue improving our relationship with and integration of civilians. We will continue improving the process of hiring local Iraqi contractors for their benefit and that of their country. We have a great base established and will continue to build it everyday as personnel transition in and out of the theater of operations. **ALOG**

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Multifunctional Logistics in a Corps Support Battalion

BY MAJOR CURTIS L. ABENDROTH, NEARNG, AND CAPTAIN WAYNE R. LIBBEY, MAARNG

During its deployment to Camp Taji, Iraq, for Operation Iraqi Freedom 06–08, the 867th Corps Support Battalion (CSB) was assigned to the 15th Sustainment Brigade, 13th Sustainment Command (Expeditionary). With 10 different companies and over 1,600 Soldiers, it was perhaps the largest and busiest CSB in Iraq. The battalion's efforts to achieve excellence were driven by an objective analysis of mission performance and an insatiable sense of accomplishment and pride in both individual and unit success. Although the battalion (known as the "Rawhide" battalion) developed into a cohesive team with a common set of shared experiences, history, and tradition, it was the diversity of the Soldiers and units within the 867th CSB that constituted the foundation of its success and esprit de corps.

Structural and Functional Diversity

As Lieutenant Colonel Michael D. Navrkal, the battalion's commander, observed during the deployment, "We are all part of one team, working together." A Nebraska National Guardsman, he led an organization of 1,623 soldiers representing all three components of the Army and three generations of Americans. Geographically, the Soldiers of the battalion came from across the continental United States and from overseas locations. The battalion's Active component units were from Fort Eustis, Virginia; Fort Campbell, Kentucky; Fort Riley, Kansas; and Mannheim, Germany. The

Army National Guard and Army Reserve units were based in Massachusetts, Puerto Rico, Tennessee, Mississippi, Michigan, Wisconsin, Nebraska, and Texas. The men and women of the battalion came from every walk of life in the civilian world and brought different backgrounds and perspectives to the unit.

The diversity of the battalion's Soldiers was further demonstrated by the variety of each unit's mission and skill set. This functional diversity gave the 867th CSB a wide range of logistics capabilities to support the sustainment requirements of Multi-National Division-Baghdad (MND–B). To distribute supplies and materiel throughout the battlespace, the battalion could task its robust lift assets to move everything the warfighters needed to execute their missions.

When heavy equipment needed to be moved, the 1687th Combat Heavy Equipment Transport Company from the Mississippi Army National Guard executed the mission. The 120 M1070 heavy equipment transporters (HETs) assigned to this unit represented a significant portion of the HET assets in the theater. When palletized or containerized freight, ammunition, general commodities, or small vehicles needed to be moved, the mission was passed along to the 100 M1075 palletized load system (PLS) trucks in the 1060th Transportation Company, a Massachusetts Army National Guard unit, and the 370th Transportation Company, an Army Reserve unit from Texas. Additional lift capability was provided by the 60 M915 tractors and M872 trailers of the 494th Transportation Company (Light/Medium Truck) from Fort Campbell, Kentucky. Bulk petroleum was transported by the Wisconsin Army National Guard's 1157th Transportation Company (Petroleum, Oils, and Lubricants) to units in the MND–B area of operations. None of these transportation support missions would have been possible without the convoy security assets provided by the two convoy security/gun truck companies assigned to the 867th CSB. A Battery,



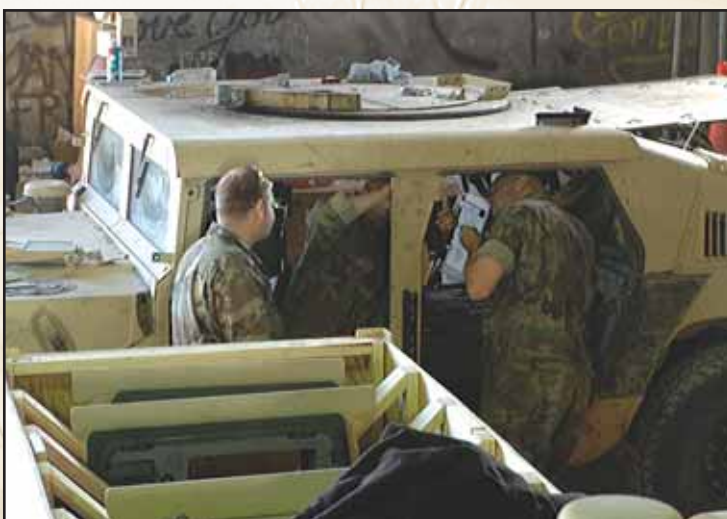
An aerial view shows Coalition Operating Base Hammer in Iraq. The 867th CSB provided transportation support in the development of the base, which was erected in support of the Baghdad Security Plan. (U.S. Air Force photo)

1–115 Field Artillery Battalion, Tennessee Army National Guard, and C Company, 1–34 Armor Battalion, from Fort Riley, Kansas, protected every convoy and Soldier that went “outside the wire” on a daily basis.

The 867th CSB also supervised the operations of the 169th Transportation Company as that company operated the Camp Taji consolidated receiving and shipping point (CRSP) yard. The 169th is a marine terminal cargo transfer company from Fort Eustis, Virginia, and its Soldiers facilitated the smooth loading, offloading, transshipment, receipt, and temporary storage of all classes of supply and equipment with their materials-handling equipment. This unit also had Soldiers assigned to other forward operating bases, where they performed arrival/departure airfield control group (A/DACG) functions and facilitated intermodal and transshipment operations into theater.

Executing the maintenance support needs of internal and external units in the battalion’s area of operations was a significant undertaking. The multifunctional 512th Maintenance Company from Mannheim, Germany, provided direct support maintenance, managed a supply support activity (SSA) with over 5,000 authorized stockage list (ASL) lines, operated the class I (subsistence) and Joint Service Lightweight Integrated Suit Technology (JSLIST) warehouses, and installed lifesaving up-armor at the Camp Taji Objective Frag 5 Kit production facility.

Finally, the Soldiers in the Headquarters and Headquarters Detachment (HHD) of the 867th CSB, from the Nebraska Army National Guard, served in the staff sections that coordinated the efforts of all of the battalion’s units and Soldiers. The tracking, reporting, tasking, prioritizing, scheduling, and advising performed by the Soldiers of the HHD provided the battalion and company commanders with the means to manage their vast resources and accomplish their missions.



Centralized Planning, Decentralized Execution

The battalion’s Soldiers worked as a team on every mission and drew from each other’s experiences and expertise to provide proactive combat service support to the maneuver commanders while simultaneously taking all possible measures to mitigate tactical and accidental risks. Every mission in the battalion was planned, resourced, rehearsed, and executed in the same fashion. Commanders and staff analyzed the mission to ensure effective use of carrying capacity. This process involved balancing requirements against capabilities, coordinating with movement control personnel and the supported organization, and proactively deconflicting any issues.

Execution of combat logistics patrols (CLPs) started when the gun truck and mission commanders received the mission. They then planned the route, prepared the vehicles, conducted Soldier and equipment precombat checks and precombat inspections, and conducted collective rehearsals. Every Soldier participated in a comprehensive mission rehearsal briefing at which all aspects of the mission were briefed and rehearsed. The CLP leaders attended an additional intelligence briefing with the battalion and company leaders to ensure that all route information, mission parameters, resourcing, and the concept of support were fully understood. Finally, each CLP conducted its own fragmentary order brief just before mission execution to update Soldiers on any changes to the mission and route conditions. Each CLP then proceeded on its mission, often operating for days on end. The battalion’s junior leaders (lieutenants and noncommissioned officers) made the mission happen.

To ensure success, the units in the 867th CSB worked collectively on every mission. Every CLP performed by the battalion involved multiple units within the battalion. The CLP mission commanders most often were staff sergeants or sergeants first class. The battalion could draw different combinations of platforms and crews from each unit assigned to the battalion as a CLP was organized. Combined with security elements from one of the battalion’s gun truck companies, each CLP was the result of detailed planning and teamwork.

As a self-contained organization capable of transporting every class of supply in theater, the 867th provided ground commanders in MND–B with seamless, flexible, timely, and responsive transportation support to meet the dynamic conditions of the battlespace. This forging of the

Soldiers install a Frag 5 kit on an M1151 high-mobility multipurpose wheeled vehicle.
(Photo by SPC Karly Cooper, 15th Sustainment Brigade PAO)



A Soldier with the 1687th Combat Heavy Equipment Transport Company checks the oil on his truck before departing Camp Taji, Iraq. (Photo by Sergeant Alexandra Hemmerly-Brown)

battalion's structural and functional attributes built interoperability, trust, and teamwork and enabled the unit to deliver the right commodity, to the right customer, in the right quantity, at the right time.

Quantifying Success

During the course of the 867th CSB's deployment, its Soldiers directly supported up to 11 combat brigades on a daily basis, executed over 2,000 transportation movement requests, and delivered all classes of supply on 2 million miles of what are the most dangerous roads in the world. On any given day, the battalion had as many as 500 soldiers and 230 vehicles out on the roads providing responsive transportation support. These Herculean efforts permitted the soldiers of the battalion to transport over 250,000 tons of cargo and 10,000,000 gallons of fuel to over 30 separate forward operating bases. The Soldiers were instrumental in transporting the concrete barriers into the city of Baghdad that were used to secure many of the new joint security stations and combat outposts.

The 867th also provided most of the life-sustaining transportation support to the newly created Coalition Operating Base Hammer, a combat brigade base constructed about 15 miles east of Baghdad to support the Baghdad Security Plan. In addition to its dedicated support to the MND-B, the battalion also performed missions in support of MND-North, MND-Central South, and MND-West areas of operations, repositioning combat power and supplies to meet the operational requirements of the Multi-National Corps-Iraq commander. Though the majority of the battalion's missions centered on transportation, numerous "Rawhide" Soldiers efficiently processed over 1,100 M1114 and M1151 high-mobility, multipurpose, wheeled vehicles through the Objective Frag 5 Kit production facility, thereby enhancing the survivability of their fellow Soldiers by installing lifesaving armor upgrades on their vehicles.

The Soldiers of the 867th CSB have much to be proud of. By receiving, storing, packaging, and distributing critical supplies and equipment to coalition

forces, they lived up to the battalion's motto, "Mission First, Soldiers Always." The battalion's command sergeant major, Command Sergeant Major Eli A. Valenzuela, once remarked during a mission commander intelligence briefing "that tough times and challenges do not necessarily build character, but, rather, tough times and challenges reveal character." The mission and accomplishments of the 867th's Soldiers revealed to every other Soldier in MND-B that the "Rawhide" battalion is made up of men and women of impeccable character and dedication to each other and to the Soldiers they support.

Drawing on their diverse backgrounds, experiences, and expertise, "Rawhide" Soldiers worked to leverage their different capabilities into a common effort to sustain the fight and strive for excellence in everything that they did. If the statistical metrics fail to convince the reader of the battalion's excellence, then just ask a "Rawhide" Soldier. He will tap his right sleeve and tell you that "we earn the right to wear this patch everyday."

ALOG

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15th Brigade Troops Battalion: Support the Action

BY FIRST LIEUTENANT STEPHEN J. YOUNG

Transformation brought a new, increased logistics capability to Army force structure: the sustainment brigade. Through the modular transformation, the sustainment brigade replaced division support commands (DISCOMs) and corps support groups (CSGs) to provide greater capabilities for logistics command and control on today's battlefield. This increased capability, however, required additional support to the sustainment brigade headquarters, whose administrative responsibilities go above and beyond those of the traditional headquarters and headquarters companies (HHCs) that were found in DISCOMs and CSGs. As a result, the Army created a brigade troops battalion (BTB) to perform administrative and support functions for each sustainment brigade.

The 15th BTB provides essential support to the 15th Sustainment Brigade headquarters in garrison and

while deployed. As the only organic unit assigned to the brigade, the 15th BTB oversees the brigade headquarters' administrative, medical, signal, maintenance, and life support needs so that the headquarters can focus on logistics support provided by the attached combat sustainment support battalions (CSSBs).

The 15th BTB was activated on 5 July 2005 at Fort Hood, Texas. Soldiers previously assigned to the 27th Main Support Battalion and the 1st DISCOM of the 1st Cavalry Division formed the foundation of the unit.

The Battalion in Operation Iraqi Freedom

In August 2006, the 15th BTB deployed to Multi-National Division-Baghdad (MND-B) to provide support to the 15th Sustainment Brigade for Operation Iraqi Freedom. Doctrinally, a BTB is composed of an HHC, which provides administrative,

A staff sergeant from the 410th Quartermaster Company inspects his Soldiers as they prepare to man guard towers that provide base defense at Camp Taji, Iraq. (Photo by 1LT Michael Sharp)





A Soldier from Bravo Company, 15th Brigade Troops Battalion, monitors the network from the Joint Network Node (JNN) shelter. The JNN provided a critical communication link among the 15th Sustainment Brigade headquarters, the 13th Sustainment Command (Expeditionary), and Multi-National Division-Baghdad.

(Photo by CPT Travis Brown)

company that included an organizational maintenance platoon, a component repair platoon, and a medical platoon.

The maintenance platoon operated a consolidated motorpool and was responsible for the organizational maintenance of over 100 pieces of rolling stock within the 15th BTB and its attached subordinate units. Alpha Company provided direct support maintenance to supported and attached units that lacked maintenance capability. These units included the 786th Quartermaster Battalion, several military transition teams supporting Iraqi Security Forces (ISF) at Camp Taji, and a movement control team from the 49th Movement Control Battalion. The company also operated the only functional sustainment-level component repair platoon within the theater.

The component repair platoon consisted of a fuel and equipment repair section and an intermediate family of test equipment section. These sections provided needed support to the numerous supply support activities at Camp Taji with starter and generator repair and circuit card diagnosis for M109 Paladin howitzers.

The company's medical platoon contributed to the health and welfare of Soldiers assigned to the 15th Sustainment Brigade and to all of Camp Taji and MND-B. Doctrinally, the platoon consists of treatment and evacuation squads that operate a battalion aid station that can support 400 personnel. While deployed, however, the medical platoon's role greatly expanded to operate a troop medical clinic, supporting over 2,500 personnel at Camp Taji with only one physician and one physician's assistant. Alpha Company performed this role due to the lack of an area medical support company at Camp Taji.

Alpha Company also contained personnel to staff and operate both a mental health clinic and an optometry clinic. The mental health team provided support to over 18,000 Soldiers at Camp Taji. Meanwhile, the optometry clinic provided area support to MND-B by providing preventive, routine, and acute optical care to over 35,000 Soldiers. As one of only three full-service optometry clinics in Iraq, the clinic had the capability to make prescription eyeglasses in its fabrication lab.

medical, and maintenance support, and a signal company tasked to provide communications and information systems support to the brigade headquarters. Shortly after activation, however, the 15th BTB realized the need to split the HHC into two companies. With over 350 Soldiers and multiple functions, the HHC span of responsibility exceeded the capabilities of just one company commander. As a result, the 15th BTB is composed of three companies: an HHC, a medical and maintenance company (Alpha Company), and a signal company (Bravo Company).

While deployed, the 15th BTB's HHC provided administrative and life support for over 230 Soldiers assigned to the 15th Sustainment Brigade headquarters element. The HHC managed all life support for Soldiers living in more than 10 separate locations and supervised the operation of the dining facility, which supported over 10,000 Soldiers a day. The HHC carried out a training management program to ensure that Soldiers maintained proficiency in warrior skills, military occupational specialty skills, cultural awareness, and sensitivity training.

Alpha Company at Work

Alpha Company provided maintenance and medical support to the brigade and the 15th BTB. With over 100 Soldiers, it was a multifunctional support

Bravo Company at Work

Bravo Company provided signal support to the 15th Sustainment Brigade headquarters and subordinate units.

With only 60 Soldiers, the company provided secure and non-secure communications for the brigade and powered the numerous automated combat service support systems that are vital to sustaining the warfighter.

Bravo Company's capabilities included a range extension platoon consisting of two command post node teams and a retransmission team. These teams attached to subordinate units of the 15th Sustainment Brigade that were geographically dispersed over large distances and gave them the ability to communicate with the brigade headquarters. Bravo Company supported the 393d and 68th CSSBs, which were located over 25 miles from Camp Taji. The network extension platoon also operated several systems, including the Joint Network Node (JNN), Ku-band satellite mobile unit, line of sight (LOS) radio, and Enhanced Position Locating and Reporting System (EPLRS). These systems provided full voice, video, and data services and satellite transmission to the brigade to enable communication with subordinate and higher headquarters. These systems were employed at Camp Taji, adjacent to the 15th Sustainment Brigade command information center.

Bravo Company also included a signal maintenance section, a communications and electronics team, and a network operations (NETOPs) section. Both the signal maintenance section and the communications and electronics team worked closely with the organizational maintenance platoon in Alpha Company and provided maintenance support to the brigade's communications systems, such as JNN and LOS. The NETOPs section worked closely with the brigade S-6 to monitor the brigade's network, ensure compliance, and troubleshoot problems when they arose.

Securing the Camp

In addition to providing support to the brigade headquarters, the 15th BTB performed two additional missions during the deployment to Iraq: base defense at Camp Taji and ISF assistance. After deploying to Camp Taji, the 15th BTB was tasked to assume command and control of the largest portion of the base defense of Camp Taji. Executing this mission required over 220 Soldiers daily and covered the most dangerous section of Camp Taji's perimeter, which included 18 guard towers and 2 entry control points bordering Main Supply Route Tampa. To accomplish this mission, the 15th BTB was assigned two additional companies: the 410th Quartermaster Company (Kentucky Army National Guard) and the 1157th Transportation Company (Wisconsin Army National Guard). These two companies increased the total strength of the 15th BTB to over 700 Soldiers.

While conducting base defense, the 15th BTB's area defense operations center and base defense assets

fell under the tactical control of the base defense operations center (BDOC) run by the 1st Battalion, 82d Field Artillery Regiment, and Camp Taji's senior tactical commander. This required the 15th BTB to execute the tactical orders of the BDOC while on the battlefield; however, all other command and control and support functions were the responsibility of the 15th BTB. To facilitate this command relationship, the 15th BTB worked closely with the BDOC to ensure seamless command and control and unity of effort. Over 35 15th BTB Soldiers were awarded Combat Action Badges for engaging with enemy forces while conducting base defense operations.

In order to enable ISF to take the lead in securing Iraq, the 15th BTB created an ISF cell that partnered with the military integration and transition teams assigned to the Taji Regional Support Unit, the Taji National Depot (TND), and the 6th Motorized Transport Regiment. The 15th BTB ISF cell provided coaching, teaching, and mentoring for the TND and assisted Multi-National Security Transition Command-Iraq in enhancing the Iraqis' logistics operations. This effort included processing more than 600 containers of class IX repair parts that were received as part of the Coalition Forces' military support package and from foreign military sales to the Iraqi government. The 15th BTB ISF cell was assigned the mission of standing up a warehouse for the receipt, storage, and issue of U.S. military equipment repair parts for the Iraq National Class IX Warehouse. The 15th BTB ISF cell also worked as a liaison between the 15th Sustainment Brigade staff and the TND to ensure the warehouse had the resources required to rapidly develop the unit's capabilities. This included equipment and technical support to the military integration and transition teams assigned to support the TND. The 15th BTB placed great importance on supporting the training and equipping of ISF logistics units to be self-sufficient.

While deployed to Iraq, the 15th BTB provided exceptional support to the brigade headquarters and conducted the additional operations of base defense and ISF support. It was a time of many firsts for the unit as it contributed to defining the new roles and responsibilities of a BTB. Most importantly, however, the 15th BTB provided world-class support to the 15th Sustainment Brigade and allowed it to complete its wartime mission.

ALOG

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The Sustainment Brigade General Supply Office in Iraq

BY MAJOR ARCHIE S. HERNDON, JR.

The success of the 15th Sustainment Brigade's general supply office in supporting operations on an asymmetrical battlefield was due to collaboration among logisticians at different levels and in different units.

Today's logistician must combine the lean logistics typically associated with distribution management with the vigor of an agile, responsive support structure. The ability to survive on the asymmetrical battlefield requires onhand stocks and a strong distribution system. Strains placed on the distribution system at the tactical and operational levels require that supply hubs, or forward operating bases, maintain stocks or days of supply. The task of managing the stocks belongs to the general supply office (GSO) within the sustainment brigade. The GSO has taken on the monumental task of replacing the division materiel management center and the corps materiel management center of the legacy Army.

Operation Iraqi Freedom (OIF) 06–08 brought together nine brigade combat teams (BCTs) in support of Multi-National Division-Baghdad (MND–B) and four additional BCTs in support of the new Multi-National Division-Center (MND–C), which was created for the Baghdad Surge. Only three of these brigades were from Fort Hood, Texas, the home of the 15th Sustainment Brigade and the 1st Cavalry Division. The task organizations of these BCTs ranged from airborne battalions to combined arms battalions. The flexibility needed for

each maneuver commander's success compelled the 15th Sustainment Brigade's GSO to collaborate with the brigade support battalions' support operations officers, the 13th Sustainment Command (Expeditionary) staff, and the division logistics staff of the 1st Cavalry Division.

The challenges facing the GSO ranged from managing nine authorized stockage lists (ASLs) to overseeing multimillion-gallon fuel farms. The true challenge, however, was forecasting the needs of the brigade support battalions (BSBs) and projecting those resources forward. The Army's expectation is that the BSBs will have the resources available to support the warfighter, and that can only be accomplished by pushing the needed stocks as far forward as possible.

Collaboration and Communication

In addition to its responsibilities as the brigade's Routing Identifier Code-Geographic (RIC–GEO) manager, the GSO is the subsistence and bulk petroleum manager for up to two divisions. The reality of this responsibility became especially clear in supporting the fight in the heart of Iraq. The challenges of supporting MND–B and MND–C demonstrated that collaboration

among the BSBs, combat sustainment support battalions (CSSBs), and the 15th Sustainment Brigade was the key to meeting the warfighter's needs.

Collaboration throughout the tactical and operational supply levels provided the logisticians with a picture of the capabilities and requirements of the troops in the fight. Within MND–B and MND–C, the 15th Sustainment Brigade received reports from 13 BSBs and 3 CSSBs. The open communication between the supporting and supported units was vital to "right sizing" stockpiles at forward operating bases.

A 15th Sustainment Brigade Soldier watches the unloading of water onto the back of a truck.



Flexible Supply Management

Why was maintaining stocks on hand in a system that prides itself on distribution still critical to the success of Army logistics? The answer was simple: the enemy still had a vote. MND-B and MND-C brigade supply hubs maintained multiple days of supply for most basic commodities. Fuel, for example, was maintained at 5 days of supply. This was important because of the uncertainty of route conditions, weather conditions, and operational needs. Maintaining a minimum amount of stocks on hand provided the logistics commanders at each level of the supply chain with a certain amount of flexibility that was not available through strict adherence to a distribution-based supply system. The bottom line was that too many variables affected the ability of the distribution networks to support “just in time” logistics.

The diversity of the organizations supported at the BSB level has expanded to include units outside their organic brigades. Using main support battalions to provide area support to nondivisional units in the division area is no longer possible. The BSB has evolved into an area support organization responsible for supporting not only its brigade but also any unit within the brigade’s footprint. This has brought a set of challenges of its own. Changing task organizations and supporting units that are not part of the brigade’s task organization have expanded the focus of BSB support operation officers to include enforcing supply discipline policies to those non-task-organized units. The 15th Sustainment Brigade, especially the RIC-GEO manager within the GSO, also felt these challenges.

The high operational tempo within MND-B and MND-C presented unique challenges to the RIC-GEO manager. BCTs were not pure and often consisted of company-level units from other BCTs. Another challenge was the frequency at which task organizations changed to meet the needs of the operation. Without aggressive policies, the potential existed for gaps in support to appear. The 15th Sustainment Brigade reduced that potential by using “home station” policies while deployed in the heart of Iraq. Tasks like managing the materiel review file (MRF) and the overaged repairable item list (ORIL) and controlling degree code violations required aggressive procedures to prevent substandard performance. The 15th Sustainment Brigade maintained the lowest ORIL percentage within Iraq by exceeding set policies. Policies within Iraq required monthly ORIL reporting; the 15th Sustainment Brigade reported the ORIL daily. This provided visibility to the MND-B commander, the BCT commanders, and the commanders of separate units within the 15th Sustainment Brigade’s area of operations.

The 15th Sustainment Brigade installed equally aggressive procedures for managing the MRF and degree code violations. These procedures required daily review and reporting. While much was done at the brigade, the success of the program should be credited to the collaborative effort between the RIC-GEO manager and the support operation officers within MND-B BSBs. While the aggressive procedures used to manage the MRF, the ORIL, and degree code violations certainly proved effective, it was apparent that collaboration and leader involvement were the keys to success. Regrettably, this success was less apparent in the performance standards of non-task-organized units within the supply support activity. This was especially challenging for the CSSBs operating within MND-B and MND-C.

The modernization of the Army’s supply system has empowered organizations by providing near-real-time data to leaders throughout the battlefield. Collaboration among different supply managers at all levels has increased the responsiveness of the supply system, but it has not eliminated the need to maintain practices used throughout history. The mountains of parts often referred to during Operations Desert Storm and Desert Shield in 1990 and 1991 have certainly been reduced in OIF, but the reliance on stocks positioned forward at brigade hubs has not. The role of the GSO within the sustainment brigade has increased, and the management tools available empower it to respond to, and even forecast, the requirements of the warfighter. These capabilities are magnified when used in concert with a collaborative environment.

Collaboration has become as critical to the logistician as “parallel planning” has to the tactician. Information technology, open communications, and healthy cooperation among logisticians have propelled collaboration to an entirely new level. Logistics has always set the operational limits on the battlefield. The collaborative efforts of multilevel logisticians, combined with information technology, have raised those operational limits and multiplied the responsiveness of the supply system. **ALOG**

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Bullets in Baghdad: Ammunition Safety in a Combat Environment

BY MAJOR LEVORN S. COLLINS

Large ammunition stocks are vital to sustaining combat operations, but they also create the potential for disastrous accidents. Ammunition specialists in theater thus become enforcers of safety as well as combat multipliers.

More powerful than a locomotive and faster than a speeding bullet! No, it's not Superman, it's the Army's ammunition specialist, military occupational specialty (MOS) 89B, as he protects lives—not to mention valuable Army materiel and property—by enforcing ammunition safety in the Multi-National Division-Baghdad (MND-B) area of responsibility (AOR). As the mission in Iraq continues, leaders and Soldiers have combined their efforts to identify and develop plans to mitigate ammunition accidents. After 4 years of combat operations, ammunition continues to accumulate, and ammunition safety has become an area of major importance.

Reducing Net Explosive Weights

In Iraq, ammunition managers have emphasized the reduction of net explosive weights by getting rid of unserviceable ammunition or dunnage that add to the potential for explosions. Leaders have striven to maintain levels of ammunition based on operational needs rather than basic load authorizations. Although troops have made tremendous progress in reducing net explosive weights, Soldiers understand that additional work is required.

Soldiers contribute greatly to the safe use of munitions when they reduce the net explosive weight of the ammunition stocks in ammunition transfer holding points (ATHPs). They accomplish this reduction by identifying and retrograding excess ammunition from ATHPs. During their deployment to Operation Iraqi Freedom 06-08, ammunition specialists of the 15th Sustainment Brigade spent countless hours accepting turn-ins, taking inventories, reconfiguring loads, finalizing inspections, and coordinating the shipment for over 8 million rounds of ammunition to supply points. In reducing net explosive weights, these 89B Soldiers returned many infrequently used, high-explosive rounds that were no longer required for mission accomplishment.

Improving Ammunition Sites

Another initiative undertaken by 15th Sustainment Brigade ammunition specialists was making site

improvements to ATHPs. In the wake of an explosion, senior leaders performed site visits to all munitions storage sites throughout the MND-B AOR. A common point of emphasis during the visits was the need to emplace HESCO (Hercules Engineering Solutions Consortium) barriers, which are constructed to provide blast protection. These fence-and-barricade systems, wrapped with a nonwoven polypropylene fabric, generally burn slowly if ignited. These barriers (which extend at least 1 foot above the tops of storage containers) are positioned around the perimeters and between the storage cells of all ammunition storage facilities.



Members of the explosive safety team from the Defense Ammunition Center assist ammunition managers in Iraq.

Brigade ammunition specialists also focused on storage procedures. In addition to ensuring that appropriate fire and chemical warnings were posted, the 89B specialists made certain that all storage sites were free of flammable items, such as solvents and petroleum products. The specialists then reevaluated the inner and outer packaging of all ammunition,



Soldiers of the 63d Ordnance Platoon and A Company, 92d Engineer Battalion, add HESCO barriers to the Liberty ammunition holding site in Baghdad.

discarded any unserviceable cases, and updated magazine data cards to maintain accountability. After this process was completed, ammunition managers certified that they had marked all packages with the proper national stock numbers, identification codes, and lot numbers of the materiel they contained. In completing site improvements, Army engineers extended boundaries and outer perimeter walls, which reinforced the safety and protection of the storage areas.

Receiving Outside Assistance

The quality assurance specialist-ammunition surveillance (QASAS) is an Army civilian who acts as a combat multiplier with relation to ammunition safety. During the past year, a QASAS completed routine site assistance visits in the MND-B area. In doing so, he worked side by side with the brigade's ammunition specialists, providing technical and policy advice on ammunition management. He also verified the storage configurations and compatibilities of all shipping containers. If ammunition malfunctions occurred during use or setup, the QASAS provided feedback to the Joint Munitions Command for immediate dissemination to major subordinate commands.

Also during assistance visits, the QASAS monitored cell explosive limits, ensuring that units maintained the authorized net explosive weight of 8,800 pounds per cell. Other areas of emphasis during visits included verifying the unit's on-hand balances of authorized basic loads and validating their requisitions against the theater's controlled supply rate. The QASAS ensured that site managers were conducting risk assessments, that Soldiers had personal protective equipment, and that an effective system for firefighting practices was in place. The QASAS proved to be a reliable asset.

To wrap all initiatives together, and at the request of theater leaders, the Army's Defense Ammunition Center at McAlester, Oklahoma, sent its explosive safety team into the theater of operations. The team assisted ammunition managers in calculating net explosive weights, reviewed public traffic routes and distances to inhabited buildings, and provided advice to MND-B leaders about which ammu-

nition sites should be awarded licenses or waivers for operations. As the team progressed from site to site, the ammunition specialists listened to and recorded recommendations provided by the ammunition experts.

On-site assistance was incorporated into an ATHP expansion plan that was under construction. The team also discussed the proper standoff distances from storage containers to HESCO barricade systems and the different mechanisms used to increase security. One security method, the two-lock system, recommends that the unit owning the ammunition individually secure its containers and then allow the site managers to apply a different locking system. After 2 weeks of walkthroughs by the explosive safety team, all units in the MND-B area had received both standard and relative guidance needed to maintain or achieve ammunition compliance.

As units continue to operate in the MND-B area, ammunition safety remains a top priority, and the ammunition specialist has the lead in this enormous task. The retrograde of excess ammunition, the implementation of site improvements, the incorporation of the QASAS into safety plans, and the use of Department of the Army experts will all facilitate ammunition safety in a combat environment. **ALOG**

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Medical Operations in the Sustainment Brigade

BY MAJOR BONNIE H. HARTSTEIN

The 15th Sustainment Brigade operating in Multi-National Division-Baghdad was one of the first sustainment brigades to deploy to Iraq. While this new unit evolved out of the former division support command (DISCOM), it has substantially fewer medical assets than a DISCOM, and its medical mission is different. This poses unique challenges for planners and medical providers.

While the DISCOM, with its main and forward support battalions, had robust level I (sick call and emergency stabilization) and level II (laboratory, x ray, pharmacy, medical hold, and medical supply) assets, the sustainment brigade's organic medical treatment assets are comparable to those found in an infantry battalion. The sustainment brigade's total organic medical assets are within its headquarters element: a brigade surgeon section and a medical platoon. The brigade surgeon serves as special staff to the brigade commander and oversees the two surgeon sub-sections: medical plans and operations and medical logistics and sustainment. With the mission of providing level I care to approximately 400 personnel in the headquarters section, the medical platoon is composed of a treatment squad (with one doctor, one physician's assistant, two medical sergeants, and five medics) and an ambulance squad (with two ambulance teams and four medics).

When the sustainment brigade deployed and assumed command and control of numerous other battalions, its numbers increased to several thousand. Most of the units did not have medics, and none had medical providers (physicians or physician's assistants) or medical equipment. Coordinating for level I and II care for these troops posed the first of many challenges for sustainment brigade medical planners.

Medical Support Command

The medical support command (MSC) is the organization responsible for providing support to units, such as the sustainment brigade, that do not have sufficient internal medical assets and for providing theater level III (combat support hospital) medical support. Within the MSC, units can deliver all facets of theater medical care

and logistics. The MSC and the sustainment brigade have a synergistic relationship and, by doctrine, the potential for a command relationship. The sustainment brigade moves medical supplies for the medical command and provides area logistics support to MSC units. The MSC is designed to augment medical care in the sustainment brigade with additional personnel or by positioning area support medical companies to provide level I and II care, medical logistics battalions, preventive medicine assets, and optometry and mental health services.

Evolving from the former DISCOM, some sustainment brigades retained pieces of the equipment and personnel that are no longer true parts of the sustainment brigade modification table of organization and equipment (MTOE). The 15th Sustainment Brigade is an example of a sustainment brigade in transition. Located at Camp Taji, Iraq, the 15th Sustainment Brigade initially provided forward operating base- and area-level optometry support and mental health services using assets formerly assigned to the division. These services were not carried over in the restructured MTOE and were therefore contracted through the

A Soldier prepares an Anthrax shot for one of many Soldiers receiving their vaccinations.



The brigade surgeon listens to a Soldier's lungs.

MSC during the transition of authority planning. The brigade medical platoon's mission was to provide level I medical care to sustainment brigade Soldiers at Camp Taji—a population of approximately 2,500.

Challenges

Soldiers serviced by the MSC were located at many different bases within Iraq; these bases relied on several different aid stations for medical care. This made the 15th Sustainment Brigade surgeon section's requirement to provide medical oversight and planning a unique challenge. Tracking disease and nonbattle illness trends, ensuring preventive medicine measures were in place, and keeping abreast of Soldiers placed on medical profile and evacuated to higher levels of care were made more difficult by the geographic dispersion.

Approximately half of the brigade's over 4,000 Soldiers were collocated with the brigade headquarters element at Camp Taji. Level I care was provided by the organic medical platoon without augmentation, stretching resources allocated for a smaller population. Moreover, the medical platoon had the important and labor-intensive mission of training nonmedical Soldiers to be combat lifesavers. Since medics are not assigned to most sustainment brigade battalions, the combat lifesaver (the nonmedical Soldier with first aid training) is the first medical responder on sustainment brigade logistics convoys, which travel dangerous roads in the combat zone. A 40-hour course must be completed to receive initial combat lifesaver certification, and an 8-hour recertification course must be completed annually.

Combat brigades, similar in size to sustainment brigades, have dedicated level II facilities with additional providers and services, such as laboratory, x ray, medical hold, and dental care. At Camp Taji, the 15th Sustainment Brigade relied on the assets of the 1st Brigade, 1st Cavalry Division, level II facility. The brigade combat team (BCT) C Company (medical) is often the unit that provides level I and II care for the collocated sustainment brigade in lieu of an area support medical company. Sustainment brigade planners should take into consideration the possibility that the BCT's primary responsibility is to support the division and that, if the mission dictates, the BCT could move locations. When sustainment brigade units rely on BCT



assets, a lack of medical coverage for the sustainment brigade can result.

If no level II facility is located in the area of operations, additional personnel from the MSC may be added to the sustainment brigade's treatment platoon to augment organic resources to provide some level II services, such as laboratory and x-ray capabilities. This was the case with the 45th Sustainment Brigade operating in northern Iraq, which ran a level II facility at Forward Operating Base Q West with the addition of a healthcare provider, laboratory technician, and radiology technician from the MSC. However, even with these additional assets, the staffing level and capabilities were still less than those of a BCT medical company that runs analogous level II facilities in theater. This adaptive ability of the sustainment brigade to become a level II facility will diminish as the sustainment brigades mature and shed additional equipment left over from the DISCOMs.

The 15th Sustainment Brigade deployed to a theater with established levels II and III medical support. In future conflicts, close coordination between the sustainment brigade and the MSC will be crucial to ensuring area medical coverage is in place for all deployed Soldiers and determining if it makes sense for the sustainment brigade to have operational control of these units.

ALOG

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The Top 10 Lessons I Relearned as a Sustainment Brigade Planner

BY MAJOR GABRIELLA M. PASEK

MDMP—the military decisionmaking process. For most Soldiers, this acronym sends a shudder down even the strongest of spines and is almost as despised as vegetables are to a small child. But I am a planner—not a designation that many people will voluntarily admit to out loud—and MDMP is the cornerstone of what I do. So, when I learned that I was being assigned as the Chief of Plans for the 15th Sustainment Brigade during its Operation Iraqi Freedom (OIF) 06–08 rotation, I felt confident that I knew what my job would entail and what my brigade commander would expect from me and the sustainment brigade plans shop over the next year. Little did I know that my knowledge toolkit—built over 15 years of plans assignments, logistics jobs, and deployment experiences—would get strewn all over the Iraqi desert when I arrived in country. I would have to reorganize and develop a new strategy for facilitating all of the nonstandard and unfamiliar mission requirements that were in our purview.

Planning logistics support in conjunction with the many levels of headquarters in Baghdad was a challenge comparable to the day-to-day changes that occurred in the summer of 1995 as the 1st Armored Division planned its deployment to Bosnia-Herzegovina. Just as the task, purpose, force structure, and unit movements were constantly in flux for the Implementation Force (IFOR) mission, many surprises and last-minute modifications arose while supporting the OIF 06–08 Iraq rotation and Baghdad surge operations and while preparing for future force rotations. Determining unit locations and compositions, facilitating mission realignments, synchronizing transportation and commodities requirements, and managing and prioritizing multiple force structure requirements across three Multi-National Division-Iraq areas was an ongoing and exciting challenge. This was especially true when coupled with the need to remain tied to combat operations across multiple division boundaries in and around the Baghdad operational environment.

Transitioning from the “execution” focus required in my two previous key developmental jobs to the “planner” mentality needed in my OIF staff assignment required me to revisit and rapidly apply everything I had learned. From the many important “gems of wisdom” in my arsenal, I have selected a few that

I found to be most critical to developing a successful planning team from scratch. These keys to success can be applied by anyone in a leadership or staff position because planning and the step-by-step thought process that it involves (no matter how abbreviated) is ingrained in everything that we do. Many of these tips may be considered “no brainers”—common sense approaches to getting a job done. However, they also are so simple that they can easily be overlooked or forgotten by even the most experienced warrior-leader. So, to assist you in your future endeavors, remember these 10 important steps.

10. Assess, teach, coach, mentor, and motivate your team. One of the challenges felt by many units going through transformation is resourcing personnel for new or transitioning headquarters. In the case of the 15th Sustainment Brigade, many of the plans shop positions were not filled until shortly before the unit’s deployment, limiting the training opportunities to assess the strengths and weaknesses of the team and to train as a section before we arrived in country. Yet, we needed to hit the ground running and adjust our organization as the skills and capabilities of each person became evident. The team’s overall success depended on everyone working together and contributing equally to the mission at hand. Setting priorities, standards, and expectations up front ensured that everyone knew what his responsibilities were. Since the strength of most military occupational specialties within the shop was only one-deep, each Soldier was responsible for cross-training the rest of the section in his area of expertise to ensure that the shop could develop products in his absence. This improved everyone’s briefing abilities, increased confidence in each other’s technical skills, and built a cohesive esprit de corps in the shop.

9. Go back to the basics. For a planner, the trinity of products making up the MDMP—mission analysis, course-of-action development, and decision briefings—must be kept in a place of importance in everyday business. Even if only applied in the abbreviated form, MDMP is a mindset, a thought process, and a path that leads a planner through a problem step by step, ensuring that all critical points are covered or selectively weeded out. Therefore, it is critical to train everyone in the shop on planning doctrine, specifically the MDMP, in order to ensure a baseline standard for

all future analyses. Since the plans shop has only one authorized battlestaff slot, the training plan must have the goal of making all plans shop personnel comfortable in applying MDMP concepts so that they can hone their skills during predeployment preparations. We validated the need to understand the MDMP because, many times during our deployment, the plans shop analyzed multiple complex issues simultaneously. This would have been a daunting task if we had not taken the time to conduct MDMP training as soon as we came together as a team.

8. Learn who the key players are, take time to meet them, and stay in contact. Synchronizing logistics to support a combat operation can only be accomplished through open and frequent discussion with other planners and logisticians at all echelons. When put into a new operational environment, I strongly advocate taking time to conduct a face-to-face meeting with your planner counterparts. Putting a face to a name creates a more cooperative work environment. It also makes it more difficult for someone to say “no” to you. Phone calls, email conversations, shared briefings, and information “sanity checks” with the staffs of supported headquarters, our higher headquarters, our sister sustainment brigades, and our six subordinate battalions were daily occurrences for the 15th Sustainment Brigade plans staff. You must serve as the logistics “ambassador” to pass unit requests and requirements, tactfully ensure that issues are raised to the proper levels, and ensure that the lines of communication remain open. Ensuring cooperation and maintaining good working relationships among headquarters are always preferable, especially when planning in a combat zone.

7. Know (and show) your references and sources of information. Establishing the credibility of a plans shop depends not only on presenting a professional-looking product but also on backing up your recommendations with well-thought-out analysis and validated data from reliable sources, not just quotes from the most popular of the “pronoun people” better known as “they.” The products that you create not only will serve to guide current sustainment operations but also will be valuable reference tools for future rotations.

When the 15th Sustainment Brigade arrived in Iraq, many briefings and products from previous rotations were handed down to the plans shop during our transition. However, in many cases, we were unable to decipher the “why” behind the analysis and the final recommendations because we had no understanding of the initial guidance given. A fragmentary order (FRAGO), the written translation of mission planning, immediately lays out the references that were used to develop the plan. So, why would you not include something similar as part of any briefing or product

that your shop creates? When in doubt, ask the planner to “show me the ‘reg’ on that!”

6. Maximize the use of the enablers that you control. Just as combat brigades receive additional special skills forces and equipment to assist in conducting their missions, a plans shop is also given tools to accomplish its tasks. As a planner, the most critical enablers that you directly influence are the minds of the planning staff—the nontangible skills and expertise of the Soldiers working for you. You must ensure that they apply their current knowledge to make the team’s products the best possible, while at the same time challenging them to think outside the box and expand their abilities in less familiar areas.

The physical enablers within the plans shop are the unclassified and classified computers. Although considered “standard issue” items and an irritation to many in the field, your computers are an important and powerful weapon when your Soldiers know how to employ the systems’ many functions. In the current electronic environment, data management skills are a definite requirement in maintaining your sanity as a planner. Common office programs, such as Internet search engines, spreadsheet and slide presentation software, and logistics estimate calculators, are used daily and serve to help you present a well-researched, clear, and concise product.

5. Products must “speak” for themselves. As the saying goes, “a picture is worth a thousand words,” and, in the course of creating a presentation or briefing, you must be a master artisan in the art of digital communication. A planner’s ability to fluidly depict his data, thought processes, and the rationale behind a recommendation is a critical key to success. The audience must be able to quickly understand the data in its final presentation. Each slide should be able to stand on its own and answer more questions than it makes the viewer ask. It does not matter how much great information you may have if it does not make sense to anybody else. And always remember to KISS—keep it simple, Soldier!

4. Creativity and common sense must be in the forefront of everything you do. Annually, the School for Advanced Military Studies at Fort Leavenworth, Kansas, turns out a graduating class of officers trained on a curriculum that, as stated in the school website, focuses on “the military art and science of planning, preparing, and executing full spectrum operations.” The rest of us develop our skills in the school of hard knocks, otherwise known as “on-the-job training.” Yet, regardless of where you have cut your planning teeth, it is crucial to remember that your analysis must still be based on current doctrine with an additional element of creative solutions to the problem set. Many times, a standard, cookie-cutter solution will not work, especially in a complex operating environment such as Baghdad. It takes imagination, inspiration, ingenuity,

and a planner's own resourcefulness and street smarts to come up with a vision that can be executed. And remember: Just because someone is not doing it the way you would, does not mean they are doing it wrong; they just have different experiences and perspectives that they are drawing from to facilitate a solution.

3. Be flexible, and accept that every day will bring new challenges. Each day in Iraq brought fresh requirements and missions that I had never imagined a plans shop would face. For example, I have learned more than I ever thought possible about human resources and finance transformation, which are new sustainment functions. From a more standard perspective, the planning section's missions involved tracking the ongoing combat force structure and battlespace realignments; constructing and sustaining joint security stations, combat outposts, contingency operating bases, and forward operating bases; providing crisis management for DUSTWUN [detained U.S. troop(s), whereabouts unknown] and other recovery operations; reacting to interdiction of lines of communication on the routes and bridges in and around Baghdad; and conducting a force structure analysis to determine requirements for future logistics force rotations.

Understanding the Army's modular force structure suddenly becomes personal when the plans shop must determine how to resource capabilities with units on vastly different rotational schedules and correctly apply the rules of deployment and employment for each unit's component of service. And the planners must do all of this with the full understanding that the requirements will change again tomorrow. So, the planner must constantly remain in tune with the higher and supported headquarters' direction forward and be a willing participant in late night sessions of gazing into a crystal ball, cracking open a few fortune cookies, and loudly reciting the planner's motto: "Semper Gumby!"

2. The only stupid questions are those you do not ask. Do not let your pride get in the way of self-improvement or producing the best product possible. Asking well-thought-out questions gives you the opportunity to revisit or get clarification on the expected standard or on command guidance. Asking questions is also a way for you as a planner to get others thinking about the "why" and the second and third order effects of a problem or solution to a situation. It also provides subordinates with a low-threat opportunity to also ask for further guidance. So often the solution to a problem is staring you in the face, but either you are too close to the issue to see the solution or too fixated on how a problem was solved previously to come up with alternative solutions. Asking questions exposes any misunderstanding of requirements, improves your staff's abilities to evaluate issues, and guides them to more realistic expectations for a final product.

1. Every day, ask yourself what it is I can do that will contribute. Fifteen years ago, in my first assignment with the 1st Armored Division, I had the pleasure of working closely with Brigadier General John VanAlstyne, who was our assistant division commander for support. During his farewell luncheon, he gave us his thoughts about military service as well as a view of combat service support from a combat arms perspective. He closed his comments with this challenge that applies to all of us, regardless of branch: Be committed as a Soldier to making a difference in other peoples' lives, to the Army, and to the world every day. As a planner, your contribution to the fight is behind the scenes and will never be as overt as the actions of Soldiers out on the battlefield. Yet, what you accomplish daily and the products you create are no less valuable to the overall success of your unit and the mission at hand. It is the internal recognition of this accomplishment that will bring you a sense of personal and professional satisfaction at the end of the day after performing what is generally considered a thankless job.

Planning for combat and sustainment operations is serious business. Combat forces may be the "tip of the spear," but, as a planner, you are the warrior who aims where it will strike. In the words of Mao Tse-tung, "Since 'preparedness ensures success and unpreparedness spells failure,' there can be no victory in war without advance planning and preparations." However, in the ever-fluctuating, socially and geopolitically sensitive environment of Iraq, few plans have been executed exactly as originally written and some have never been put into motion because the perfect time and conditions for action never materialized. So, perhaps General George S. Patton, Jr., said it best: ". . . a good plan violently executed now is better than a perfect plan next week."

My goal in presenting these lessons "relearned" has been to provide another perspective from the forward foxhole on conducting business in your area of expertise, thus helping you bring your Soldiers together as a cohesive planning team and offering a new paradigm for creative problem-solving Army-style. In this world of contingency planning, there are three kinds of people: those who make things happen, those who watch what happens, and those who wonder what happened. As an Army planner, which one will you be? **ALOG**

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Logistics Warriors

BY COMMAND SERGEANT MAJOR MARK D. JOSEPH

I am very proud of the Soldiers of the 15th Sustainment Brigade. They did an outstanding job of “Supporting the Action” in Iraq. During their deployment, the 4,000-plus Soldiers of the brigade ensured that both U.S. and Coalition forces throughout Iraq had the food, ammunition, fuel, maintenance support, equipment, and repair parts they needed to take the fight to the enemy and sustain the force. They also provided medical, financial, and personnel support to the force.

The 15th Sustainment Brigade sustained Multi-National Division-Baghdad (MND-B) by providing supply-point and unit distribution for all classes of supply. We also provided direct support to other units throughout our area of operations. The brigade’s subordinate battalions included the 15th Brigade Troops Battalion, 15th Personnel Services Battalion, 15th Finance Battalion, 68th Combat Sustainment Support Battalion, 541st Combat Sustainment Support Battalion, 867th Corps Support Battalion, and 786th Quartermaster Battalion. Our Soldiers showed continuous enthusiasm for being in Iraq and helping to make a positive difference. When news arrived that their time in theater had been extended, they continued to move forward, and the mission remained their top priority.

What continued to surprise me was that these Soldiers were required not only to be proficient in their logistics or personnel military occupation specialties, but, because of the ever-changing environment of Iraq, they also had to bear a share of the mission’s combat burden. These Soldiers were truly “Logistics Warriors,” even as they continued to be multifunctional at all assigned missions.

The brigade’s officers, noncommissioned officers (NCOs), and Soldiers played a critical role in ensuring the success of numerous combat operations. On a daily basis, our Soldiers put their training to the test and traveled some of the most dangerous roads in the world to ensure that first-class support was provided to their brothers and sisters in arms. These Soldiers were logistics heroes. They conquered the treacherous routes traversing their area of responsibility and provided the essentials to our most lethal combat platform, the Soldier. Our logisticians were entrusted each day with operating and maintaining millions of dollars worth of equipment that had a direct impact on combat operations. Logistics officers, NCOs, and Soldiers put a lot of their previous experiences and talents to work.

As I traveled our battlespace visiting our troops, they always amazed me with their understanding of the significance of their contributions to the fight and the importance to the warfighter of performing their mission well. It was a true team effort. I like to use a football team as the analogy for our role. We were like the offensive line: We may not have gotten all the glory, but we were an important part of what the team needed to win. If we were not successful at what we did, then the whole team would suffer.

Our Soldiers provided maintenance support and vehicle enhancements. They provided transportation of all classes of supplies and services. They operated central receiving and shipping points (CRSPs) and arrival/departure airfield control group terminals. Along with Airmen, they operated Army post offices and managed personnel support. They conducted forward operating base security and convoy security escorts. They operated one of the largest ammunition supply points in the theater. And they provided showers and dry clothing repair and acted as mayor of a forward operating base.

The advantage that the logistics warriors bring to the fight is the will to work until the mission is accomplished while constantly improving on their tactics, techniques, and procedures. While visiting one of our CRSP yards, I was impressed to hear that an NCO had drafted an idea that would decrease the upload and download times of the units delivering cargo. This new arrangement would alleviate an ongoing problem and increase efficiency in the yard. The idea was based on his experience on a previous deployment. After I had received a briefing on this, I realized that our young Soldiers know what right looks like, what works and what doesn’t work.

These young warriors are the continuity within our ranks and have experienced multiple ways of running logistics facilities and systems, so they know and understand what the right fixes are for a particular problem. The logistics warriors of the 15th Sustainment Brigade bring a variety of experiences to ensuring the success of the day-to-day fight.

ALOG

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Is There an Optimum Point for Refurbishing Army Vehicles?

BY FIRST LIEUTENANT JAMES B. HAMLETT

The 336th Transportation Group (Forward) conducted a study to determine the point in a vehicle's life when the value of a refurbishment at or above the -20 level is maximized. [Maintenance at or below the -20 level is performed by unit mechanics.] Our expectation as we began the study was that a refurbishment would curb the rapid escalation in cost and frequency of repairs and extend the usable life of the vehicle. To explore this hypothesis, I collected data from the CALIBRE Integrated Logistics Analysis Program (ILAP) support office at Camp Arifjan, Kuwait, and data from the 336th Transportation Group's Unit Level Logistics System-Ground (ULLS-G) computer. [CALIBRE is a management and technology services company serving the Army and the other services.] I aggregated the data from both data sets, matching dates, mileages, repair costs, and days down for the M1114 up-armored high-mobility multipurpose wheeled vehicle, M915 truck, and M1070 heavy equipment transporter truck.

To test the hypothesis, I built a simple time/value microeconomic model, where mileage represented time on the x-axis and both days down and repair cost represented value on the y-axis. I created a scatter plot for each vehicle type and added a trend line to clarify patterns in the data. I also conducted a regression analysis for the parts cost only to determine the relationship between percent change in repair cost with respect to mileage.

I expected repair costs to increase gradually early in the vehicle's life. I also hypothesized that a readily identifiable point would exist in the mileage of a vehicle, after which the cost and frequency of repairs would increase rapidly. Performing a refurbishment at that point would flatten the cost curve and extend the life of the vehicle, maximizing the value of the refurbishment. What follows is a summary of my results for each vehicle type.

M1114

A weak relationship exists between higher mileage and greater number of days down per repair for the M1114 vehicle type. Over a 70,000-mile life of M1114s in the Army's fleet, the average number of days down per repair increased only 3 days, from 38 to 41 days.

This represented only an 8-percent increase over 70,000 miles, which was far less than I initially expected.

For parts cost, the trend line appeared almost flat, showing no increase in parts cost over the lifetime of the M1114. Analyzing the greatest concentration of vehicles, which had between 45,000 and 65,000 miles of use, supported this trend. No significant increase in parts cost over the lifetime of an M1114 was observed. This conclusion also contradicted my hypothesis that parts cost would increase over the lifetime of a vehicle.

The regression analysis also contradicted my hypothesis. The slope of the regression equation was -0.121, meaning that an increase of 1 unit of mileage is related to a 12-percent decrease in 1 unit of parts cost. Essentially, increased mileage is related to decreased parts cost. [Regression analysis measures the relationship between one or more independent variables and a dependent variable. In this case, mileage is the independent variable and parts cost is the dependent variable. A regression equation is generated from the dataset, and the coefficient of correlation is derived from the regression equation. The coefficient of correlation measures the strength of the relationship between the two variables. A coefficient of correlation of 1 is the perfect linear relationship: an increase of 1 unit of mileage is correlated to an increase in 1 unit of parts cost. A coefficient of correlation of 0 indicates no relationship. To say that a 1-unit increase in mileage "causes" a 1-unit increase in parts cost is a misnomer. We can only state that a strong relationship exists; we cannot say that there is causation.]

M915

A weak relationship also exists between higher mileage and greater days down per repair for the M915 trucks, mirroring the results from the M1114 series. The trend line increased from 38 to 42 days down per repair over the lifetime of the M915 series. This represented an 11-percent increase over 100,000 miles, from 20,000 to 120,000 miles. I initially expected the relationship between higher mileage and greater days down per repair to be stronger, especially for vehicles with over 100,000 miles of use.

Counterintuitively, an inverse relationship exists between mileage and parts cost for the M915. While

I expected that higher mileage would positively correlate with higher parts cost, I found that, as mileage increased, parts cost decreased over the lifetime of the M915. While the trend line demonstrated this strong relationship, the result may be caused by problems in the data set, which I will discuss later in this article.

The regression analysis returned a different result from the trendline analysis. The slope of the regression equation was 0.012, meaning that mileage accounted for approximately 1.2 percent of the change in parts cost.

M1070

A weak relationship also exists between higher mileage and greater number of days down per repair for the M1070 vehicle type. Over the lifetime of an M1070, the number of days down per repair increased from 35 to 38. This represented only a 9-percent increase over 130,000 miles, which was far less than I originally expected, especially for such a long lifetime.

A positive relationship exists between higher mileage and greater parts cost for the total data set of the M1070. A \$20,000 increase in cost occurred between 0 and 200,000 miles. Breaking the data set down to observe the majority of the fleet's concentration, which had accrued between 25,000 and 50,000 miles, revealed an increase from \$1,900 to \$2,200 per repair. The \$300 increase represented a 16-percent increase over the parts cost for repairs at 25,000 miles—a statistically significant result.

The regression analysis returned an interesting result. The slope of the regression equation was 0.149, which meant that mileage accounted for approximately 15 percent of the change in repair cost. This represented the strongest relationship returned by a regression analysis.

Discussion

For all vehicle types, the fundamental assumption of this analysis was that all vehicles of a specific type are fungible. In other words, one M1114 with 50,000 miles of use is exactly the same as another M1114 with 50,000 miles of use. On-the-ground experience undermines this assumption. Company-level leaders know that different vehicles have different “personalities,” which may result in one vehicle needing more repairs than another. Perhaps these “personalities” are due to manufacturing irregularities and will be eliminated as the Army increases demand for Six Sigma quality during manufacturing. This assumption of vehicle fungibility was one of the weaknesses of the study.

Another weakness was that data collected from ULLS and ILAP are snapshots in time. Battle damage and battle loss costs and days down are not reported to either the unit's ULLS box or ILAP, so they are not reflected in this study. Vehicles used by

surge units may keep reported mileages and repair costs artificially low. When surge units complete their short tours, they usually turn their vehicles over to year-long tour units, and year-long tour units subsequently turn their vehicles in for refurbishment. This further complicates tracking repair cost over the lifetime of an individual vehicle.

For all vehicles, the data collected may be inaccurate. The imperatives of conducting combat logistics patrols trump accurate data collection, and this may cause irregular reporting of repair costs at specific mileages. For the M915 vehicle type, too few data points existed at the time the data were collected. This problem may have caused the counterintuitive result for decreasing parts cost over increasing mileage. For the M1070 vehicle type, the data indicate a positive relationship between higher mileage and higher parts cost, especially for vehicles in the 25,000- to 50,000-mile range in which the majority of the fleet is concentrated. Unfortunately, neither the M1114 nor the M915 vehicle types indicate such a strong positive relationship for either parts cost or number of days down per repair. I observed less than a 10-percent increase in parts cost over the lifetime of the M1114 and M915. These results are insignificant considering that the increases occur over 100,000 miles of use.

My initial hypothesis was incorrect. The presence of a readily identifiable point along the trend line representing the mileage of a vehicle, after which costs would rise rapidly, did not exist for any vehicle type. A gradual increase early in the lifetime of a vehicle was also not present in the data. Overall, a very slight increase in a linear relationship over the lifetime of a vehicle was observed. The regression analysis also returned a weak correlation between increased mileage and increased parts cost, with the exception of the 16-percent relationship on the M1070.

The conclusion for Army leaders? This study could find no significant statistical relationship for higher mileage accounting for higher repair cost, except for the M1070. Perhaps a follow-up study would find different conclusions, but operators and mechanics are still our best way of determining which vehicles need to be refurbished. As a result, refurbishment programs should be conducted on a vehicle-by-vehicle basis, as determined by the unit's maintenance officer, with input from the line mechanics and operators. **A LOG**

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An Automated Log for Managing FRAGOs

BY CAPTAIN DANIEL A. HOLLAND

The author describes a database developed by the 4th Sustainment Brigade that allowed staff officers to track fragmentary orders and other mission-related information while deployed to Iraq.

During combat operations, the production of orders requires efficient management of large volumes of information that can overwhelm even the most experienced staff. A staff's ability to produce timely and accurate orders allows effective communication of the commander's intent, establishes and maintains priorities, and facilitates the successful execution of missions. Maintaining a functional and effective information tracker is vital during the planning, preparation, and execution phases of an operation.

While it was deployed in Iraq, the 4th Sustainment Brigade operations team tracked and provided technical oversight of the staff work for over 4,500 fragmentary orders (FRAGOs) issued by the brigade, the 3d Corps Support Command, Multi-National Corps-Iraq, and Multi-National Division-Baghdad. To handle this workload, the brigade staff developed a Microsoft Access database to track FRAGOs, command directives, and other mission-related information. One of the best features of this "FRAGO log" was its ability to efficiently consolidate information published by higher command elements or internal staff sections, then import information defining a specific mission, its suspense, the units tasked for the mission, and the responsible staff section.

The FRAGO log provided a quick and effective tool for managing large volumes of information and multiple suspenses with easy-to-use search features. The system allowed staff members to track all suspense dates for FRAGOs and command directives simultaneously, including the current suspense, suspenses due within the next 48 hours, and overdue suspenses. This innovative tool was used to provide essential information so the brigade commander could exercise logistics command and control. Information listed in the FRAGO log was user friendly and accessible on shared folders, which allowed all staff members quick access to the same information.

FRAGO Log Capabilities

A degree of overlap is inherent between the timing of information availability and the timing of an operation's execution. It is critical during this period of overlap that an accurate determination of both the commander's intent and the concept of the operation be captured. The FRAGO log proved to be very effective during such times. The log's capabilities provided the brigade commander with timely, accurate, and up-to-the-moment snapshots of the

The information displayed in on a FRAGO log page like this allows users to track FRAGO suspenses and responsibilities.

HQ	PUB DATE	FRAGO #	SUBJECT	CONCEPT	FRAGO ST
+ 3CC	05-Jan-06	3CC 283	UNIFORM POSTURE	CG, 3D COSCOM SETS THE DA NAR	
+ 3CC	06-Jan-06	3CC 283	FRAGO 283 [UNIFORM POSTURE]	COSCOM SETS THE DAILY UNIF NAR	
+ 3CC	06-Jan-06	3CC 284	DAILY MOVEMENT PROGRAM AS OF 051800ZJAN06	THE PURPOSE OF THIS FRAGO NAR	
+ 3CC	06-Jan-06	3CC 285	3CC FRAGO 285 [3 COSCOM COMMANDERS CONFER	3 COSCOM SUBORDINATE COM FYI (E3)	
+ 4SB		4SB 06-XXXX	CONVOY FIREFIGHTING TEAMS		AI CMD GRP FOR.
+ 4SB		4SB 06-XXXX	FUSION NET		MDMP PROCESS
+ 4SB		4SB 06-XXXX	SIGNIFICANT ACTIVITY (EICACT) REPORTING REQUIRE		AWAITING APPRO
+ 4SB		4SB 06-XXXX	TRAINING GUIDANCE		MDMP PROCESS
+ 4SR	16-Oct-05	4SR 05-1001	COMMO TEAM REQUIREMENT		COMPLETED
+ 4SB	16-Oct-05	4SB 05-1002	ACCESS CONTROL POINT AND BADGE PROCEDURES		COMPLETED
+ 4SB	17-Oct-05	4SB 06-1001	MNC-1 SAFETY CONFERENCE		COMPLETED
+ 4SB	17-Oct-05	4SB 06-1002	WARLOCK VARIANTS MAINT AND READNESS REPORT		COMPLETED

The FRAGO link has keyword search and hyperlink features that create instant access to FRAGO information.

status of all open FRAGO's. The brigade's FRAGO manager ensured that the appropriate information was incorporated into the FRAGO log and disseminated to the proper staff sections for review. From the log, the commander could quickly identify critical suspenses in one view. The FRAGO log provided staff officers an effective and efficient means of displaying critical suspenses so they could establish their planning timelines.

The chart at left shows a typical FRAGO log page. The information displayed in the FRAGO log provided many options for users in the 4th Sustainment Brigade, including—

- Secure access to multiple desktop computers, as long as the database was used only over the Secure Internet Protocol Router Network (SIPRNet).
- Visibility of information added to the log, which ensured that suspenses were not missed.
- The ability for staff sections to look at future event dates listed in the log, thus creating a working “rolodex” for information management.
- The ability for the battle captain to quickly research current suspenses due from the brigade staff sections or subordinate battalion staff sections, which allowed him to contact those sections to verify compliance or actions pending.

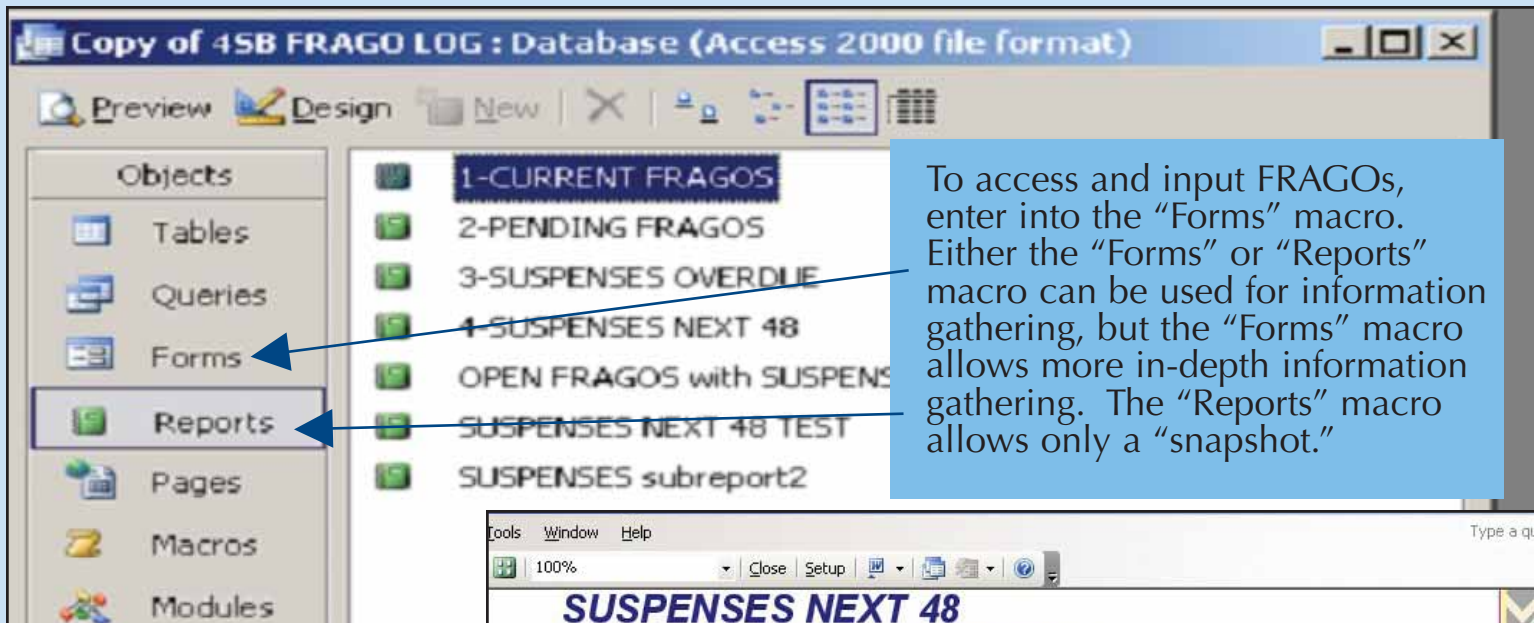
The FRAGO log's keyword search capability made it easy to quickly find the right document or FRAGO, simply by using the “Find” option provided by the Access program in the toolbar at the top of each FRAGO sheet. It provided search options, such as subject, staff

section, FRAGO number, and current suspense, by using key search words or phrases. This function was what made the log the most valuable and time-efficient tool the brigade had for setting priorities and tracking information provided from higher headquarters. The FRAGO log also contained hyperlinks that allowed instant access to FRAGOs stored on the shared server system (see chart above). These two, simple capabilities allowed the quickest references available when accessing the tracking system, which proved invaluable from a time-management standpoint.

Use of Macros

Macros located on the entry screen of the Access spreadsheet allowed the user to search by current suspense date, suspenses due in the next 48 hours, and suspenses overdue. This permitted instant updates to the brigade commander, as well as the ability to brief the commander on suspenses within a matter of seconds (see the top of page 50). The log also employed quick search links located throughout the FRAGO “Forms” section. The addition of links to the FRAGO log allowed instant access to all related folders shared on the server, providing yet another way to easily search for FRAGOs, pending draft FRAGOs, and recently published FRAGOs from higher headquarters.

An example of a macro report is shown above. This is an example of a briefing slide that would bring to the commander's attention the suspenses due within the next 24 to 48 hours. The information on this slide provided the commander enhanced visibility of the



To access and input FRAGOs, enter into the "Forms" macro. Either the "Forms" or "Reports" macro can be used for information gathering, but the "Forms" macro allows more in-depth information gathering. The "Reports" macro allows only a "snapshot."

Macros on the entry screen of the FRAGO log permit searches of FRAGOs, including by current suspense date, suspenses due in the next 48 hours, and suspenses overdue. At right: This example of a macro report shows suspenses due within the next 48 hours.

Suspenses Next 48
FRAGO suspenses that are due in the next 48 hours.

FRAGO #	SUBJECT	UNITS INVOLVED	STAFF/ POC	SUSP DATE	SUSPENSE	STATUS	S	T	A	F
3CC SUSPENSES DUE IN 48 HOURS										
3CC 169	CLASS III BULK STOCKAGE OBJECTIVES FOR 10 JAN 06	189TH 530TH	SPO	10-Jan-06	REPORT NEW CALCULATED STOCK OBJECTIVE	REPORT PENDING	A			
3CC 279	FUEL FARM EQUIPMENT DISPOSITION	18TH 189TH 530TH	SPO/GSO	10-Jan-06	PROVIDE FUEL FARM DISPOSITION LIST ON ATTACHED EXCEL SPREADSHEET TO 3CC SUPPLY	FORWARD TO SPO	A			
3CC 275	FUSION NET	18TH 189TH 530TH	S6	10-Jan-06	SUBMIT NAMES TO KMD POC	MDMP PROCESS	A			

staff's upcoming work and the number of reports and executable suspenses due from subordinate units to the brigade and from the brigade to higher commands.

Logistics units typically do not get early notification of operational requirements. The FRAGO log gave the 4th Sustainment Brigade an innovative tool to enhance operational visibility up and down the combat orders communication channel. This "in the loop" visibility was highly valued by all commands because it improved their insight and facilitated a proactive posture for future operational requirements. By tracking directives from two command levels higher, the 4th Sustainment Brigade gained the ability to anticipate and forecast upcoming suspenses, which improved the timing of operational execution and even the use of assets.

The creation of this FRAGO management tool greatly enhanced the operational success of the 4th Sustainment Brigade by making the combat orders communication channel more dynamic. It was a reliable database that required little maintenance to work

properly, was very user friendly, and was highly flexible in meeting the needs of any military operations cell. I strongly recommend that this tool be reviewed for broader application to more military units because of its relative simplicity and adaptability, which proved to be immensely beneficial to the user, the staff, and, most importantly, the command.

ALOG

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Joint Asset Visibility: *Why So Hard?* Capturing Information

BY LIEUTENANT COLONEL JAMES C. BATES, USA (RET.)

In the second of his articles on joint asset visibility, the author discusses the processes and systems used for capturing data for asset visibility.

Department of Defense (DOD) stakeholders are interested in obtaining a lot of information about items in transit or in storage. Information about items in storage is usually reported whenever on-hand balances change, such as when additional items are received or issued. However, this information is usually updated on a daily basis as it is passed electronically through the supply chain—from the unit level to battalion, brigade, division, theater, and onwards to the strategic-level—using wide-area networks such as the Joint Operations Planning and Execution System (JOPES), the Global Transportation Network (GTN), or the Defense Automatic Addressing System (DAAS).

In an ideal world, the worldwide DOD item balances would be updated automatically any time ownership or location of an item changed. In reality, however, this is not the case; the limitations of telecommunications and the time needed for some computers to process information prevent real-time displays.

For example, consider high-mobility multipurpose wheeled vehicle (HMMWV) tires. Let's say that, on a particular day, the various units and DOD agencies have a worldwide total of 100,000 tires stored or in transit at 5,000 different sites. How could logisticians keep track of the on-hand balances of all of the HMMWV tires over time as tires were purchased, issued, condemned, and transferred at the various locations? After all, not all of these sites would be connected to the World Wide Web. (For instance, a large portion of a deployed ground force may be powered by generators or may have no electrical power source at all. Without access to an electrical grid, it is much more difficult to connect to the Web.) For units not connected to the Web, logistics information is still passed along the supply chain echelons, but this is done in batch mode, not real time. A unit might have to deliver a disc to the automated information system

of its supply support activity (SSA), or perhaps the SSA would have to send its asset visibility information via satellite to the automated information system at theater level. Depending on the unit's location, the method of transmission, and the extent of information to be passed, the use of direct links to satellites can be an expensive, manpower-intensive proposition. Moreover, some legacy automated information systems need time to process account balances, putting all other computer processes on hold while preparing to transmit data to a higher or lower echelon. Instead of being passed and processed in real-time, the information is passed and processed in a batch. A batch of information may be passed at various time intervals, such as hourly, twice a day, four times a day, daily, weekly, or monthly. However, for the most part, stakeholders within the DOD global supply chain are looking for daily asset visibility reports for supplies and equipment in storage or on hand at the unit level. For instance, most DOD logistics managers would be more than satisfied with daily on-hand availability updates by location of HMMWV tires (or other item).

Although DOD supply chain stakeholders can accept in-storage information that is updated daily, they want updates about items in-transit on a more frequent basis. Ideally, stakeholders want to know when an item in transit arrives and departs a transshipment point.

Items traverse a wide variety of transshipment points "from factory to foxhole." As soon as DOD purchases an item from a manufacturer or a retailer, it begins accounting for that item. Information about the item must be captured, preferably electronically, and passed from one automated information system to another until it reaches a wide-area network, accessible by all DOD logisticians. However, different transshipment points capture different types of logistics information. Depots capture wholesale information. Airports managed by the Air Force capture air transport information.

Strategic deployment and distribution centers or seaports run by the Navy capture information pertaining to surface delivery. Managers at commercially run transshipment points capture logistics information that is pertinent to their particular needs. Personnel at transshipment points must capture not only information about the item being shipped but also information about the type of conveyance being used to transport the item to the next transshipment point.

The Data Capture Challenge

Unfortunately, many transshipment points do not have the manpower, computing power, or telecommunications equipment needed to capture all of the pertinent logistics information. This is especially true when items in transit are substantially reconfigured.

Let's look at a hypothetical scenario. To support forces deployed throughout Iraq, Defense Logistics Agency (DLA) personnel stationed at the Defense Distribution Depot Susquehanna, Pennsylvania, load 4,000 different items (with 4,000 different national stock numbers [NSNs] and 4,000 different document numbers) into one 40-foot container. The automated information system at this sophisticated transshipment point electronically captures the NSN and document number for each item within the container. This information is then passed to the wide-area networks, such as JOPES, DAAS, and GTN.

Next, the container is sent to a military or commercial port in the continental United States, where the supply and transportation data are again easily captured. This is not that difficult because the contents of the 40-foot container remain the same; only the container's location has changed. While en route to Iraq, however, the vessel transporting the container turns out to be too big to transit the Suez Canal. The vessel's draft also is too deep to access the overseas port of debarkation. As a result, the contents of the 40-foot container have to be offloaded at an intermediary port at the entrance of the Suez Canal and loaded into two 20-foot containers. In this case, the previous content integrity of the 40-foot container is now gone. At this new transshipment point (the intermediary port), the automated information system now must update the container information for two containers, each with 2,000 items. Whatever data processing codes were used to identify the contents of the 40-foot container must be updated to identify the contents of the two 20-foot containers. Will this commercial overseas port be able to capture this information and then pass it on to the wide-area networks? The answer depends on the port.

Actually, this problem is even more complex than it first appears. The contents of the one 40-foot container could be spread out into 5, 10, or 20 different 20-foot containers, each containing previously loaded items in

addition to the contents transferred from the 40-foot container. Similarly, the contents of each of the resultant 20-foot containers could be further broken down at a subsequent transshipment point into pallets and loaded onto aircraft, railcars, and trucks.

Will transshipment points (especially the commercial ones with scant DOD representation) have the capability to capture the appropriate logistics information into automated information systems and then transmit this information to the respective wide-area networks? The answer is probably not.

Consider how much time it would take for one person to scan the two-dimensional (2D) barcodes of military shipment labels or, worse yet, manually enter content-level data into automated information systems. Even with the most rudimentary information, such as nomenclature, document number, NSN, and transportation control number data, errors naturally occur whenever human entry is required. Some studies indicate that, for every 85 keystrokes, 3 errors are made unbeknownst to the operator. And with coded information like an NSN, if the input contains a single incorrect character, the accurate code (in this case the NSN) cannot be processed by the automated information system. Capturing barcoded information is easier and less error prone, but it is still very time-consuming; it also requires the appropriate barcode readers and complementary automated information system. Radio frequency identification (RFID) offers promise, but it is not the sole solution.

Although DOD supply chain stakeholders can accept in-storage information that is updated daily, they want updates about items in-transit on a more frequent basis.

Let's consider a simpler scenario. What if the Susquehanna Depot completely stuffed a 20-foot container with a single item: concertina wire (NSN 5660-00-921-5516). In this case, there would be only one customer and only one document number. The concertina wire, destined for an SSA in Iraq, would remain intact inside a container throughout its shipment from the depot all the way to the SSA somewhere north of Baghdad. In this scenario, the automated information system at DLA could easily capture the pertinent information about the container's contents and associate it with the identification number of the container. This information then could be readily passed to a wide-area network, where it could be viewed by interested logisticians worldwide. All they would need to know would be the document number or the container number. Shareholders would be able

to track some of the movement of the container as it made its way to Iraq as long as the various transshipment points being transited had a means of capturing the container number as it arrived and departed and a means of passing this information to a wide-area network.

So Much Data!

However, let's take a look at a more realistic scenario. Think of how much logistics data would have to be captured and passed pertaining to a vessel carrying the equivalent of 6,000 different 20-foot containers. If each container had 2,000 different items within it, 12,000,000 different items would be on board the vessel ($6,000 \times 2,000$). How much information would we need to capture about each item? If we only needed the document number and NSN, then we would need to capture 24,000,000 different data elements ($6,000 \times 2,000 \times 2$). But if we wanted to track each item's document number, NSN, nomenclature, unit of issue, condition code, supplementary address, required delivery date, weight, cube, and project code, then we would need to capture 120,000,000 different data elements. We also might want to track the identification numbers of all the multipacks inside the containers so that we could associate all of the NSNs within with their specific multipack identification numbers.

If each 20-foot container were to have 50 multipacks within it, then there would be 240,000 multipacks ($6,000 \text{ containers} \times 2,000 \text{ items per container} \div 50 \text{ items per multipack}$) onboard the vessel. If these multipacks were atop pallets, with each pallet holding 6 multipacks, then there would be 40,000 different pallets ($240,000 \text{ multipacks} \div 6$). Each pallet should have a unique identifying number, and each pallet number should be correlated to the identifying numbers of the six multipacks on the pallet. Associating a specific item's document number with the identifying number of its multipack, with the identifying number of its pallet, with the identifying number of its container, and with the identifying number of the vessel can be extremely complicated. After all, in the scenario just described, 1 ship is carrying 6,000 containers, 40,000 pallets, 240,000 multipacks, and 12,000,000 different items. The amount of data that would have to be loaded into automated information systems is mind-boggling. It would take a very, very long time to capture all of these data by hand or using barcode readers, especially if it were done while the ship was being loaded. (See the article, "Containerizing the Joint Force," published in the March–April 2005 issue of *Army Logistician*.)

The challenge in the scenario described above is created by the enormous amount of data. The scenario assumed that the port of debarkation had sophisticated data-capture equipment and telecommunications. Let's take a look at a different problem. What would

happen if the transshipment point were located in a very austere environment, like a desert, where enablers such as electricity, computers, and telecommunications were not even remotely available? What if the transshipment point were simply a spot in the sand where the form of conveyance changes, say from a commercial truck to a military truck? How can the information about the items that were transferred be captured within automated information systems? Under our current procedures, the answer is that the information may not be captured.

Whose Job Is It To Capture the Information?

A major problem in capturing information pertaining to asset visibility (in-transit visibility in particular) is that DOD has no designated military occupational specialty or civilian equivalent specifically trained to do so. Since so many different types of transshipment points are run by so many different types of organizations, no one has been trained on how to capture the information about supplies in transit using both joint military procedures and commercial practices. No standardized automated information systems or telecommunications systems are available to capture the information and pass it to the wide-area networks (which themselves are not standardized). Many transshipment points, such as overseas seaports and railheads, may have no DOD presence at all.

Capturing Information at Transshipment Points

Just as not every transshipment point has a designated specialist, no set method has been established for capturing the required asset visibility information. Several methods of capturing data should be available to help ensure reliability. The most basic method is for clerks to capture information by manually transferring data from the shipment documents or by jotting down the logistics data shown on the item's packaging. However, if a clerk were simply to file the information in a filing cabinet, it would not be visible to logisticians with access to the wide-area networks. It would be much better if a clerk were to enter the pertinent logistics information into an automated information system. It would be better still if he were to capture the logistics information using electronic data interchange (EDI) and automatic information technology (AIT).

Since both EDI and AIT rely on computer processing, let's take a look at some of the rudiments of this incredibly complex field. The ability of computers and telecommunications devices to digitize information has been truly revolutionary and has been, and still is, one of the cornerstones of logistics transformation. But what do we mean when we say information has been digitized? In the most basic sense, all

computerized information can be subcomposed into what are called “bits.” The word bit began as an abbreviation for the phrase “binary digit.” The root of binary is “bi” which connotes two of something. In computer terms, binary code means either 1 or 0; it also connotes the concept of something being on or off. Just as a light switch can be turned on or off, a silicon chip can be turned on or off. Binary code, then, is a stream of some combination of the digits 0 or 1 and is used as the basis for computer processing.

The American Standard Code for Information Interchange (ASCII), a widely accepted method of encoding characters based on the English language, uses binary values. For example, the binary value of the ASCII letter M is 00 1101 and the number 2 is 11 0001. In computer processing, such binary values can depict all the letters of the alphabet (both uppercase and lowercase), all numbers, and many special characters. Binary numbers are used to compose hexadecimal numbers (with a base of 16 binary digits), which are used extensively in RFID devices.

The text and numbers included within almost every electronic document can be subcomposed into a series of 0s and 1s. As an analogy, think how a person can navigate anywhere in the world by making a series of decisions based on only two choices: go left or go right. In our digitized world, 8 bits make 1 byte, which usually represents one alphabetic character (like A, B, or C), one special character (like &, *, or ?), or two numeric digits. A kilobyte is a measure of 1,024 bytes; a megabyte is a measure of 1,048,576 bytes; and a gigabyte is a measure of 1,073,741,824 bytes. A standard \$50 thumb drive can store one gigabyte.

AIT Devices

The linear barcode is the most basic of the several different types of AIT used to store a wide variety of data. The linear barcode can store 17 to 20 alphanumeric characters. It is typically used to store one key data element, such as an NSN, a document number, or a transportation control number. If all three of these numbers are on the packaging of a container, a clerk has to scan all three numbers separately to retrieve the digital information the barcodes portray. The newer and more sophisticated 2D barcodes have a greater capacity than the linear barcode; a 2D barcode can portray about 1,850 different characters and is more reliable than a linear barcode because it has several layers of data repetition as part of its design.

A clerk at a transshipment point or a storage facility can either scan the barcodes by sliding them across a fixed scanner or use a portable scanner called a portable data collection device to scan items at various locations within a warehouse or storage yard. Regardless of whether the barcode scanner is portable or fixed,

it must be linked to a computer to process the digital information, although the linkages (particularly with the portable data collection device) may be wireless. The laser technology associated with barcode readers must be able to see the barcode. In other words, the barcode must be within the barcode reader’s line of sight. Humans must be involved in lining up an item’s barcode with the barcode reader. This means that only one item’s barcode can be scanned at a time, and a human must be present during the scanning process. This time-consuming, human involvement is not necessary for RFID.

Optical memory cards (OMCs) are another form of AIT. OMCs are the size of credit cards and use the same type of technology as CD-ROM products. Data are downloaded onto the cards in sequential order; once loaded onto the card, the data cannot be overwritten. In other words, portions of data cannot be erased (although the entire contents can be erased so that the card can be reused as if it were new). Additional data are loaded onto the card until its capacity is reached. These small cards can store over 2 megabytes of data. They are rugged, inexpensive to produce, and unaffected by environmental conditions such as moisture and heat. Smart cards (also called common access cards, or CACs) are similar to OMCs. Like OMCs, smart cards are the size of credit cards. While OMCs are used to capture information about supplies and equipment, smart cards are used to capture information about people. They currently have a data storage capacity between 16 and 32 kilobytes.

The contact memory button is another type of AIT, which is currently used by the Department of the Navy to store information about a major end item’s maintenance history. A memory button is a battery-free, read/write, identification device designed for use on components and equipment in harsh environments.

Understanding RFID

RFID is the most sophisticated type of AIT. To understand the complexities associated with RFID, it is best to introduce the rudiments of the science that makes it possible. Let’s start with a brief discussion of the electromagnetic spectrum.

According to the website of the Goddard Space Flight Center of the National Aeronautics and Space Administration (NASA)—

Electromagnetic radiation can be described in terms of a stream of photons, which are massless particles each traveling in a wave-like pattern and moving at the speed of light. Each photon contains a certain amount (or bundle) of energy, and all electromagnetic radiation consists of these photons. The only difference between the various types of electromagnetic radiation is the amount of energy found in the photons.

The spectrum of electromagnetic energy, from low energy to high energy, includes amplitude modulation (AM) radio waves, shortwave radio waves, very high frequency (VHF) radio waves (used by television), frequency modulation (FM) radio waves, ultra high frequency (UHF) radio waves, microwaves, infrared light, visible light (light that humans can see), ultraviolet light, x rays, and gamma rays. The electromagnetic spectrum can be expressed in three different ways: wavelength, frequency, and energy. AM radio (at the lower end of the spectrum) has long wavelengths (measured in meters—the distance between the crest of one radio wave and the next), low frequency (measured in cycles per second), and low energy (measured in electron volts). In comparison, gamma rays are at the highest end of the electromagnetic spectrum. They have short wavelengths, high frequency, and high energy.

Because so much technology is based on the electromagnetic spectrum, governments (including our own) have established guidelines to regulate portions of it. For instance, the Federal Communications Commission grants broadcast licenses to radio and television stations. Without some type of regulation, two radio stations in the same area, one a hard rock music station and the other a classical music station, might broadcast their different musical genres at the same exact frequency. Regardless of musical taste, the result would be unpleasant to hear.

RFID is based on the technology associated with the electromagnetic spectrum. Measured in hertz (1 hertz equals 1 cycle per second, where a cycle is the passing of one complete wave of energy), most RFID devices operate within a radio frequency of 124 kilohertz (124,000 cycles per second) to 2.45 gigahertz (2.45 billion cycles per second). RFID devices use the energy of radio waves as a basis for digitizing logistics information. The lower frequencies are less affected by metal and moisture than the higher frequencies, but the latter can be read at greater ranges. Radio wave readers (interrogators) emit radio waves to radio tags (transponders). The tags include both a mini-antennae and a computer chip; the latter contains digitized information about the items attached to the tags. The three types of RFID tags are active, passive, and semipassive.

An active RFID tag contains batteries. These batteries enable the tags to transmit information to a reader. A passive tag does not contain batteries or any other type of internal power source. It receives its energy from the reader, which emits its energy via radio frequency (RF) waves to the passive tag, which then uses the microchip's antennae to convert this energy into electricity to transmit the information stored in its chip through its antennae back to the reader. A semipassive tag makes use of an internal power source that monitors environmental conditions and runs the chip's

microcircuitry. In order to conserve energy, many semipassive tags stay dormant until power is received from an interrogator. However, like passive tags they require RF energy transferred from the reader/interrogator in order to power a tag response.

Unlike barcodes, OMCs, or smart cards, RFID does not require human involvement in the scanning process. In fact, RFID tags do not have to be scanned via a line-of-sight process as do the other forms of AIT. Similar to audible sound (which is itself radio waves), RFID radio waves reverberate over a large area and can be captured by a reader even when the source of the radio wave is not within a line of sight. This means that the reader/interrogator does not have to be facing an item to sense it is nearby, as long as the item is located somewhere within the range of the interrogator. Moreover, the information transmitted by radio wave frequency can be captured quickly by the interrogator and the computer linked to it. The logistics information about thousands of different items can be captured within seconds, without human involvement.

Although several different types of active tags are used by DOD, the typical one, when compared to passive tags, is larger in physical size, costs more, stores more data, and transmits further. Active tags are about the size of a can of beer, cost about \$70 each, contain 128 kilobytes of data, and can transmit information a radial distance (omnidirectional) of 300 feet if unobstructed. Passive tags are much smaller (about the size of a postage stamp), cost as little as \$0.25, store as little as a few bits of data, and must be read within 3 to 10 feet.

Active RFID Tags

The most sophisticated active tags can transmit data directly to satellites, which then relay information to appropriate wide-area networks. Because of the high cost of these tags and the expense associated with using satellite telecommunications, these types of tags are reserved for tracking time-sensitive items, such as critical ammunition or perishable items. However, these tags are being used more often, and associated costs are expected to drop.

In Iraq and Kuwait, logisticians are using satellites to track the locations of specially equipped containers that have been outfitted with "AXTracker" global positioning system (GPS) tracking devices, which are manufactured by a high-tech corporation called Axonn. These self-contained devices, which are 9 inches by 6.25 inches by 1 inch, can be attached to containers easily. They send signals to low Earth-orbiting satellites, which relay a container's current GPS location and other information such as ambient temperature, humidity, and whether or not the container is stationary or moving. The satellites then transmit the information to

ground-based computer gateways that pass the information to web portals. The AXTracker has specially designed batteries that can last from 3 to 18 years, depending on how often information is relayed to the satellites.

Active tags—the type typically placed on railcars, major end items, 20-foot containers, and 463L pallets—have their own unique tag identification numbers. When active tags are placed on 20-foot containers, they normally do not contain very much data on the items within the container. However, AIT systems and wide-area networks are being designed to correlate an active RFID tag number with the physical location of the tag, the time the tag was read, and the contents of the container. This is currently accomplished at DLA container and consolidation points and DOD-run seaports in the United States.

A major problem in capturing information pertaining to asset visibility (in-transit visibility in particular) is that DOD has no designated military occupational specialty or civilian equivalent specifically trained to do so.

Active RFID readers normally are positioned at transshipment points, at preselected checkpoints along a designated route, and at end unit locations. Unlike passive tags, some of the data stored on an active tag can be changed using radio wave frequency transmission. Usually, however, a person loads the appropriate information onto a tag at a computer docking station. The loading of digital information onto a tag is called “writing” or “burning.”

As with most technology, active RFID tags are not without certain problems. Their batteries go dead; the more frequently data are exchanged between the tag and the reader, the sooner this happens. For example, if an active tag on a 20-foot container being hauled by a tractor passes by a fixed interrogator at 20 miles per hour, the tag will be read only once. However, if the tractor-trailer happens to be parked for several days near that same interrogator, the tag will be read numerous times and its battery life will be significantly reduced. Furthermore, because of the omnidirectional nature of the RF transmissions, the same active tag may be read by two separate interrogators at the same time.

Passive RFID Tags

Unlike active tags, passive tags are being designed to be an integral part of nearly every piece of equipment

and of all but the smallest or most inexpensive supplies. As technology improves, the cost per tag is expected to drop below \$0.05. Active tags are normally placed on items at transshipment points. However, passive tags are assimilated into items at the point of manufacture. Passive RFID tags in transit or in storage can be read by readers at a rate of more than 1,000 tags per second.

Passive tags do not contain very much logistics information; they are similar to that of a license plate in that they contain only a few alphanumeric characters. A passive tag, like a license plate, is used as the key for obtaining additional information. For example, a police officer who stops a car for speeding can simply call police headquarters and report the alphanumeric characters of the license plate. Headquarters then would use the license plate number to access its database and uncover all types of information pertaining to the car and owner, such as vehicle registration data and arrest records.

RFID Shortcomings

RFID technology, particularly passive technology, is still relatively new and developing. Many of the active tags and the interrogators designed to read them are not interoperable with the passive tags and interrogators. It is almost as if there are two separate systems. Moreover, a comprehensive architecture for the AIT systems and the wide-area networks associated with RFID has not been designed on a global scale yet, although a great deal of progress has been made in areas where U.S. forces have an established presence.

A major weakness of RFID is that the technology can be interrupted by the enemy. Interrogators placed along delivery routes are easily seen and sabotaged, and their very emplacement indicates the location of a main supply route. Furthermore, it is unlikely that rapidly advancing forces will have the time and wherewithal to establish interrogators along the route of troop advance. Data-read capability is also an issue. The placement and positioning of the tags and the interrogators makes a difference as to whether or not the data are successfully transmitted.

Active tags are more susceptible to enemy interference than passive tags for several reasons. First, since active tags transmit data over longer distances, the enemy has a better opportunity to corrupt or impede the transmissions. Second, active tags contain more information for the enemy to corrupt than do passive tags. Lastly, the enemy could actually change the data on active tags that have read/write capability since most tags currently in use are not encrypted.

In some DOD experiments, passive tags placed on the inside of multicontent pallets were not picked up by the interrogator. This could have occurred because certain radio frequencies do not penetrate easily through

liquids or humid conditions. For instance, paper products have high moisture content, so their passive tags do not always enable the capture of complete and accurate information. Similarly, the RF waves associated with passive tags do not readily pass through dense objects or metals. Data-read also depends on the quantity of tags being read by a single reader, the speed of the tags passing by a reader, and the distance between the tag and the reader. The more tags being read, the greater the speed of the tags in motion, and the greater the distance the tag is from the reader, the less reliable the reads will be. Probably because passive RFID technology is in its nascent stage, some studies indicate that the low-cost tags can be damaged during production, which frequently happens when microchips are attached to the mini-antennas. Tags can also be damaged when logistics data are written to them.

Additional issues are associated with RFID technology. Tags that use a frequency of 433 megahertz can interfere with military radar. The electromagnetic energy of RF can adversely affect people, ordnance, and fuel. RF transmissions at 2.45 gigahertz excite water molecules; not coincidentally, this frequency is used by microwave ovens to heat food.

Like the United States, foreign governments regulate frequencies within their airspace. This means that

DOD must obtain permission from foreign governments for deployed U.S. forces to use certain portions of the electromagnetic spectrum. Currently, no international agreements stipulate electromagnetic frequencies for RFID. The spectrum being used for RFID ranges from 860 to 960 UHF within the United States, Europe, and Japan. However, there is a growing global acceptance of designating a few frequencies exclusively for RFID use.

Regardless of the method in which it is captured, logistics information pertaining to asset visibility must be accurate and complete. Commanders and logisticians must firmly believe that the information they retrieve about items in storage or in transit is reliable. After all, supply and equipment readiness is an integral part of combat power.

ALOG

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

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

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ALOG NEWS

OUTSTANDING UNIT PERFORMANCE IN LOGISTICS HONORED

The third Chief of Staff of the Army Combined Logistics Excellence Awards were presented 5 June.

The **Deployment Excellence Award** winners are—

Operational Deployment

Small Unit. A Company, 15th Brigade Support Battalion, 2d Brigade Combat Team, 1st Cavalry Division, Fort Hood, Texas.

Large Unit. Brigade Troops Battalion, 1st Brigade Combat Team, 3d Infantry Division, Fort Stewart, Georgia.

All Army Installations

Fort Bragg, North Carolina.

Active Army

Small Unit. Headquarters and Headquarters Detachment, 30th Signal Battalion, Schofield Barracks, Hawaii.

Large Unit. 526th Brigade Support Battalion, 2d Brigade Combat Team, 101st Airborne Division (Air Assault), Fort Campbell, Kentucky.

Supporting Unit. 841st Transportation Battalion, 597th Transportation Group, Charleston, South Carolina.

Army National Guard

Small Unit. B Company, 2–218 Field Artillery Battalion, McMinnville, Oregon.

Large Unit. 53d Infantry Brigade Combat Team, Pinellas, Florida.

Supporting Unit. Joint Forces Headquarters-Florida, St. Augustine, Florida.

Army Reserve

Small Unit. 362d Tactical Psychological Operations Company, Fayetteville, Arkansas.

Large Unit. 1188th Transportation Terminal Battalion, Decatur, Georgia.

Supporting Unit. 1190th Deployment Support Brigade, Baton Rouge, Louisiana.

The **Army Award for Maintenance Excellence** winners are—

Active Army Table of Organization and Equipment (TOE)

Small Category. C Company, 501st Military Intelligence Battalion, 1st Armored Division, Wackernheim, Germany.

Medium Category. 524th Military Intelligence Battalion, 501st Military Intelligence Brigade, Yongsan, Korea.

Large Category. 589th Brigade Support Battalion, 41st Fires Brigade, 4th Infantry Division, Fort Hood, Texas.

Active Army Table of Distribution and Allowances (TDA)

Small Category. Headquarters and Headquarters Battery, 2–6 Air Defense Artillery Battalion, Fort Bliss, Texas.

Medium Category. 58th Transportation Battalion, 3d Chemical Brigade, Fort Leonard Wood, Missouri.

Large Category. Theater Logistics Support Center-Europe, Kaiserslautern, Germany.

Army National Guard TOE

Small Category. Headquarters and Headquarters Detachment, 751st Maintenance Battalion, Eastover, South Carolina.

Medium Category. 732d Maintenance Company (General Support), Roxboro, North Carolina.

Army Reserve TOE

Small Category. 206th Broadcast Operations Detachment, Grand Prairie, Texas.

Medium Category. 1013th Quartermaster Company, North Platte, Nebraska.

Large Category. 479th Engineer Battalion, Watertown, New York.

The Army Award for **Supply Excellence** winners are—

Active Army

Level I Unit (Company, Battery, Troop, or Detachment). A Company, 123d Main Support Battalion, 1st Armored Division, Dexheim, Germany.

Property Book Modification TOE (MTOE). 302d Signal Battalion, 21st Signal Brigade, Fort Detrick, Maryland.

Property Book TDA. Aviation Technical Test Center, Army Developmental Test Command, Army Test and Evaluation Command, Fort Rucker, Alabama.

Parent Level Unit (Battalion or Squadron). 141st Signal Battalion, 2d Brigade Combat Team, 1st Armored Division, Wiesbaden, Germany.

Supply Support Activity MTOE. A Company, 782d Brigade Support Battalion, 4th Brigade Combat Team, 82d Airborne Division, Fort Bragg, North Carolina.

Supply Support Activity TDA. 498th Combat Sustainment Support Battalion, 19th Sustainment Command (Expeditionary), Waegwan, Korea.



Technicians repair an AN/TSC-154 Secure Mobile Anti-jam Reliable Tactical Terminal (SMART-T) at Tobyhanna Army Depot, Pennsylvania. The SMART-T is a Military Strategic and Tactical Relay (MILSTAR) satellite-compatible ground communications terminal that provides worldwide data and voice communications from a stationary mission site. This repair is part of a SMART-T reset program. Tobyhanna technicians have repaired 19 SMART-T systems for the Army and will repair 13 for the Marine Corps. (Army photo by Steve Grzedzinski)

Army National Guard

Level I Unit (Company, Battery, Troop, or Detachment). Headquarters, 209th Regional Training Institute, Ashland, Nebraska.

Property Book MTOE. Headquarters, 1-265 Air Defense Artillery Battalion, Daytona Beach, Florida.

Property Book TDA. Joint Forces Headquarters (Central Property Book Office), Carson City, Nevada.

Parent Level Unit (Battalion or Squadron). Headquarters, 2-135 Infantry Battalion, Mankato, Minnesota.

Supply Support Activity TDA. U.S. Property and Fiscal Office, Kapolei, Hawaii.

Army Reserve

Level I Unit (Company, Battery, Troop, or Detachment). 445th Medical Detachment (Veterinary Service), Independence, Missouri.

Property Book MTOE. 94th Combat Support Hospital, Seagoville, Texas.

Property Book TDA. 7th Army Reserve Command, Schwetzingen, Germany.

Parent Level Unit (Battalion or Squadron). 530th Military Police Battalion, Omaha, Nebraska.

Supply Support Activity MTOE. 318th Combat Support (CONUS Replacement Center) Company (Modular), Chambersburg, Pennsylvania.

3D COSCOM LOWERS COLORS IN GERMANY

After 49 years in Germany, the 3d Corps Support Command (COSCOM) cased its colors in a ceremony on 1 June. The 3d COSCOM had been based in the German state of Hessen for 22 years before relocating to Fort Knox, Kentucky, to become the 3d Expeditionary Support Command. The COSCOM's subordinate units, the Special Troops Battalion and the 19th Support Center, were also inactivated.

Brigadier General Scott G. West, the 21st Theater Support Command's commanding general, was the reviewing officer of the event, which took place on Wiesbaden Army Airfield. The 3d COSCOM's commanding general and command sergeant major, Brigadier General Michael Lally and Command Sergeant Major Willie C. Tennant, Sr., cased the unit colors, signifying the inactivation of the unit.

During the ceremony, the 3d COSCOM, the 16th Corps Support Group, and the 485th Combat Sustainment Support Battalion received the Iraqi Campaign Streamer for their contributions during Operation Iraqi Freedom. The 3d COSCOM also received a streamer from the Hessen minister-president for its distinguished service in German-American relations.

LOGISTICIANS ATTEND AUSA SYMPOSIUM

Logisticians representing Army units, military organizations, and defense contractors gathered in May at the Greater Richmond Convention Center in Richmond, Virginia, for the Association of the United States Army (AUSA) Institute of Land Warfare Logistics Symposium and Exhibition.

The symposium included keynote speaker General Benjamin S. Griffin, the Commanding General of the Army Materiel Command (AMC), who emphasized AMC's important relationship with private sector businesses and the benefit of having commercial off-the-shelf products available for Soldiers.

The AUSA symposium consisted of several panel discussions, including one entitled, "Emerging Insights from Logistics Transformation," featuring panel chairman Major General Mitchell H. Stevenson, the Commanding General of the Army Combined Arms Support Command. Major General Stevenson talked about logistics transformation and the steps the Army has taken to transform from a division-centric force to a brigade-centric force. He spoke of the importance of collaboration to be effective and how logisticians cannot fight over resources and power. He also discussed the new multifunctional Logistics Branch and Logistics Corps and stressed the benefits that multifunctional logisticians will provide to forward support companies and other modular units.

In the same panel discussion, Brigadier General Rebecca S. Halstead, the Commanding General and Commandant of the Army Ordnance Center and School, expressed the need to increase the Army's explosive ordnance disposal capabilities because current enemies in Iraq and Afghanistan rely on improvised explosive devices to harm U.S. Soldiers. It is imperative that the Army increase the number of Soldiers dedicated to this important mission, increase and improve the training they receive, and develop materiel

solutions that will protect explosive ordnance disposal Soldiers and help them do their job more safely.

Major General Vincent E. Boles, the Assistant Deputy Chief of Staff, G-4, Department of the Army, stressed that the Army's top priority is supporting the Global War on Terrorism and that the cornerstone to success is maintaining an all-volunteer Army. Major General Boles said that Soldiers need shorter deployment times and increased dwell times. He emphasized that the Army must accelerate growth and develop incentives to recruit and retain quality Soldiers.

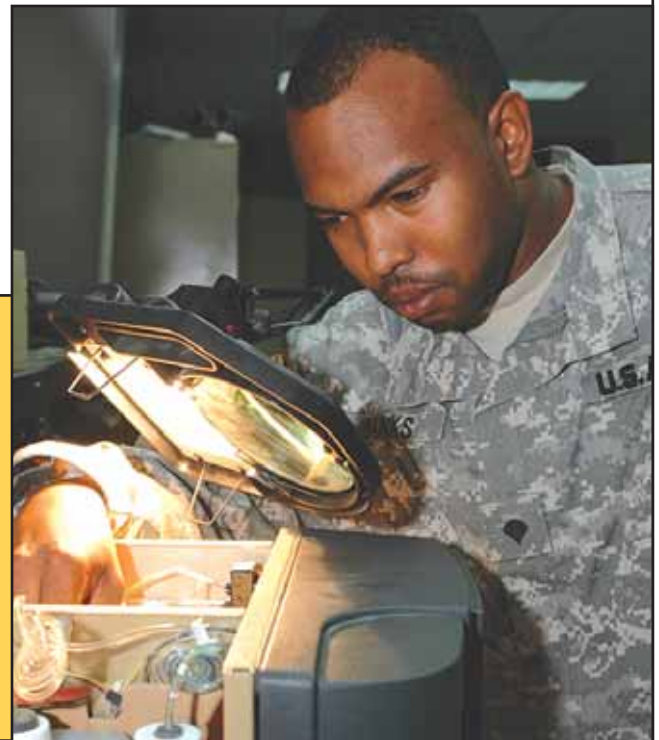
NEW PRODUCT MANAGER WILL DEVELOP FCS MUNITIONS SYSTEM

The Project Manager for Close Combat Systems, has established its first product management office, the Product Manager for Intelligent Munitions System (IMS). The new product manager will oversee the development of the IMS, which will be a significant component of the Future Combat Systems (FCS).

IMS will combine munitions, sensors, and communications devices into a system that will allow U.S. forces to obtain and maintain the tactical advantage in the battlespace. With the IMS, U.S. forces will be able to detect and neutralize enemy forces, cover gaps in dangerous terrain and secure flanks to counter enemy maneuvers, protect fixed facilities, and support movements by friendly forces.

A medical maintenance technician assigned to the 32d Multifunctional Medical Battalion repairs a blood fluid analyzer. The battalion maintenance team receives more than 200 work orders a month on equipment such as CAT scan and x-ray machines and chemical scanners. Besides its maintenance mission, the battalion is the only major medical supply and distribution center in Iraq. From bandages to blood, it supports more than 450 units from stocks of more than 2,700 lines of medical supplies.

(Photo by Staff Sergeant Alex Licea, Third Army/U.S. Army Central Public Affairs Office)



ARMY AND FEMA CONDUCT HURRICANE TRAINING EXERCISE

To improve local, Federal, and military responses to disasters, U.S. Army North, the Federal Emergency Management Agency, and Texas civil-support-operations personnel conducted a hurricane exercise in June. The participating agencies used this event to evaluate the Brownsville and Houston-Galveston evacuation plans, using a fictional category 4 hurricane as a backdrop for the exercise.

U.S. Army North was represented by the six-person Region VI Defense Coordinating Element (DCE), which is responsible for supporting Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. The Texas exercise allowed the team to build relationships with the other agencies. All senior leaders who would be involved in a disaster participated in the exercise.

During the exercise, the Region VI DCE practiced integrating aviation, logistics, medical planning, and engineering personnel, deploying to forward locations, and processing requests for assistance. The exercise allowed each of the local, state, Federal, and military agencies to learn about how the other

agencies operate and how they could work together to be more effective.

PINE BLUFF ARSENAL MOVES TO JOINT MUNITIONS COMMAND

The Army Materiel Command (AMC) will transfer operational control of industrial activities at Pine Bluff Arsenal, Arkansas, from the Army Chemical Materials Agency (CMA) to the Army Joint Munitions Command (JMC), effective 1 October.

The transfer will bring the arsenal's missions of ammunition production, chemical and biological defense production and repair, depot storage and surveillance, chemical weapons management, and homeland security under one of AMC's industrial life-cycle management commands—JMC's parent command, the Joint Munitions and Lethality Life Cycle Management Command.

The Pine Bluff Chemical Activity, which is a tenant organization at Pine Bluff Arsenal, will continue to report to CMA in executing its mission of destroying chemical agents stored at the arsenal.



A convoy mounted by E Company, 710th Brigade Support Battalion, 10th Mountain Division, delivers ammunition, food, water, mail, and other supplies to the 1-32 Infantry Battalion in Afghanistan. The company's Soldiers regularly drive along the Pech River Road, one of the most dangerous roads in eastern Afghanistan. Poor weather, widely dispersed unit locations, and heavy demand for aerial resupply assets make road convoys essential despite the risks of attack, rock slides, and other threats. (Photo by Specialist Jon H. Arguello, 22d Mobile Public Affairs Detachment)

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Coming in Future Issues—

- **Contracting: What Deploying Units Need to Know**
- **Army/Marine GS/DS Class I Storage and Distribution Center**
- **Modular Medical Logistics Support at JRTC**
- **CRSP Operations in MND–B**
- **The Medical Command Officer Distribution Plan**
- **4th Sustainment Brigade Realignment**
- **Special Forces Forward Logistics Elements in Afghanistan**
- **Streamlining Class VIII Management at Brigade Level**
- **A Commander’s Guide to the Forward Support Company**
- **Operation Mountain Thrust in Afghanistan**
- **Adapted Missions for Petroleum Liaison Detachments**

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