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MARCH-APRIL 1999

Golden Cargo '98

Peacetime Deployment

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ARTICLES

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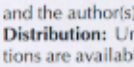
COVER: Deployment and movement exercises such as Golden Cargo '98 prepare the Army for real-life missions. The 3d COSCOM, an Army Reserve unit based in Des Moines, Iowa, and Army National Guard units in Nevada and Utah participated in this national exercise that quickly moved explosive materials through several states. Counterclockwise, the photos show a driver transfer point, a soldier performing a maintenance check, trucks lined up at the staging point, and arrival of trucks at the end of the convoy mission. Several articles in this issue, such as the one beginning on page 28, describe movement operations.

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

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:



JOEL B. HUDSON
Administrative Assistant
to the Secretary of the Army
05277

Coming in Future Issues—

- The Army's Introduction to Chemical Logistics
- Modularity: The Key to Army After Next Logistics
- Deployment and Civilians: What Incentives Do We Need?
- Contingency Contracting for the Special Forces Group
- CINC Support Command
- Contingency Contracting: Strengthening the Tail
- Rising to the Challenge of Shrinking Resources
- Joint and Combined Theater Logistics: The Future Reality
- Future Operational Capabilities to Sustain Army Missions
- Unit Water Resupply—It's in the Bag
- Financial Electronic Commerce in the Logistics Community
- Evolution of Army Reserve Logistics
- Fueling the Force in the Army After Next

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SYSTEMS

The information presented in Army Logistician's Systems *is compiled, coordinated, and produced by the Army Combined Arms Support Command (CASCOM), Information Systems Directorate. Readers may direct questions, comments, or information requests to Lieutenant Colonel Thet-Shay Nyunt by e-mail at nyuntt@lee.army.mil or phone 804-734-1207 or DSN 687-1207. –Editor*

THE JAD: A LOOK INSIDE GCSS-ARMY DEVELOPMENT

Eli Whitney, the inventor of the cotton gin, sold the Army on the concept of interchangeable parts for flintlock rifles. Interchangeable parts revolutionized the way manufacturers and military gunsmiths supported the force of the 19th century. Almost 200 years later, we have another logistics revolution; this time it is digital. The acquisition of new equipment today is more difficult due the complexity of modern military systems. Every major item in the Army inventory is the work of numerous individuals, commands, agencies, congressional committees, and program managers. Even though a project is large, careful planning must be exercised down to the most minute detail. The Army's development of the Global Combat Support System-Army (GCSS-Army) is no exception.

In a nutshell, GCSS-Army is the next generation of combat service support information systems. In its first-cut version, it integrates the functions of current logistics automation systems into a single, off-the-shelf hardware and operating system platform. (For a more detailed description of, and vision for, GCSS-Army, see the January-February 1999 issue of *Army Logistician* or visit CASCOM's website at http://www.cascom.army.mil).

A critical task in GCSS-Army development is ensuring that "end-user" requirements (what the soldier in the field really needs) are translated into software application. In other words, who ensures that the end users get what they want?

The answer is the Army Training and Doctrine Command (TRADOC) and its designated agent, the Information Systems Directorate (ISD) of CASCOM. Within ISD, it falls on the shoulders of the Standing Joint Application Development (JAD) Team.

The term "JAD" describes, in broad terms, a process during which functional experts work alongside programmers to develop computer codes for an application. This application development process fosters a working relationship between functional experts and programmers, as opposed to having experts providing requirements documentation to programmers and expecting the desired product. The JAD concept is an established process for developing commercial software for rapidly evolving applications. The process is successful because it ensures that functional experts and programmers work together, since both groups are responsible for the final product.

The Standing JAD for GCSS-Army is a body of warrant and noncommissioned officers who represent functional logistics disciplines, such as maintenance, supply, property accountability, and food service. In addition to identifying tactical logistics functions, the Standing JAD is charged with ensuring that command-unique requirements and interfaces are established for the Army National Guard and the Army Reserve and for medical, personnel, finance, training, transportation, and management functions.

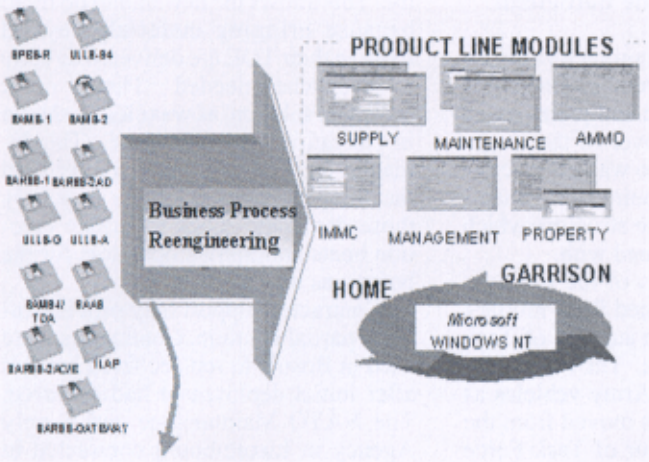
The work of the Standing JAD is twofold: it defines detailed requirements, and it conducts functional area JAD meetings of representatives of field commands. From its inception, GCSS-Army has been a collaborative effort by numerous commands and agencies. Participation by the major Army commands (MACOM's) ensures that developers keep focused on user requirements and the dynamics of current, real-world logistics operations. The GCSS-Army Standing JAD initially conducted a series of gatherings to solicit ideas from the Army. Experts from every MACOM, the Army National Guard, and the Army Reserve attended week-long sessions to describe and validate the useful functions of the current systems and what they expected of GCSS-Army. The results of these initial JAD sessions then were closely examined, researched, and ordered to become the baseline for the functions of the first-cut version of GCSS-Army.

The Standing JAD organization will operate for the term of Tier 1 system development and is expected to dissolve in the year 2000 after the first modules of GCSS-Army are fielded.

Points of contact for the Standing JAD are Chief Warrant Officers Frank Meeks and Ray Elgin. Their e-mail addresses are JAD@lee.army.mil and elgina@lee.army.mil. For more information on GCSS-Army and Army logistics systems, visit the CASCOM web page at http://www.cascom.army.mil or the GCSS-Army web page at http://www.gcss-army.army.mil.

GCSS-ARMY UPDATE

GCSS-Army modules will incorporate the functions of current systems as follows—



- In the supply/property module: Standard Property Book System-Redesign (SPBS–R); Unit Level Logistics System-S4 (ULLS–S4).
- In the maintenance module: Standard Army Maintenance System (SAMS–1 and 1/Table of Distribution and Allowances [TDA]); Unit Level Logistics System-Ground (ULLS–G); Unit Level Logistics System-Air (ULLS–A); Executive Management Information System (EMIS).
- In the ammunition module: Standard Army Ammunition System Modernization (SAAS–MOD).
- In the supply support activity module: Standard Army Retail Supply System (SARSS).
- In the integrated materiel management center module: SARSS–2A; 2AC/B; some functions of EMIS.

The management module will allow commanders to integrate data from the other modules to support the decision-making process or to spot trends. This module will contain new functions that, when complete, will allow managers to integrate data from Army systems outside of traditional logistics channels. Currently the management module will interface the Standard Installation/Division Personnel System (SIDPERS) with the Theater Army Medical Management Information System (TAMMIS) and the Transportation Coordinator's Automated Information for Movements System II (TC AIMS II).

A TOTAL ARMY APPROACH TO GCSS-ARMY TRAINING

A Total Army strategy is envisioned for GCSS-Army fielding, which will begin in the year 2000 timeframe. The increasing reliance upon the reserve components makes early fielding an imperative, especially when a major slice of combat support for many active component divisions is in the Reserves. The strategy calls for the deployment of hardware and software in regional areas for both active and reserve components. The concept uses active component installations and regional training sites (RTS's) operated by the Army National Guard and the Army Reserve to field items and conduct new equipment training. The selected sites will field GCSS-Army to regional customers regardless of component. The RTS's are not strangers to the fielding of new systems; the maintenance RTS's were used to field the M1 Abrams tank and for other equipment modernization initiatives. The Army National Guard and the U.S. Army Reserve Command used RTS's to field the ULLS to their respective component units. The RTS's currently train soldiers in selected military occupational specialties from both active and reserve units.

GCSS-ARMY TIERS II AND III

The work of systems development, as this column continually emphasizes, is more than software and hardware. At the heart of systems requirements determination is the task of identifying and improving business processes. Often this task involves defining what the Army wants from its automated systems. At the tactical end of the combat service support spectrum, we want systems that will provide users with the supplies they requisition at the right place at the right time. We also want to keep track of equipment readiness and generally provide managers with accurate data for controlling equipment for the warfight. For a system to be truly "global," we must integrate the business processes and systems from the "factory to the foxhole." Leading the effort to integrate systems and processes beyond the tactical level is the work of the GCSS-Army Standing Integrated Concept Team. This team works to integrate processes that now comprise the retail and wholesale systems.

In upcoming *Systems* columns, we will be introducing readers to the development of GCSS-Army Tier II and Tier III, Joint Integration.

Editor's note: An article in the *Systems* column in the November-December issue of *Army Logistician* reported that multimedia training packages for ULLS–G, ULLS–A, and ULLS–S4 were available from the Joint Visual Information Services Center (JVISC). Regrettably, the product officer for ULLS at Fort Lee, Virginia, reports that ULLS–A has not been developed. Distribution of the training packages for ULLS–G and ULLS–S4 has been postponed pending the availability of funds to reproduce the CD–ROM packages. TRADOC is exploring funding sources to meet these requirements. Training material orders will be accepted by JVISC and distribution made as packages become available. For more information, visit the ULLS website at http://www.ilogs.army.mil or call (804) 687–7679 or DSN 6878–7679.

(Log Notes *continued from page 4)*

Master Mechanics—A Lost Cause

I want to comment on Major Diana Lizotte's article, "Training the Force XXI Multicapable Mechanic," but first, I should introduce myself. Since November 1976 I have been an Army National Guard technician truck mechanic at Camp Roberts, California. Camp Roberts has about 200 full-time civilian track and wheel mechanics who, like myself, have to be in the Army National Guard to have the civilian job. We come from all branches of the regular active duty services. I was a wheel mechanic in the Air Force from June 1965 to December 1968. I was an engine man in the Naval Reserve from December 1972 to December 1974, and joined the Army National Guard in February 1975.

In the past decade, I have seen many articles written for *Army Logistician* and other Army publications by authors saying the same thing as did Major Lizotte—that the Army needs a super, more capable mechanic for the 21st century who will somehow be cross-trained and expert at more skills. That mechanic never has, and never will, exist.

As long as high technology has been around, the Air Force and the Navy have provided the best services. They have generally had the best of the military brain pool and the highest percentage of brainy people to tend to their technical things. Neither has been famous for cross-training to create jacks of all military trades. The Army and Marine Corps are known for cross-training the jacks of many trades. Now that the Army is getting more technical, they think they are still going to keep doing it. The Army could stand to take a lesson from the Navy and the Air Force—even if you have the best and brightest people, you shouldn't try to make everyone a master of many trades.

The best and brightest of the mechanics struggle to make the new technology work. It is more than enough challenge to have some expertise at what they are doing already without trying to become expert at additional tasks. When the sixties decade ended, mechanics no longer had a handle on all things. The technology just got to be too much.

SGT Roger K. Fike, ARNG
San Miguel, CA

Contractors(?) On the Battlefield

The discussion of contractors on the battlefield in the November-December issue was informative and pretty much on the mark. The cover of the magazine, however, is in no way contractor-related, but it does point out a major deficiency in our force structure which will need to be reckoned with.

First, the picture is of the Russian-made, Hungarian-owned PMP military ribbon bridge used in support of Task Force Eagle in Bosnia. The trucks pictured are Hungarian Army vehicles as well. This bridge was moved from the Russian Brigade sector of Task Force Eagle to the vicinity of Slavonski Brod in order to open up a second main supply route until fixed bridges across the Sava River were reconstructed. (You can see a similar picture with an article on the cover of the 26 June 1996 issue of the TALON, Task Force Eagle's online newpaper, Volume 2, No. 24).

The issue that your cover brings attention to is the state of the Army's military bridging. The cover photo points out the dependence on combined operations to support coalition-type engagements. We needed to depend on some other army's bridging because of the inadequacy of our own. The post-Cold War reductions in the Army's size took a disproportionately high number of float bridge units out of the force structure. Companies were removed from divisions and placed at corps. Corps force reductions were much more severe than divisional cuts. The result was that fewer than half the 1993 number of bridge companies remain today, and most of those are in the reserve components. Only four float bridge companies remain in the active force. The real problem is that the number of rivers in the world has not changed, and the number of places in the world that could involve our Army has increased tremendously. We simply lack the Cold War capability to cross those rivers.

How do you deal with the problem? Part of the solution was creation of the multi-role bridge company, which merges the remaining fixed (land) bridge and float bridge companies into a single unit with the capability to build both fixed and float bridges. The company's organic capability, however, is not as great as either the fixed or float bridge companies it replaces. This was mitigated somewhat by the logistics decision to treat bridging as a commodity. This allows the new unit to do more because bridging materials beyond those in their TOE are delivered directly to them when needed. That is not a complete solution, as was clearly shown in Operation Joint Endeavor. The demands for bridging were greater than the troop strength available to satisfy those demands. Lack of bridge erection boats and trained operators for the boats was a problem.

Contractor support may provide another partial solution. Contractors were used in Bosnia to replace fixed bridges after initial deployment had occurred. The NATO Maintenance and Supply Agency in Luxembourg contracted in early 1996 for 18 fixed bridges, a number of which were erected in the U.S. IFOR sector. Although it has never been done, there might be instances where contracting of float bridging might be of value once the area of operations is substantially secure. There is very little commercial float bridge capability; the bridging may have to be supplied by the Army. As pointed out in your articles, care must be taken in the advanced planning to balance the pros and cons of using contractors for such a role so that success of the mission may be assured. Then again, maybe the Hungarian Army will once more be available for hire.

COL (Ret.) Frederick J. Charles III
Fairfax, VA

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

ALOG NEWS

CSSCS REPORTING USED IN BOSNIA

The 1st Cavalry Division (Forward), Fort Hood, Texas, is using the Combat Service Support Command and Control System (CSSCS) to support peacekeeping operations in Bosnia. The CSSCS is being used to track critical items, including classes I, II, III, V, VII, IX, and water, for Task Force Eagle. This system links the contingency force in Bosnia to Fort Hood and the commander in chief in Europe. The CSSCS gathers, displays, and disseminates CSS command and control information for the commander, providing him with total visibility of logistics throughout the area of operations. The system was designed for use in a combat environment, so Task Force Eagle personnel are making continuous system adjustments to fit the peacekeeping situation.

To prepare for the transition from paper to electronic reporting, the Task Force Eagle G4 Support Operations Section conducted 2 days of CSSCS operator training in various subordinate unit locations. The training focused on system management, design, standing operating procedures, and reporting requirements, and gave information on how the CSSCS system would be implemented for Task Force Eagle.

To ensure a smooth transition from paper to electronic reporting, a system operator and a system administrator were assigned to each of 10 terminals, which began operating and providing CSS status reports in early November. The electronic reports were compared to the paper submissions to validate the information for accuracy. The information matched, so on 9 November the CSSCS became the primary reporting system.

CSSCS is one of five components that make up the Army Tactical Command and Control System (ATCCS). ATCCS provides an electronic decision support tool for fast, accurate logistics information on the rapidly changing battlefield. The system accumulates near real-time data on critical commander-tracked items and provides reports on the logistics posture of units and force echelons in minutes instead of the hours required with older information systems. The system accumulates real-time data on critical items for the commander in a matter of hours. With ATCCS, unit personnel, who once spent 80 percent of their time collecting data and 20 percent of their time analyzing it, will spend only 20 percent of their time retrieving and 80 percent analyzing the information they need.

RELIEF OPERATIONS IN HONDURAS RELY ON HUB-AND-SPOKE LOGISTICS

When Hurricane Mitch devastated the Central American nation of Honduras last November, it indirectly provided the Armed Forces of the United States an opportunity to demonstrate the effectiveness of a hub-and-spoke logistics system.

Under such a system, supplies are delivered to a central "hub," where they are sorted for distribution to a number of "spokes." In the case of Hurricane Mitch relief in Honduras, Joint Task Force Bravo has centered its supply delivery mission at Soto Cano Air Base. From there, hubs and spokes serve as the forward bases of relief operations in the hurricane-ravaged Honduran countryside.

For example, the town of Catacamas acts as a hub in the province of Olancho. Food, clothing, and medicine arrive there by truck and helicopter and are sorted for onward movement to outlying villages (the spokes). The supplies are moved by CH-47 Chinook helicopters from Company C, 159th Aviation Regiment, and UH-60 Black Hawk helicopters from Company D, 228th Aviation Regiment (both units from Fort Bragg, North Carolina). Helicopters are used because the hurricane destroyed most Honduran roads (over 60 percent of the nation's infrastructure). Deliveries of supplies from Catacamas to villages are made in a round-robin fashion throughout the day.

At the hub, soldiers are responsible for communications, medical care, resupply operations, and aviation support, including a forward area refueling point at the airstrip outside Catacamas. Airmen and marines provide security.

(Continued on page 51)

ALOG NEWS

(Continued from page 1)

LOGCAP SUPPORT UNIT ESTABLISHED

The Army Materiel Command (AMC), in partnership with the Army Reserve, has established a Logistics Civil Augmentation Program (LOGCAP) Support Unit at AMC headquarters.

LOGCAP is an Army initiative to plan during peacetime for the use of contractor support during wartime and other contingencies. The LOGCAP Support Unit is under the operational control of AMC, but its higher headquarters is the 310th Theater Support Command (USAR) at Fort Belvoir, Virginia. The unit is staffed by 7 full-time personnel and 59 Army Reservists who drill one weekend a month and for 2 weeks each year.

The unit will deploy during exercises, operations, and contingencies to provide oversight and serve as a liaison between contractors and the Army. It is tailored into flexible deployment packages that will support the three logistics support elements in Europe, the Pacific, and the continental United States (which supports Southwest Asia and the Southern Hemisphere).

DynCorp, headquartered in Reston, Virginia, was awarded the LOGCAP contract in 1997 to provide combat service support to the Army in future operations and contingencies.

ARMY INDUSTRIAL FACILITIES COMPETE FOR BUSINESS

Three Army industrial facilities—Rock Island Arsenal, Illinois; McAlester Army Ammunition Plant, Oklahoma; and Watervliet Arsenal, New York—are participating in a pilot program that allows them to sell manufactured products and services to defense contractors on a competitive basis. Previously, the facilities could sell their services only when a product or service could not be acquired in a timely manner from a private sector source. This program has opened up a new source of potential work loads for the participating facilities.

However, there are some limitations. The program only allows sale of manufactured articles and services used in weapon systems being procured by the Department of Defense (DOD). Since the facilities must compete for work received, there is no guarantee that the prime contractor will use the Army-owned industrial facilities. The program specifically does not apply to foreign military sales or to DOD contracts for products or services, such as demilitarization projects, that are not related to weapons manufacturing. While the pilot program may be limited in scope, it is in addition to, not a replacement for, other sources of work. Potential work that does not fit under the pilot program can be pursued under a different authority, such as a certification of commercial nonavailability.

The 1998 Defense Authorization Act requires the Army to conduct the pilot program for weapons solicited by DOD during fiscal years 1998 and 1999. DOD's Inspector General will report to Congress on the results of the pilot program by 1 July 1999. Congress then can choose to extend the pilot program or allow it to expire. If the pilot program is not extended, the old provision requiring a certification of commercial nonavailability will go back into effect.

Potential customers who would like to learn more about the program should contact one of the following business development offices: Rock Island Arsenal, (309) 782–7625, DSN 793–7625, or e-mail siori-co-bd@ria.army.mil; McAlester Army Ammunition Plant, (918) 420–6452, DSN 956–6452, or e-mail mcdaniel_paul@mcalestr-emh1.army.mil; or Watervliet Arsenal Marketing and Customer Development Office, (518) 266–5809, DSN 974–5809, or e-mail insco@wva.army.mil.

LINK PROVIDES ONE-STOP INFORMATION SERVICE

The Logistics Information Network (LINK), maintained by the Defense Logistics Agency's (DLA) Defense Logistics Information Service, is a single, on-line interface to 14 logistics information systems operated by the military Services, DLA, and the General Services Administration (GSA). LINK provides users visibility of wholesale, retail, and surplus assets in the inventories of the various Services and DLA. It also tracks the status of requisitions. LINK provides:

- Item identification and supplier data.
- Department of Defense Activity Address Directory (DODAAD) information.
- Excess stock levels at Defense reutilization and marketing offices (DRMO's).
- Wholesale (Army, Navy, Air Force, and DLA) and retail (Army and Navy) level stock availability.
- Requisition and transportation status from the

Army, Air Force, DLA, GSA, and the Military Traffic Management Command.

LINK processes queries in two ways: fast batch and interactively. For batch processing, users log onto a client and build queries to the data bases. (A client is an application that runs on a personal computer or workstation and relies on a server to perform some operations.) Users can access a LINK client through a Telnet session (LINK Classic) or the World Wide Web (WebLINK), or their PC can act as a LINK client (PC LINK). The client sends the queries to servers that access the data bases, retrieve the requested data, and send responses to their client. Responses are provided in the formats received from the host systems. Users should receive responses in an hour or less.

On the Web, using RapidLINK, users have interactive access to three data bases, including status information from the Logistics Information Processing System, the Defense Automated Addressing System, and the Distribution Standard System. Responses to most queries are received within 1 minute.

LINK's newest capability, SmartLINK, automates research on supply items. Users enter a national stock number (NSN) and SmartLINK automatically retrieves item information (such as source of supply, acquisition advice code, and unit price), surplus assets available from DRMO's, on-hand assets from the Service or agency managing the item, and retail assets at major Army commands and Navy stock points.

LINK eliminates the need to get access accounts on multiple systems and learn how to use them. It can be set to process queries automatically on a daily basis and to submit queries in batches.

For more information, visit the LINK website at http://www.dlis.dla.mil/link.htm.

SPECIAL OPERATIONS SUPPORT UNIT FIRST TO FIELD NEW FORKLIFT

The 528th Special Operations Support Battalion (Airborne), Army Special Operations Support Command, Fort Bragg, North Carolina, received the new all-terrain lifter Army system (ATLAS) last fall. The 528th, the Army's only support battalion designed to support all special operations forces, was the first Army unit fielded with the new ATLAS forklifts.

The ATLAS has a maximum lift capacity of 5 tons with a three-stage telescopic boom. At the vehicle's maximum reach of 21 feet 6 inches, it can lift 2 tons. At 15 feet, it can lift 3 tons, and at 4 feet, it can lift 5 tons. It has two sets of forks, one for a 3-ton carriage and the other for a 5-ton carriage. It is capable of forking depths up to 36 inches. The system also has the ability to tilt the frame up to 30 degrees to the left and right to ensure that the load is always level. With a 165-horsepower engine, the ATLAS has a maximum speed of 23 miles per hour on the road. There are three forward speeds and reverse.

In addition to its performance advantages over the 6- and 10-ton forklifts the battalion previously used, the ATLAS has an air-conditioned and heated cab and suspension seats for the operator's comfort. It also can be configured to be placed on a C-130 cargo plane for air movement.

Soldiers using the new equipment have very positive things to say about it. "The ATLAS has great mobility," said Specialist Brian Dooley, water purification specialist. "It steers better and is more comfortable to operate than the 10-ton."

☐ A 528th Special Operations Support Battalion soldier conducts preventive maintenance checks and services on the ATLAS.

AMC TECH MANUALS NOW DIGITAL

The Army Materiel Command has converted its library of 17,000 technical manuals to CD-ROM's. More than 2.5 million pages now can be accessed on desktop, notebook, and laptop computers and local area networks. This reduces the paper burden on soldiers in the field and saves publishing and distribution costs.

In the past, soldiers relied on voluminous paper technical manuals to repair a weapon system or conduct routine maintenance. For example, the Abrams tank technical manual library contains 110 publications, or approximately 40,000 pages, and weighs 160 pounds. All 110 publications now are contained in digital form on two CD-ROM's.

Most paper technical manuals will be phased out as units in the field get CD-ROM readers. Until then, the Army will supply both CD-ROM and paper copies of all

technical manuals. Publications such as operator's manuals will continue to be available in paper format to meet the soldier's needs.

The goal of the electronic technical manual program is to have a fully digital environment for technical information by 2002. Then technical manuals, bulletins, and other documents will be available as bundled sets of publications on CD-ROM's.

SIDPERS–3 APPROVED FOR PRODUCTION AND FIELDING

The Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence has authorized the Army to begin full-scale production and fielding of its next-generation personnel management system, the Standard Installation/Division Personnel System Version 3.0 (SIDPERS–3).

SIDPERS–2, which has been in use since 1972, does not provide commanders and staff with real-time interactive access to personnel information data bases. In addition, it is not year 2000 (Y2K) compliant, which means that it will not process transactions involving date calculations after 31 December 1999 without major software recoding. Such recoding would require an estimated 198 man-years of effort.

SIDPERS–3 solves the Y2K problem and permits real-time, interactive access to personnel information data bases. With immediate access to time-sensitive information, commanders can make more informed decisions involving their personnel assets for both peacetime and wartime operations.

SIDPERS–3 incorporates the latest commercial hardware and software into the Army's personnel system. It moves the Army from an existing mainframe-based system to an architecture that is open, responsive, dependable, and decentralized.

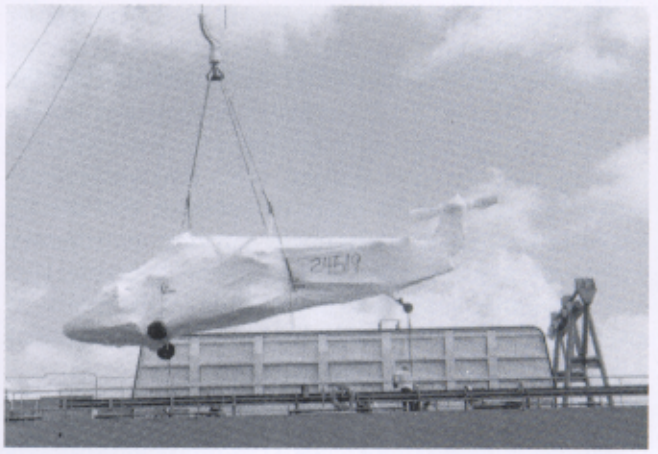
The SIDPERS–3 data base will accommodate three times as many data elements as SIDPERS–2. Additionally, its relational data base and distributed processing will improve query capability and data base synchronization, since each user will be responsible for maintaining his own data.

The new system immediately corrects errors and speeds flow of correct shared information. Personnel transactions entered at a battalion personnel action center will be entered into the Total Army Personnel Command data base in approximately 72 hours.

Many laborsaving features are included in SIDPERS–3, such as a promotion module that automatically applies cutoff scores to determine monthly promotions. It also produces promotion orders. Other enhancements, such as an integrated Army personnel and pay module, are planned.

Some installations have received SIDPERS–3 already. Others currently are receiving new equipment, and personnel are being trained in its use before actual conversion to the new system. The rest of the active Army will be switched over to SIDPERS–3 by October. Fielding to Army reserve components should be completed by 2002. Incorporation of SIDPERS–3 into the Department of Defense's corporate personnel management system, the Defense Information Management Human Resources System, is planned.

The SIDPERS–3 program is managed by a product management office at Fort Belvoir, Virginia, which is a subordinate element of the collocated Program Executive Office, Standard Army Management Information Systems. Contact Lieutenant Colonel Jenna Noble, (703) 806–4310 or DSN 656–4310 (e-mail NobleJ@peostamis.belvoir.army.mil), or Major Calvin Bailey, (703) 806–3656 or DSN 656–3656 (e-mail BaileyC@peostamis.belvoir.army.mil), for more information.



☐Members of the Military Traffic Management Command's 596th Transportation Group in Beaumont, Texas, discharge a helicopter from the *USNS Watson*, which arrived from Bremerhaven, Germany, on 14 August 1998. Forty-five helicopters were among the 1,464 pieces of cargo and equipment of the 2d Armored Cavalry Regiment, which was returning to Fort Polk, Louisiana, from Bosnian peacekeeping duties. The *Watson*, the first of its class of large, medium-speed, roll-on roll-off ships, carried cargo that originally had been shipped to Bosnia aboard two fast sealift ships and one large, medium-speed, roll-on roll-off ship. The cargo comprised the largest shipment to the Beaumont port in the last decade. Because no Army Reserve unit was available to organize the discharge operation, a crew of MTMC civilian employees and soldiers was trained to discharge the ship.

CENTER FOR ARMY ANALYSIS MOVES

The Center for Army Analysis, formerly known as the Army Concepts Analysis Agency (CAA), is moving from Bethesda, Maryland, to Fort Belvoir, Virginia, in March.

The name change is the result of the Headquarters, Department of the Army, Redesign Concept Plan. The agency continues to function as a field operating agency under the jurisdiction of the Director of the Army Staff, Office of the Chief of Staff of the Army.

The CAA will be located at 6001 Goethals Road, Fort Belvoir, Virginia.

NEW BACKPACK ADOPTED

The Army is adopting a new, improved backpack in April. The modular lightweight load carrying equipment (MOLLE), developed jointly by the Marine Corps and the Army, looks much like the old all-purpose, lightweight, individual, carrying equipment. However, it is more comfortable and allows soldiers to carry weapons and equipment specific to their mission.

The MOLLE is adjustable in height for different body sizes. It has a waist strap that balances the weight of the pack so the load is supported by the hips and not just the shoulders. The MOLLE has better padding and a more comfortable, anatomical fit that keeps the pack closer to the body and minimizes shifting. It has removable pockets on the vest and the pack, components that can be added or discarded to eliminate carrying unnecessary equipment, a sleeping bag, and an internal hydration system that allows soldiers to drink while on the move. It also has a quick release to enable the soldier to get out of the pack quickly when required.

The vest that accompanies the backpack comes in several versions based on the soldier's mission. For example, there are vests for riflemen, grenadiers, squad automatic weapon gunners, and medics.

The Army conducted extensive testing on the MOLLE prototype using female soldiers. Based on the results of this test, the size of the MOLLE was reduced slightly. This design change will help ensure that the new backpack meets the needs of all soldiers, male and female.

Fielding of the MOLLE should begin this summer.

GLIDERING CONCEPT USED TO REFURBISH TRUCKS

In response to Secretary of Defense William Cohen's directive that military leaders partner with industry experts and reduce costs whenever possible, the Army Reserve is testing a new truck rehabilitation program called "glidering." Glidering is a commercial process that utilizes used components instead of new parts to refit trucks. This initiative supports the Army's largest noncombat procurement program, truck modernization.

☐The M915A4 prototype is unveiled during the glider kit rollout ceremony at Fort McCoy, Wisconsin.

Fort McCoy, Wisconsin, was the site chosen for initial implementation of the glidering overhaul concept. That installation was selected because of its maintenance facilities and its reputation for maintenance support. Reservists there will refurbish more than 300 M915 line-haul trucks with used parts, saving the Army Reserve approximately $15 million over the next 3 years. Using the glidering concept on an additional 1,700 vehicles potentially could save the Army Reserve another $90 million over the next 10 years. The converted vehicles cost about 50 percent less than new trucks and have the same capabilities and warranty as new ones. They also can be delivered to soldiers in the field in as soon as they are inspected and declared road-worthy, which is significantly less than the 2 to 5 years normally required to purchase new trucks.

At the same time, Army Reserve mechanics will receive hands-on mechanical training from Fort McCoy's civilian experts. The hands-on experience includes stripping down deteriorating vehicles and replacing old parts,

such as the frame, front axle, brakes, fuel tanks, air-conditioned cabs, electrical wiring, and other replaceable parts, from the glider kit. Teaming with private industry also gives the Army Reserve an opportunity to improve training.

HOSPITAL IN A BOX CAN REDUCE COMBAT FATALITIES

The Army and Marine Corps have devised a way to reduce combat casualties by taking the hospital to the wounded. The Advanced Surgical Suite for Trauma Casualties (ASSTC), or "hospital in a box," is designed to be used far forward in a combat situation for resuscitative surgery. It has the potential to reduce the combat mortality rate by 25 percent. It was developed in a collaborative effort by the Army Medical Research and Materiel Command (MRMC) and the Marine Corps.

The concept for the ASSTC was derived from lessons learned from Operations Desert Shield and Desert Storm. The prototype was built by the Department of Energy's Oak Ridge Centers for Manufacturing Technology in Tennessee.

The ASSTC is packaged in a 5-foot by 5-foot by 10-foot square box that weighs less than 2 tons. It can be airdropped or pulled by a high-mobility, multipurpose, wheeled vehicle. When opened, the box becomes a 900-square-foot, climate-controlled surgical suite. It takes less than half an hour to set it up, as opposed to 48 hours required for a traditional field hospital. It is stocked with 48 hours' worth of front-line surgical supplies. When those supplies are exhausted, the facility can be restocked or abandoned.

"The first few minutes after sustaining a life-threatening injury are critical for saving a patient," said Major General John Parker, commander of the Army MRMC. "Having trauma care on the front lines is vital."

The ASSTC, hailed by *Popular Science* magazine as one of the most important and innovative products of 1998, also has civilian applications. For example, the Federal Emergency Management Agency is considering using it for disaster-relief operations.

☐ The ASSTC can be set up in less than half an hour, as opposed to the 48 hours required for a traditional field hospital.

LOGISTICS AWARDS PRESENTED

Each year the Deputy Chief of Staff for Logistics (DCSLOG), Department of the Army, recognizes individuals and teams that have excelled in the different areas of Integrated Logistic Support (ILS). The 1998 winners were honored in an awards ceremony at the 1999 ILS Symposium in Huntsville, Alabama, on January 26. The winners were awarded a $1,000 prize. Individual winners and a representative of each of the winning teams also received a plaque from the DCSLOG.

The winners of achievement awards for excellence in the various ILS areas are—

- ***Logistics Support Improvement for Materiel/Information Systems:*** William Smithson of the Joint Tactical Unmanned Aerial Vehicle Project Office (JTUAV) for his work involving alternative sources for spare and repair parts that resulted in a return on investment of 10 to 1.
- ***Logistics Support Improvement for Materiel/ Information Systems:*** Louis Sciaroni, Thomas Steele, David Kopp, and Damon Templet, all of the Army Materiel Command Logistics Support Activity (LOGSA), for their work in the development of the PowerLog logistics data management information system.
- ***Integrated Logistics Support Execution/Process Improvement:*** Keith McLendon of LOGSA for his role in the development of the Cost Analysis Strategy Assessment life cycle cost model.
- ***Integrated Logistics Support Management:*** Marilyn J. Huemer of the Army Training and Doctrine Command Combat Service Support Control System for her work in the materiel release and improvement of the Combat Service Support Control System program.
- ***Integrated Logistics Support Management:*** Christopher J. Lowman and Michael J. Jackson of the Satellite Communications Division, Army Communications-Electronics Command for their work in the development of an acquisition requirements package for the AN/GSC-52 communications system that incorporates leading-edge ILS initiatives.

DSCR LAUNCHES COMMERCIAL LEAD-ACID BATTERY PROGRAM

The Defense Supply Center Richmond (DSCR) has developed an innovative program for ordering and recycling commercially available automotive lead-acid batteries. The program is called the BCI (Battery Council International) Commercial Vehicular Battery Program (CVBP).

Under this program, customers in the continental

United States can choose the brand name batteries they prefer. Delivery will be made in 3 to 18 days after the contractor receives the requisition, depending on the quantity of batteries ordered and the distance from the vendor to the customer. The delivered price includes pick-up and recycling of used batteries on a one-for-one basis. All components of the used batteries are recycled in accordance with Environmental Protection Agency and Department of Transportation regulations.

Visit DSCR's website at http://www.dscr.dla.mil to browse the CVBP page and place MILSTRIP/ FEDSTRIP requisitions on line. Purchase card orders can be placed using the Department of Defense (DOD) Emall at http://www.emall.dla.mil, and Defense Supply Expert System (DESEX) phone orders can be placed at (804) 279–4865.

For more information, call Bill Collins at (804) 279–3143 or DSN 695–3143 (bcollins@dscr.dla.mil) or Greg Smith at (804) 279–6148 or DSN 695–6148 (gsmith@dscr.dla.mil).

RESERVE EXERCISE PROVIDES FACELIFT TO AMMUNITION PLANT

The Oklahoma National Guard and the U.S. Army Reserve provided McAlester Army Ammunition Plant, Oklahoma, with a much-needed facelift as a part of their annual training exercise, "Golden Kastle '98." More than 1,500 citizen-soldiers from engineer units completed $5.4 million worth of construction projects that otherwise would have cost the plant considerably more.

The guardsmen built a surge support base camp for the reservists who worked on road and magazine projects that enhanced the plant's ability to meet Tier 1 requirements. (The plant, as a Tier 1 installation, will be required to ship ammunition quickly during the first 30 days of a military conflict.) The reservists paved 4.5 miles of road, prepared 8.4 miles for paving, built concrete truckstop pads at 19 railroad crossings, and extended the drive-through slabs at 30 ammunition storage magazines.

The training that the soldiers received closely resembled a real-time mobilization because the participating units reported to an unfamiliar group headquarters and combined forces with units from other parts of the country to accomplish the mission. Units participating in the exercise were the 120th Engineer Combat Battalion (Heavy) of the Oklahoma National Guard; the 389th Engineer Combat Battalion (Heavy), Dubuque, Iowa; 467th Engineer Battalion (Corps) (Wheeled), Memphis, Tennessee; and the 863rd Engineer Combat Battalion (Heavy), Darien, Illinois.

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Index of *Army Logistician* Articles—1998

LOG NOTES

RE: A Commanding Battle Staff

I agree with everything in the article, "A Commanding Battle Staff," in the January-February 1998 issue except for internal readiness and external operations. I believe, and many of my colleagues believe, the two sections should be combined. I work in one of these positions at the higher headquarters for the unit in this article. I worked in a position in the brigade staff prior to working at the higher headquarters in these sections. Our headquarters works currently under this concept. My colleagues and I agree that many taskings overlap and usually get worked only half way at the most. This is because there are two sections that work the same issue from different aspects that overlap, but because of the different chains of command, coordination between the two sections becomes a problem.

An example: I currently work in the Internal Readiness Section with equipment readiness. Many times an issue will come up that pertains to equipment readiness, and the equipment is at direct support maintenance or there is a direct support supply problem. Many times there are problems because those two activities are not part of our section and equipment readiness is not an issue or function for them. Is there a reason there should be two supply sections and two maintenance sections?

Prior to working at this headquarters, I worked at the brigade level, and the higher headquarters worked with only one supply section and one maintenance section, and everything worked much smoother. The section was called Army Chief of Staff Materiel (ACSMAT).

If anyone would like more information, please send e-mail to: jcadle@hotmail.com. Thank you.

SFC John P. Cadle
Camp Henry, Korea

FPOC's Aren't Perfect

In the May-June 1998 issue, an article mentions the convenience and overall success of the new, prefabricated overhead cover system known as the fighting position overhead cover (FPOC). However, you fail to mention any disadvantages to this new product.

After acquiring these in our unit, we decided to create a model foxhole so that all leaders in the battalion could see this new product. After excavating the earth and emplacing the FPOC, we noticed a major deficiency. First, it is impossible to dig a perfect 2-foot-wide foxhole in most soil conditions. Also, the major problem with the FPOC is the current length used in its design.

Engineering units use small emplacement excavators (SEE's) to dig foxholes. By using the backhoe bucket on a SEE, the width is, again, impossible to limit to 2 feet wide. Due to soil conditions and method of excavation, foxholes can rarely be limited to a 2-foot width. Because of this, the FPOC has limited bearing area on each side of the foxhole due to its limited 4-foot length. This reduces its ability to resist forces because of the increase of its moment arm. In other words, there is less supporting area to hold up 32 inches of soil and resist mortar rounds.

The FPOC has many advantages that need to be retained. The portability, strength, and speed of construction make the FPOC a great asset. However, the length of the FPOC needs to be adjusted so that it has an overall dimension of 72 by 16 by 68 inches. An increase in thickness may be required to support the forces created when adjusting the overall length and moment arm.

CPT James Wolfe
Camp Howze, Korea

Editor's Note: The following is an abbreviated version of the response to Captain Wolfe's letter, provided by the Product Manager–Enhanced Soldier System. For more information, please call the Public Affairs Office at Soldier and Biological Chemical Command, DSN 256-4300.

The fighting position overhead cover (FPOC) is one of three items designed to improve the time and stability in preparing a deliberate two-soldier fighting position. The other two are the fighting position excavator (FPE) and the fighting position revetment (FPR), which have not yet been fielded.

The FPE is a binary explosive kit with a hand bucket auger for creating two boreholes. The explosives are placed down into the boreholes and detonated simultaneously to loosen the soil for easier digging with an entrenching tool.

Like the FPOC, the FPR is a prefabricated structure that can be assembled in a trench that is too wide. When soil is backfilled, the position will return to a rectangular 2-by-6 foot, armpit-deep, standard two-soldier fighting position. The FPR is still in development.

The tradeoff for improving the time and stability of fighting positions is the logistics burden of arranging delivery of the FPE, FPR, and FPOC. On the plus side is the reduced bulk, weight, and volume of these items compared to conventional class IV lumber and construction materials and the simplification of engineering knowledge with respect to assembly.

However, these fighting position aids remove a certain amount of flexibility in preparing a fighting position. Prefabricated structures must have fixed dimensions for simplicity of assembly and keeping costs reasonable.

Packaging is another consideration. For overhead cover, the end result that best fits all the parameters is a system

that is 48 inches long, 40 inches wide (16 inches wide when folded for transport), and 3 inches deep (6 inches when folded).

Optimum situation is to have a standard 2-foot-wide trench, allowing 1 foot on each side for bearing (1 foot + 2 feet + 1 foot = 48 inches—the length of the FPOC). The soil cover or sandbags will usually be evenly distributed across the 48-inch cover and blended into the protective berm or parapet. In this manner, the soil tends to create its own arch-like structure with abutments, lessening the moment on the steel structure.

A fair number of tradeoffs accompany acquisition programs where the objective is to achieve maximum performance with consideration given to cost, logistics, and schedule. The project manager and the combat developer stand behind the FPOC as the optimum blend of performance, cost, and logistics, taking into consideration the variables inherent in digging and fortifying on a planet with diverse soil conditions and terrain.

David L. Nelson
Fort Belvoir, VA

Include Ammunition in Total Package Fielding

I read the article, "Materiel Fielding Standardization," by Jack D. Scott in the September-October 1998 issue with great interest. I was hoping to find that class V supplies (ammunition and explosives) were included in some part of the Total Package Fielding (TPF) process, but it appears they are not.

During my Army career, I have struggled to ensure that all types of ammunition were available to be issued with new systems. Force modernization actions and TPF require ammunition for new equipment training teams, initial unit training, and ammunition basic load. Most memorable (painful) among the fielding actions I have been involved with include the AH-64 attack helicopter, the M1A1 tank, and the M2/M3 infantry/cavalry fighting vehicles. These new combat systems had very significant ammunition requirements for fielding and initial unit training. I have learned that class V is not included in the TPF process, and ammunition managers worldwide must take aggressive steps to ensure that the right mix of ammunition is available when new equipment arrives.

I realize that, due to safety requirements for explosives, ammunition for a new system cannot come in a box with the new system and be stored in a central warehouse or yard awaiting issue to the unit. But TPF managers need to ensure that the correct mix of ammunition is authorized and shipped to the supporting installation ammunition supply point where new equipment is being issued. Right now, installation ammo managers are informed of some of the ammunition requirements for TPF, and they must take the first steps to make sure the ammunition is forecast and therefore requisitioned and shipped to their installation. Many times this process is very confusing and results in ammunition for new equipment being ordered at the last minute or not being available when needed. We need to change a pull system into a push system for TPF ammunition requirements.

I suggest that TPF managers can work with Department of the Army ammunition managers to ensure that all ammunition required for a fielding of new equipment will be shipped to installations to support TPF. This information can then be passed down to ammo managers at all levels to coordinate actual allocation and issue of ammunition for new equipment fielding.

Let's make Total Package Fielding include the total package.

CWO4 Thomas R. Craig
Riyadh, Saudi Arabia

Is It Only Semantics?

I think that Mr. Sparks (November-December 1998 issue) wrapped up the major point of his own discussion regarding renaming support units as sustainment units in his own statement in the fourth paragraph of his editorial, "...the answer is not changing a word, but changing leadership and training."

Too often, when we are frustrated by a lack of recognition of our own discipline or soldiers, we resort to semantics rather than substantive issues. As a member of the Army Medical Department, I well understand this point. Like the quartermaster unit that Mr. Sparks references in his editorial, the role of the Army's medical soldiers is sometimes dismissed as less important than other disciplines, particularly during planning for major exercises and deployments. However, how we are referred to, as support or sustainment troops, ultimately makes little difference. When you get right down to it, it's how we do our job and overcome those very hurdles that makes us what we are.

It is about time that we focus less on semantics and more on substance in this and other related issues. Pride in a unit comes not from a title but from how good that unit is at its job. A unit that deploys to a hostile area and does a bang-up job has high morale, almost without exception. That good morale, and the respect that almost always follows such a unit, is a result of soldier competence and unit effectiveness. Those attributes are a direct result of leadership and training, not title.

With so much else threatening today's Army, and with the potential of "hollow" units being so real, let's get past the empty debate of what to call things and focus on what's important. We need to knuckle down and struggle with the issues that will actually enable us to do our jobs. We are, and will remain, the best fighting and support force in the world only if we focus on what's important: the soldiers, their training, and leadership.

LTC Dave Pratt
Fort Lewis, WA

Correction

CWO3 Paul Hodson's article on page 18 of the November-December 1998 issue contained a gross error. The 558th Transportation Company (TC) is not the only DS/GS company in the Army with the mission of providing service and support to the Army's watercraft inventory. The 175th TC has the same mission and a functional floating maintenance shop. In addition, Area Maintenance Support Activity (AMSA) 137(W) has the same mission. Since the 175th TC is an Army Reserve asset and AMSA 137(W) is staffed by civilians, it's a mistake common to most soldiers assigned to Fort Eustis or Fort Story.

Robert T. Godlewski
Tacoma, WA

Editor's note: We apologized to Mr. Godlewski and others for the oversight and invited AMSA 137(W) and the 175th TC to submit articles on their missions for publication in Army Logistician.

Trained Mechanics Not Looking for Work

Major Diana Lizotte's concept on recruiting, training, and retention of automotive technicians in her article, "Training the Force XXI Multicapable Mechanic" (November-December 1998 issue), just doesn't wash.

First, the reality is there is no collection of trained mechanics just looking for a place to work. According to the November 12, 1998 issue of the *Detroit Free Press*, "Auto mechanics are in high demand. But few young people see it as the challenging, high-tech career it has become. Young people simply aren't rushing to get their hands dirty under the hood." As an example of how large the issue is, Marty Keller, chief of the California Department of Consumer Affairs Bureau of Automotive Repair, recently stated "Consumers are only now beginning to feel the effects of the shortage of trained auto repair technicians." And, according to the Bureau of Labor Statistics, 168,000 automotive repair jobs will be created between 1992 and 2005.

Keeping those issues that impact on the mechanic job market in mind, let's look at the real reason the Army will not be able to recruit and, more importantly, retain technicians. Using the average wage of an entry-level automotive mechanic with a 2-year technical degree in Springfield, Missouri, the starting wages average $11.83 per hour. So if the mechanic works a 40-hour workweek, his or her take-home pay is $1,900 a month. The average 63-series PFC with the same degree earns $1,050 for his or her effort, and if you spend much time with the troopers in the motor pool, you know a 40-hour workweek is the exception, not the norm. Then throw in deployments, field training exercises, red-cycle details, and the host of other distracters, and you can see how the jobs, though similar in name, are not actually the same in responsibilities.

Where the entire system can potentially break down is with journeymen—the staff sergeants and sergeants first class. How do we convince them to stick around and deal with the REDUX retirement option, squads and teams not at 100-percent required strength, perceptions of quality-of-life reductions, and a host of issues facing the military? Our current compensation plan is not a selling point. According to the Edmonton Motor Dealers' Association 1996 income survey, the average hourly rate for journeymen technicians is $19, or $3,040 a month, and the average staff sergeant (the typical skill level for system mechanics) with 7 years of service earns a unimpressive $1,700.

Now consider that the current educational requirement to enlist in the Army is a high school diploma. I must question why we would place additional demands on only a select portion of the enlisted force and then not provide them any specialized pay? I would hope we are not advocating a return to the days of the "technical" grades for the enlisted force. The enlistment bonus and selective reenlistment bonus programs seem to work for the junior soldiers but do little for the journeymen at the 3 and 4 skill level. Indicative of the problem is that many organizational maintenance occupation specialties regularly promote all eligible soldiers to sergeant and would promote more if they were available. To my eyes, the fact that we do not have enough eligible specialists indicates a retention problem.

The way to get quality mechanics is to look to the training base and to technical development. First, we must ensure that we adequately fund, staff, and resource the Training and Doctrine Command. For too long they have been paying the higher price during the drawdown. We need to provide lesson developers who are trained and certified to industry standards through programs such as the National Institute for Automotive Service Excellence certification. Next, we need to develop courses whose foundations are solid with basic knowledge and skills. We need to be more like the vo-tech schools that Major Lizotte spoke of, but militarily focused. We need to develop leaders who actively seek out industry certifications with the same energy as they seek specialty assignments and promotions. But as in all requirements, we must not only publish a standard, we must provide some recognition when they achieve it. Finally, we need to adequately pay these technicians, or they will leave our Service for higher pay and a better environment.

This type of problem exists Army-wide, not just for the ordnance soldier. Many will stand up and say we do this job for reasons other than money, but the fact is we, as an institution, have to do a better job at compensating our enlisted force. Our Army is increasingly becoming more technically oriented, and we expect soldiers to perform at levels that years before were done at higher grades.

I propose that we recruit good people, train them to standard, then provide them pay and a quality of life comparable to that of the people they serve to protect. That is how we develop the Force XXI multicapable mechanic.

SGM Daniel K. Elder
Letterkenny Army Depot, PA

More On Training Mechanics

I read with great interest the article pertaining to the Force XXI multicapable mechanic. From a very interested motor sergeant's point of view, I can only applaud what has been painfully obvious. Unless a soldier/mechanic is allowed to really work on a piece of equipment—to diagnose, test, puzzle, and think it through—no real training occurs. The "cookie cutter" approach to maintenance (echelon 1, echelon 2, etc.) may have worked in the past, but on today's fast moving battlefield, it doesn't. A mechanic in an organizational section is only allowed to go so far, then he must hand off to the direct support folks. This doesn't train the organizational mechanic to do anything but cursory repairs and certainly doesn't enhance retention for skill training. If the Army wants competent mechanics, then expand the opportunity to get into the problem, rather than pass it up to the next level. Once that is done, speed in repairs comes naturally. The next time the mechanic will know the what, where, and why and can quickly return the equipment to service. The soldier/mechanic needs to do the repair from start to finish.

Let the opportunity for better training be made available, let it count for promotion, and give the soldier/mechanic the opportunity to excel by recognizing good work and initiative. The Army is best served by soldiers who use intelligence, initiative, and flexibility in maintenance; let's not stifle them.

SFC Jack L. Beckman
Seattle, WA

(Log Notes *continued on page 50)*

(Log Notes *continued from page 4)*

Master Mechanics—A Lost Cause

I want to comment on Major Diana Lizotte's article, "Training the Force XXI Multicapable Mechanic," but first, I should introduce myself. Since November 1976 I have been an Army National Guard technician truck mechanic at Camp Roberts, California. Camp Roberts has about 200 full-time civilian track and wheel mechanics who, like myself, have to be in the Army National Guard to have the civilian job. We come from all branches of the regular active duty services. I was a wheel mechanic in the Air Force from June 1965 to December 1968. I was an engine man in the Naval Reserve from December 1972 to December 1974, and joined the Army National Guard in February 1975.

In the past decade, I have seen many articles written for *Army Logistician* and other Army publications by authors saying the same thing as did Major Lizotte—that the Army needs a super, more capable mechanic for the 21st century who will somehow be cross-trained and expert at more skills. That mechanic never has, and never will, exist.

As long as high technology has been around, the Air Force and the Navy have provided the best services. They have generally had the best of the military brain pool and the highest percentage of brainy people to tend to their technical things. Neither has been famous for cross-training to create jacks of all military trades. The Army and Marine Corps are known for cross-training the jacks of many trades. Now that the Army is getting more technical, they think they are still going to keep doing it. The Army could stand to take a lesson from the Navy and the Air Force—even if you have the best and brightest people, you shouldn't try to make everyone a master of many trades.

The best and brightest of the mechanics struggle to make the new technology work. It is more than enough challenge to have some expertise at what they are doing already without trying to become expert at additional tasks. When the sixties decade ended, mechanics no longer had a handle on all things. The technology just got to be too much.

SGT Roger K. Fike, ARNG
San Miguel, CA

Contractors(?) On the Battlefield

The discussion of contractors on the battlefield in the November-December issue was informative and pretty much on the mark. The cover of the magazine, however, is in no way contractor-related, but it does point out a major deficiency in our force structure which will need to be reckoned with.

First, the picture is of the Russian-made, Hungarian-owned PMP military ribbon bridge used in support of Task Force Eagle in Bosnia. The trucks pictured are Hungarian Army vehicles as well. This bridge was moved from the Russian Brigade sector of Task Force Eagle to the vicinity of Slavonski Brod in order to open up a second main supply route until fixed bridges across the Sava River were reconstructed. (You can see a similar picture with an article on the cover of the 26 June 1996 issue of the TALON, Task Force Eagle's online newpaper, Volume 2, No. 24).

The issue that your cover brings attention to is the state of the Army's military bridging. The cover photo points out the dependence on combined operations to support coalition-type engagements. We needed to depend on some other army's bridging because of the inadequacy of our own. The post-Cold War reductions in the Army's size took a disproportionately high number of float bridge units out of the force structure. Companies were removed from divisions and placed at corps. Corps force reductions were much more severe than divisional cuts. The result was that fewer than half the 1993 number of bridge companies remain today, and most of those are in the reserve components. Only four float bridge companies remain in the active force. The real problem is that the number of rivers in the world has not changed, and the number of places in the world that could involve our Army has increased tremendously. We simply lack the Cold War capability to cross those rivers.

How do you deal with the problem? Part of the solution was creation of the multi-role bridge company, which merges the remaining fixed (land) bridge and float bridge companies into a single unit with the capability to build both fixed and float bridges. The company's organic capability, however, is not as great as either the fixed or float bridge companies it replaces. This was mitigated somewhat by the logistics decision to treat bridging as a commodity. This allows the new unit to do more because bridging materials beyond those in their TOE are delivered directly to them when needed. That is not a complete solution, as was clearly shown in Operation Joint Endeavor. The demands for bridging were greater than the troop strength available to satisfy those demands. Lack of bridge erection boats and trained operators for the boats was a problem.

Contractor support may provide another partial solution. Contractors were used in Bosnia to replace fixed bridges after initial deployment had occurred. The NATO Maintenance and Supply Agency in Luxembourg contracted in early 1996 for 18 fixed bridges, a number of which were erected in the U.S. IFOR sector. Although it has never been done, there might be instances where contracting of float bridging might be of value once the area of operations is substantially secure. There is very little commercial float bridge capability; the bridging may have to be supplied by the Army. As pointed out in your articles, care must be taken in the advanced planning to balance the pros and cons of using contractors for such a role so that success of the mission may be assured. Then again, maybe the Hungarian Army will once more be available for hire.

COL (Ret.) Frederick J. Charles III
Fairfax, VA

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

A Velocity Management Update

by Lieutenant Colonel Joseph L. Walden

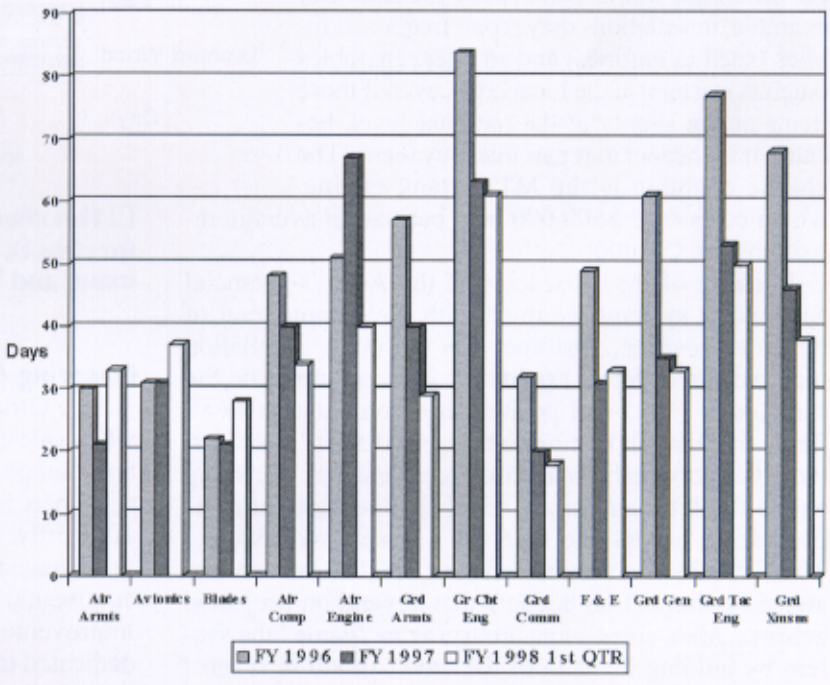
The author reviews recent developments in one of the major initiatives of the Revolution in Military Logistics.

Velocity management, as most readers of *Army Logistician* know, started in early 1995 with the goal of replacing mass with velocity and stockpiles of supplies with reduced order ship times. The program initially focused only on improving management of class IX repair parts, since those items consumed the most dollars and had the greatest direct impact on readiness. Over the past 3 years, the Velocity Management Program has expanded to other areas; there now are process improvement teams (PIT's) for repair cycle time reductions, stockage determination, and financial management. The efforts to improve order ship times and repair cycle times also have expanded, in order to improve the accuracy of requisitions as well as the speed of the system. This reflects a good news-bad news situation: the system is now so responsive that if you order the wrong part, you get the wrong part faster. In another development, a new PIT recently was initiated to look at transportation issues affecting velocity management, primarily at the wholesale/strategic level.

In this article, I will update *Army Logistician* readers on the status of the Velocity Management Program and provide information on some ongoing initiatives. Velocity management is an Army program managed by the Army Combined Arms Support Command (CASCOM) Velocity Management Team at Fort Lee, Virginia. However, the real impetus for success comes from the involvement of leaders at the installation level and the actions of site improvement teams.

Reducing Repair Cycle Times

The Repair Cycle Time (RCT) PIT is focused on improving the accuracy of diagnostics to ensure that the right part is ordered to correct a deficiency or fault. These efforts should produce less excess and reduce the volume of customer returns. The RCT PIT has worked diligently to map the processes used at the Army's maintenance depots and integrated sustainment maintenance (ISM) sites; the team will concentrate its efforts on the installation and directorate of logistics level in fiscal year 1999.



☐ The Army's mean time to repair (MTTR) has been reduced 35 percent in 3 years, from an average 57.2 days in fiscal year (FY) 1996 to 37 days in the first quarter of FY 1998.

One of the most disturbing trends the RCT PIT has discovered is that some installations are repairing or inducting some items into the ISM program at a rate that is as much as twice the consumption rate. This alarming trend means that either we are not checking the demand data before repairing items or we are not checking the due-in-from-maintenance file before passing a requisition from the manager review file.

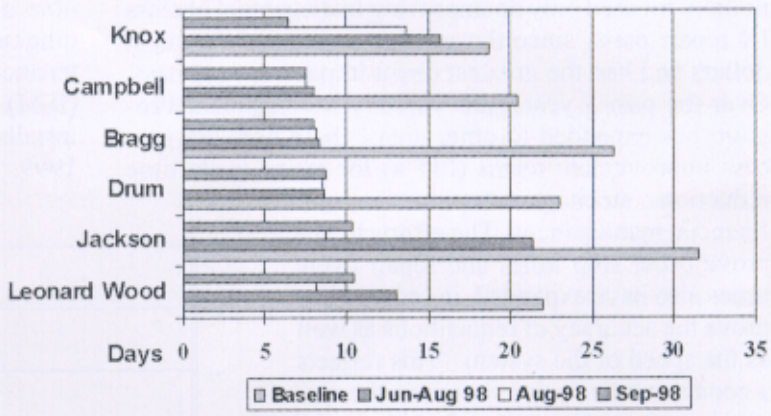
The RCT PIT also is working on ways to streamline the repair process and the maintenance-to-maintenance retrograde process in order to maximize the productivity of mechanics and improve readiness. The team is working closely with the Army Materiel Command's Logistics Support Activity and with the field to make the Work Order Logistics File (WOLF) data base more accurate. The good news is that, across the Army, the mean time to repair (MTTR), for both components and end items, is down 35 percent over the past 3 years (see chart on page 5).

Improving Logistics Financial Management

The Financial Management (FIN) PIT has mapped successfully the processes involved in the interface between the logistics and financial systems. While doing so, they discovered, to no one's surprise, that to make ends meet under local budgets, installations often are forced to be entrepreneurs and take actions that are practical and legal at the local level but undercut the efficiency of the Total Army process. For example, installations may repair major assemblies (such as engines) and smaller reparables (such as starters) at the local level, even if those items are in supply at the national level, because it is cheaper to repair than buy them. The classic example is the M1A1 tank engine, which costs over $500,000 new but has an average repair cost of $54,000.

Because of the intricacies of the Army's financial accounting systems, coupled with the computation of net asset position, customers on the same installation may receive different credits for the same items on the same day. (Net asset position is a computation of all items for a stock number on an installation's records, including serviceable and unserviceable items. Anything above the total authorized level for the installation is considered excess and receives a lesser credit value.) These credits can vary as much as $50,000, which creates a big impact on budgets that depend on projected credits. Also, some units are trying to "game" the system by holding items until the credit situation is most advantageous to them. This compounds the problem by slowing the repair cycle for components. This problem has been elevated to the Assistant Secretary of the Army for Financial Management for resolution.

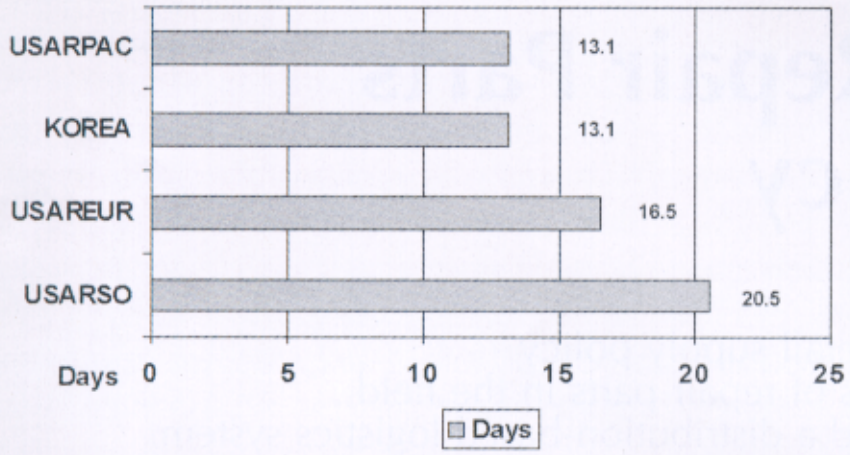
Another large problem uncovered by the FIN PIT is the timing and frequency of price changes and the resulting impact on units. The Army, unlike most commercial businesses, updates its catalog monthly. About 4 percent of the prices in the catalog change during the update process. Unlike commercial catalog practices, the Army charges the customer (the unit) the price of the item when it is received instead of the price when the item was ordered. This creates the need for numerous manual edits to try to find out why the unit's "checkbook" is out of balance. This situation is similar to buying a set of tires at Wal-Mart and writing a check for $150 to cover the order, only to have that check clear the bank at $200. The average price change is only 81 cents, but some changes noted at Fort Hood, Texas, and Fort Campbell, Kentucky, varied as much as $10,000 either way. This problem also is under review by the Assistant Secretary of the Army for Financial Management.



This chart shows the reduction in order ship times for class IX items for the top three Army Forces Command and TRADOC installations.

Lowering Order Ship Times

The Order Ship Time (OST) PIT is focusing on the wholesale and retail levels to streamline the distribution and storage of supplies. The continuing goal is to put the right part in the hands of the soldier faster and more efficiently. The efforts of the OST PIT over the past 3 years have reduced the OST for the Active Army in the continental United States (CONUS) by 54 percent. This improvement is a direct result of the use of scheduled, dedicated trucks. These trucks bypass central receiving points whenever possible and deliver supplies, sorted by supply support activity (SSA) Department of Defense Activity Address Code, directly from the depot to the SSA.



☐ Order ship times for class IX items for major Army commands outside CONUS also have shown substantial improvement.

Over the last 3 years, the soldiers at Fort Bragg, North Carolina, in conjunction with the dedicated workers at Defense Logistics Agency (DLA) depots, have reduced OST for class IX items by 69 percent. Other installations have shown similar OST reductions: Fort Hood by 65 percent; Fort Irwin, California, by 55 percent; and Fort Campbell by 52 percent. Several Army Training and Doctrine Command (TRADOC) installations are now among the leaders in OST, as shown in the chart at left. Early in 1998, the CASCOM team produced a set of templates detailing ways to achieve less than 1 day requisition processing and 1 day receipt processing. Outside CONUS OST also has shown some dramatic improvements (see the chart above).

Managing Inventories Better

The most exciting program in velocity management is the test of variable safety level/variable stockage criteria at Fort Campbell. When Major General James Wright took over the leadership of the Stockage Determination (SD) PIT late last year, he charged the team with looking at a methodology to manage inventories better. General Wright told the PIT that the Army should have different criteria for stocking and managing $500,000 M1A1 tank engines and 5-cent washers. He tasked the PIT to come up with some ideas for different add-and-retain criteria based on dollar-cost bands. (In other words, the categories for evaluating items are defined by a cost range.)

Initial study of the Army Master Data File (AMDF) revealed that over 75 percent of the items on the AMDF cost less than $100. Armed with this knowledge, the PIT studied demand data for one division over a year and discovered that 71 percent of the items ordered from wholesale as not mission capable supply (NMCS) cost less than $100 and that over 36 percent cost under $10.

The SD PIT took a two-phased approach to implementing a program using variable stockage criteria. Phase I focused on realigning authorized stockage lists (ASL's) at Fort Campbell to push more stocks down to forward support battalion ASL's. After a careful review of the demand analysis data, items with a value of less than $1,500 were added to ASL's and the stocks were cross-leveled to the forward support battalions. This resulted in broader ASL's across the installation, with a reduction in their value from $19 million to $9.2 million. At the same time, the fill rates from the ASL's increased and the number of referrals was reduced. The use of scheduled, dedicated trucks from DLA depots delivering directly to the SSA's produced significantly lower OST, thus allowing for reductions in some of the depth of the ASL's. Also during phase I, Fort Campbell's warehouses were reorganized to be more efficient, and the number of ISU 90 containers was reduced from 40 to 19 within the main support battalion.

Phase II of the Fort Campbell effort started with a simulation: What would be the impacts on ASL's and their support performance measures if a variable stockage criteria algorithm, based on dollar-cost bands, replaced the old days-of-supply computation? The results of the simulation were impressive, producing fill rates of close to 90 percent for NMCS requisitions. These results were sufficient to gain a waiver from the Deputy Chief of Staff for Logistics, Department of the Army, to implement the dollar-band variable stockage criteria. This test will be exported to a heavy division in fiscal year 1999 to validate the Fort Campbell results. Those results will be reported in a future article.

The Velocity Management Program continues to progress as a key component of our Revolution in Military Logistics. The cumulative effect of the improvements in order ship times, repair cycle times, stockage determination, and financial management will be felt in the field, in better support of the 21st century warfighter. **ALOG**

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Changing Repair Parts Supply Policy

by Ira D. Crytzer

Recent changes in Army retail supply policy will reduce stockage levels of repair parts in the field and move the Army toward a distribution-based logistics system.

Repair parts management in the field must keep pace with the changing environment of today's Army. Retail supply policy must reflect the impacts of downsizing and restructuring, budgetary constraints, and velocity management improvements to ensure a lean yet accommodating supply system. Above all, equipment readiness must not suffer.

The continued downsizing trend in the Army has brought about significant manpower reductions, particularly in combat service support (CSS) units. The recently announced reorganization of our future division structure will result in a reduction in heavy division strength from 18,000 soldiers to 15,000. Part of this loss in strength will be in the CSS ranks. This will result in less manpower available to maintain, store, receive, issue, and account for the large repair parts inventories to which we have been accustomed at unit and direct support levels.

The Department of Defense (DOD) budget continues to shrink. Between 1985 and 1997, the DOD budget was reduced by 38 percent. Operation and maintenance, Army, appropriations will be reduced from $20.2 billion in fiscal year (FY) 1996 to $16.9 billion in FY 1999. This equates to a 16-percent reduction in buying power for Army operations, including repair parts. This also impacts the traditional custom within the Army of maintaining large amounts of repair parts in the field as insurance for high equipment readiness.

Conversely, significant improvements have been made in repair parts business practices as a result of enhanced automation and process improvements, which accelerate the flow of repair parts from the wholesaler to the customer. Army velocity management teams and the implementation of automated receipt, issue, and inventory systems have produced significant reductions in order ship times. The average order ship time (OST) overseas has dropped from over 30 days to less than 20 in the last few years. OST in the continental United States has shown an even more dramatic improvement, dropping from an average of 20 days to around 6 days or less. These improvements in repair parts automation and business processes go a long way toward offsetting the force reductions and declining budgets the Army now faces.

Although we no longer can afford to buy and manage large quantities of spares in the field, we can rely on automation and velocity management to ensure that the right part is in the right place at the right time. Replacing the traditional inventory approach to retail supply with this distribution approach also enhances the Army's rapid-deployment force-projection capability. Deploying forces can be leaner and less encumbered with "iron mountains" of repair parts and the personnel and equipment required to handle them. With an effective distribution supply system, combat units can deploy faster and lighter and still be assured of a high state of readiness in a theater of operations.

These improvements are effective, but if Army retail supply policy does not reflect this changing environment, the field will continue to mirror the traditional supply approach to repair parts management. Equipment readiness still will mean more parts on the ground. It will be doubly difficult for unit commanders to step out of their comfort zone if Army retail supply policy does not provide the stimulus. Here is a description of the first steps made in this direction by the Department of the Army Deputy Chief of Staff for Logistics (DA DCSLOG) in the prescribed load list and authorized stockage list areas.

Prescribed Load List

Prescribed load list (PLL) policy is found in chapter 2 of Army Regulation (AR) 710-2, Inventory Management Supply Policy Below the Wholesale Level. A PLL includes those repair parts authorized at unit level for maintenance of a unit's equipment. Typically, each bat-

talion maintains its own PLL account. The three generic categories of PLL are demand-supported, non-demand-supported, and initial-issue parts. Demand-supported parts must meet a certain number of demands within a specified control period to qualify for stockage. Non-demand-supported parts must be approved for stockage by the first general officer in a unit's chain of command. Initial-issue parts are repair parts initially issued to support newly fielded equipment.

On 7 July 1997, the DA DCSLOG released a policy message effectively reducing unit PLL's. The first change increased the AR 710-2 criteria for adding a part to the PLL from three demands in 180 days to nine demands in 180 days and the criteria to retain a part in the PLL after it has been added from one demand in 180 days to six demands in 180 days. The new demand criteria effectively limit demand-supported PLL items to those repair parts that are frequently used by the unit. However, certain units with low-density, unique equipment are allowed to continue using the older criteria; examples include air traffic control, medical, aviation, and Army Signal Command units.

The second change made by the message was to limit non-demand-supported lines to a maximum of 15. Note that the term "line" refers to a distinct category of inventory, not an individual part. For example, five M2 Bradley fighting vehicle fuel pumps equate to one line, not five. Previously, there was no limit to the number of non-demand-supported lines that a unit could stock as long as the unit had general officer approval. This change put stronger emphasis on not stocking those parts that are "nice to have" but not frequently used.

The third significant change was to limit overall PLL stockage to a maximum of 150 lines, including both demand-supported and non-demand-supported items. This is a 50-percent reduction from the previously allowed limit of 300 lines. Exceptions were made for specific types of critical units with unique, low-density equipment that have limited sources of repair parts. Examples of these are the previously mentioned medical, air traffic control, aviation, and Army Signal Command units. These units still are allowed to stock up to the 300-line limit.

Finally, initial-issue spares stockage at the PLL level was eliminated. These repair parts now are stocked only at the next higher level, the direct support authorized stockage list. This change supports the move toward a leaner, demand-supported PLL philosophy.

PLL's today are smaller, lighter, and more deployable than they ever have been. Being much more demand-supported in nature, they reflect the true needs of the unit without the "comfort zone" of extra parts in the bin. Although the field still is not completely comfortable with these changes, the fact that equipment readiness rates remain at very high levels indicates that the Army can rely on velocity management to maintain readiness while spending less money on repair parts at the unit level.

Authorized Stockage List

Authorized stockage list (ASL) policy is found in chapter 3 of AR 710-2. ASL's provide repair parts to using units and direct support maintenance activities. Managed at the supply support activity level, ASL's are the source of supply for unit PLL's. Stockage criteria are similar to those of PLL's. Repair parts are either demand-supported, non-demand-supported, or initial provisioning to support newly fielded equipment. The focus in this article will be on the demand-supported portion of ASL management. This is where significant policy changes have been made.

The Army traditionally computes demand-supported stockage levels on a days-of-supply (DOS) basis. Items qualify for ASL stockage when there have been at least nine demands within 360 days. Thereafter, at least three demands in 360 days are required to retain the item. Repair parts supporting low-density, critical systems such as missile, aviation, and engineer equipment require only three demands to add and one demand to retain.

The stockage level is the actual quantity of a demand-supported repair part line that is authorized to be stocked. It is based on the total quantity of an item requisitioned during the previous 360 days and is computed as follows—

Operating Level (OL)
+ Order Ship Time (OST) Level
+ Safety Level (SL)
= Requisition Objective (RO)

The OL is the average quantity of an item projected to be used in a certain number of days, based on use during the last 360-day period. AR 710-2 sets this number at 15 days for U.S.-based ASL's and 30 days for ASL's based outside the United States.

The OST level is the average quantity of parts in the resupply pipeline. It is based on the average time elapsed between requisitioning and actual receipt of the part for the past 360 days. As velocity management initiatives reduce OST, fewer parts are required to be stocked at the ASL level.

The SL is a set number of day's worth of parts stocked for insurance purposes. The purpose of the SL is to make up for any deficiencies in supplies caused by extraordinary demands or aberrations in OST. AR 710-2 sets the SL at 5 days' worth of parts in the United States and 15 days' worth of parts outside the United States. This is based on the average quantity ordered during the previous 360-day period. A maximum number of 20

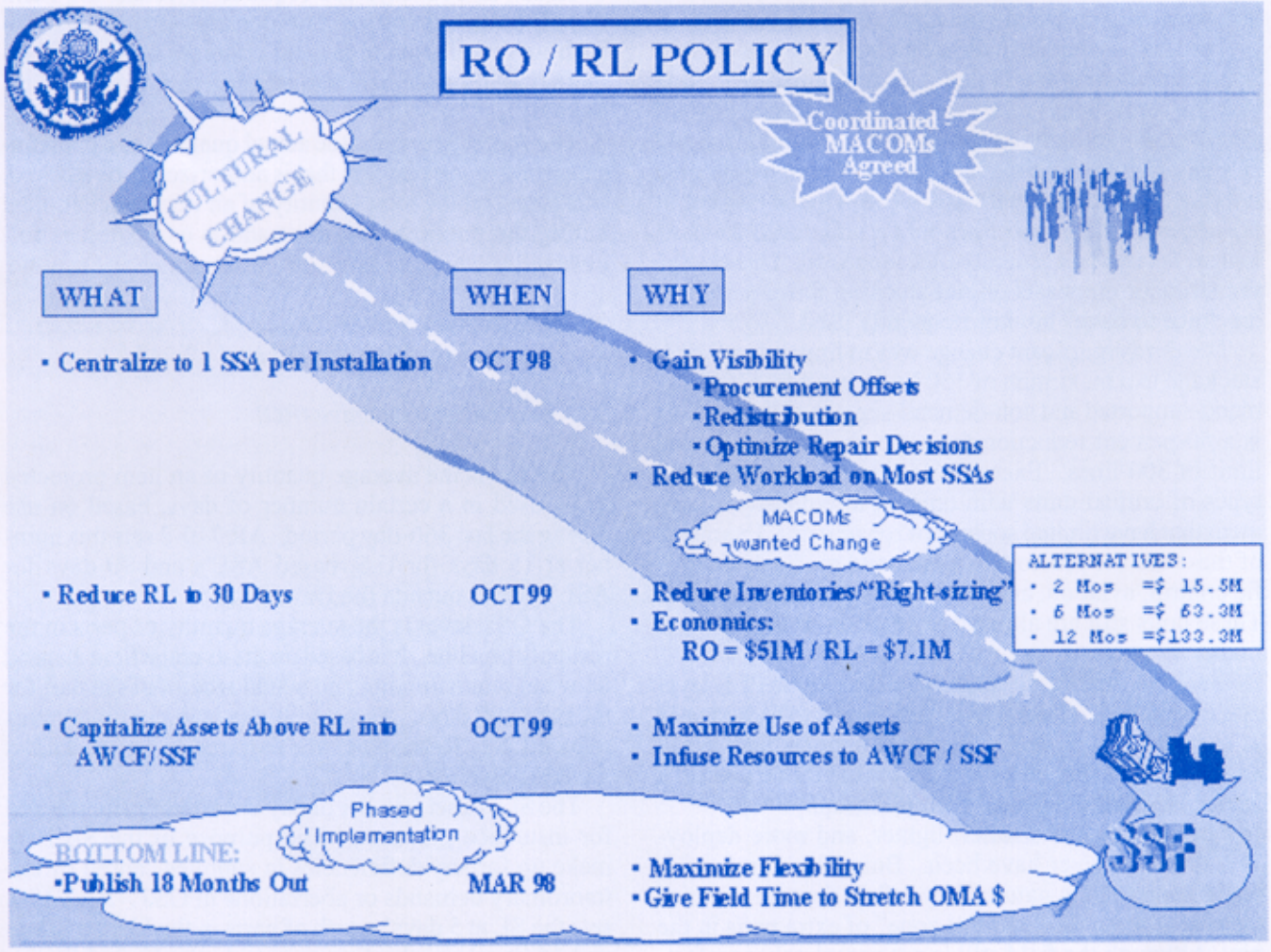
days' worth of parts (OL + SL), plus the average pipeline quantity of approximately 6 days' worth, are authorized for stockage in U.S.-based ASL's. ASL's outside the United States are authorized 45 days' worth of parts (OL + SL), plus their average pipeline quantity of a little less than 20 days under the traditional AR 710-2 DOS policy.

The next piece of this equation is the reorder point (ROP). When quantities are reduced to the level that equals the SL and the OST level, a requisition is triggered to order enough parts to again equal the total RO. Or in other words, when the OL has been consumed, that quantity is requisitioned. The ASL's are supported by the SL and OST quantities while the requisition is being filled. Therefore, the RO equals the total quantity of parts that are on hand and due in from a source of supply, minus any quantity that is owed to a customer (if the ASL is zero-balanced for an item).

The final point to be made here is that AR 710-2 designates any quantity above the RO level as excess and not to be retained. Because the DOS computation for demand-supported repair parts is based on average quantities consumed during the previous 360 days, a certain amount of turbulence is built into the system. Increases in consumption rates and cyclic consumption peaks result in periodic zero balances for certain critical repair parts. DA DCSLOG recognized this and on 21 May 1996 published a policy message allowing the temporary retention of excess to offset turbulence. This policy allowed commanders to use their discretion in determining what items and how many of each were to be kept in this retention level (RL) account.

Using Economic Order Quantity Methodology

The Army published new ASL policy guidance on 30 March 1998 that has had a significant impact on ASL management. This message allows the use of the economic order quantity (EOQ) methodology as an alter-



☐ This chart summarizes changes in requisition objective (RO) and retention level (RL) policy that will reduce ASL inventories.

native to DOS for determining ASL stockage. It also puts stringent restrictions on the retention of repair parts above the RO.

EOQ also is a demand-based stockage methodology. However, it adds unit price, ordering costs, and storage costs (based on the weight and size of the item) into the equation. EOQ does not limit stockage levels to an arbitrary amount of days, as does the DOS method. EOQ looks at the demand patterns of each item to determine the most economical quantity to have on hand at any given time and the most economical ROP quantity to reorder. Under EOQ, management still determines SL as computed in the DOS formula, and the average-quantity-demanded factor is based on the same 360-day historical period. The ASL add-and-retain criteria remain the same as well. Under EOQ, expensive and bulky repair parts will be ordered more frequently and the amount on hand at any given time will be reduced. Inexpensive and small repair parts will be ordered less often, with more kept on hand than the DOS formula allows.

There are several advantages to this approach. Cost savings are realized because the on-hand inventory of expensive items is reduced. EOQ also takes advantage of velocity management improvements in OST as the Army moves from an inventory-based to a distribution-based supply system. Requisition processing costs are reduced because the majority of ASL items are low-dollar items that will be ordered less frequently, sometimes only once or twice a year. It costs about the same to process a requisition for 1 bolt as it does for 100 bolts. Finally, the ability of the ASL to be deployed will be enhanced. By changing the mix of the ASL to smaller, more inexpensive repair parts and fewer heavy items, the overall weight and cubic volume of deployment packages are reduced.

EOQ modeling based on historical demand data of selected Army divisions has shown that a high level of readiness still can be achieved. It is the small, inexpensive repair parts that cause most equipment deadlines. The bulky, expensive repair parts, when needed, will be available quickly because of the velocity management reductions in OST.

Reducing Excess

The same policy message that now allows the use of EOQ also puts severe restrictions on retaining excess repair parts at levels above the authorized RO. Units in the field have liberally implemented the discretion given to commanders in establishing temporary RL levels. Traditionally, field commanders have equated a large amount of parts with higher readiness. This drove RL accounts to a very high level. What this actually accomplished was an increase in retail inventories and frozen assets that might have been needed elsewhere.

The DA DCSLOG's 30 March 1998 policy message allows only those repair parts that are demand supported to qualify as an RL line. Once established as an RL line, the repair part must have had at least three demands in the previous 360-day period to be allowed to remain as an RL line. This is reduced to one demand in a 360-day period for parts supporting low-density, critical systems such as missile, aviation, or engineer equipment. The quantity of each qualified RL line will not exceed a 30-day average of the amount consumed for the past 720 days. For example, if 48 bolts were used in the last 720 days, only 4 additional bolts above the RO will be allowed in the RL excess account.

This policy becomes effective on 1 October 1999. Any repair parts on hand in the ASL above the RO and not meeting the RL criteria outlined above will be immediately turned in as excess. This gives field commanders time to adjust their inventories and use up excess items before the new policy is implemented. The RL policy will reduce ASL inventories while still allowing for adequate additional stockage of those demand-supported items affected by cyclic demand frequencies and increases in demand rates. ASL zero balances will be controlled while at the same time on-hand inventories will be reduced. Dollars will be saved, and ASL deployability will be improved.

Retail supply policy is moving into the 21st century. Repair parts inventories at the retail level are being reduced, saving the Army millions of dollars. This is a necessary measure as the Army's budget is reduced. As repair parts inventories go down, the management burden on the tactical Army lessens. Automation support will permit management of these inventories with less manpower. Reductions in force and reorganizations will have less impact on the Army's core combat capability. Force projection capability will be enhanced. The Army will no longer need to take a massive repair parts inventory into the field. Yet equipment readiness will remain high because of the automation and process improvements of velocity management.

The Army is moving from the traditional inventory-based supply system to the economically efficient distribution-based supply system of the future. These policy changes are just the beginning. As the Army supply system becomes increasingly efficient, further changes can be anticipated. It is imperative that policymakers be aware of these efficiencies and develop policies that facilitate their achievement. **ALOG**

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Using TC ACCIS During Redeployment

by Captain Corey A. New

The Transportation Coordinator Automated Command and Control Information System was a vital component of the successful redeployment of the 2d Armored Cavalry Regiment from Bosnia to Fort Polk, Louisiana.

The 27th Transportation Battalion (Movement Control) deployed from Wiesbaden, Germany, to Hungary and Bosnia on 25 April 1998 to support the deployment, redeployment, and sustainment of forces participating in Operation Joint Guard (renamed Operation Joint Forge on 20 June). Before our deployment, it was decided that two railheads, Lukavac and Brcko, in Task Force Eagle's area of responsibility in Bosnia, would be used to redeploy the 2d Armored Cavalry Regiment back to Fort Polk, Louisiana, and to deploy the 2d Brigade of 1st Armored Division from Baumholder, Germany. The use of these railheads was made possible by the transportation infrastructure within the Multinational Division (North) area of responsibility, which gave the North Atlantic Treaty Organization-led Stabilization Force (SFOR) the capability to move equipment and containers from the railheads to locations closer to the base camps.

This was a significant change to the deployment and redeployment processes. Previously, SFOR units deployed through two railheads in Taszar, Hungary, and then moved into Bosnia by road. History was made as units deployed by rail to and from the former Republic of Yugoslavia for the first time since World War II. Because the deployment and redeployment models for our area of responsibility changed, our battalion had to change its movement control task organization to better support our customers.

TC ACCIS to the Rescue

Fortunately, we had the Transportation Coordinator Automated Command and Control Information System (TC ACCIS) to help us. TC ACCIS automates procedures for submitting unit movement requirements during both contingency deployments and peacetime operations. In peacetime, TC ACCIS is simply a data base of information on all unit tables of organization and equipment (TOE's) on the automated unit equipment list (AUEL), as well as on containers, pallets, and other equipment that require special handling when a unit deploys. Each unit maintains the equipment in its TC ACCIS data base by unit identification code (UIC).

TC ACCIS enables unit movement officers (UMO's) to maintain and update critical deployment information routinely rather than wait until a crisis occurs to collect or update the data. Maintenance of the unit AUEL must have command attention, since the accuracy of the data base directly affects the unit's ability to deploy successfully. When a unit is scheduled to deploy, the UMO can use TC ACCIS to copy the AUEL into a deployment equipment list (DEL). He can copy the unit's entire list of equipment, or just a list of the equipment being deployed. The UMO can update the DEL, add or delete equipment, adjust dimensions, and add or update load information on the DEL to reflect the actual weight of each vehicle, container, or pallet being deployed.

TC ACCIS is the automated information system for inputting level-five detail (line identification number, length, width, height, and weight) into the time-phased force deployment data (TPFDD). The TPFDD contains prioritized arrival, routing, and movement data associated with forces and sustainment. TC ACCIS cannot transmit data directly to the Joint Operations Planning and Execution System (JOPES). The Computerized Movement Planning and Status System (COMPASS) reformats the data for transfer into JOPES, the Global Command and Control System-Army (GCCS-Army), and the Global Transportation Network (GTN). At the strategic and operational levels, these data help movement planners develop a time-phased force deployment list that contains prioritized arrival, routing, and movement information associated with forces and sustainment. Accurate DEL's help to ensure that forces arrive at the right place at the right time.

More importantly, at the unit level, accurate DEL's

will greatly improve the efficiency of moving a unit from a port of embarkation to a port of debarkation. Specifically for movements in Germany, a unit's servicing movement control team uses the DEL information to order transportation assets (rail, highway, barge, or air). An incorrect, insufficient, or late DEL will cause problems and may cause the wrong number or type of transportation asset to be ordered. For example, if an oversized vehicle's dimensions are entered incorrectly on the DEL, it may not be possible to transport the vehicle by rail because of special size or shape requirements. Data entered into TC ACCIS for a DEL is vital to the smooth and efficient transportation of a unit's assets.

Updating the DEL

For the Bosnia operation, there are three ways to update a unit's redeployment DEL using TC ACCIS. The first and preferred method is to update the DEL at Taszar on the COMPAQ 4500 Fileserver, which is accessed by connected dumb terminals. Because the redeployment model was changing, the feasibility of UMO's traveling to Taszar, Hungary, with four vehicles and eight soldiers per convoy, was unrealistic. In order to bring the capability to update DEL's closer to the customer, two other methods of updating TC ACCIS were at our disposal: TC ACCIS Microcomputer Utilities and Telnet.

TC ACCIS Microcomputer Utilities is software that allows remote dial-in to a TC ACCIS data base from a personal computer (PC). With this software, TC ACCIS functions, such as AUEL's and DEL's, can be performed from the unit's remote location. By installing TC ACCIS Microcomputer Utilities, UMO's no longer would have to travel to Taszar to update their data. To access TC ACCIS Microcomputer Utilities, a UMO needs a computer with modem, a telephone connection, and Kermit software. Kermit is a shareware communications protocol software for transferring data files to and from a PC. The installation of Kermit and TC ACCIS Microcomputer Utilities software only needs to be done once at each PC at a remote location.

Telnet allows UMO's to access TC ACCIS through their local area networks (LAN's). As with TC ACCIS Microcomputer Utilities, Telnet will eliminate the need to travel to the site of the COMPAQ 4500 Fileserver in Taszar. Some Telnet programs do not have the function key capability required to access TC ACCIS and input data into the TC ACCIS application. The EWAN [Emulator Without A Name] Telnet program, which is shareware that can be downloaded to a PC from the Internet, provides the required function key configuration. Unlike in the continental United States, where TC ACCIS is located within the installation transportation office (ITO) in close proximity to a unit, all Central Region units must travel to Kaiserslautern or Wiesbaden, Germany, to update TC ACCIS, a travel time of 6 hours for some UMO's. Since most units had access to a LAN in Europe, Telnet was a viable option to update AUEL's and create DEL's.

Under the National Support Element's old redeployment model, soldiers, unit equipment, and containers were moved from base camps in Bosnia to the intermediate staging base at Taszar on heavy equipment transporters and palletized loading system trucks. A COMPAQ 4500 Fileserver loaded with the TC ACCIS application was set up in Taszar to support the redeploying units by updating and printing DEL's, producing military shipping labels, and transferring data via COMPASS into JOPES.

☐ The TC ACCIS section at Eagle Base in Tuzla, Bosnia, assists unit movement officers in updating their deployment equipment lists in preparation for redeployment.

Once the DEL was validated and complete, the movement control team ordered railcars to redeploy the unit's equipment and containers.

To support the changed redeployment model, the 27th Transportation Battalion established a TC ACCIS infrastructure at Eagle Base in Tuzla, Bosnia, to support the customers from all of the base camps. This infrastructure had to mirror the capability in Taszar, or the new redeployment model would have made redeploying more complex for the units. With the installation of a LAN at Eagle Base, the TC ACCIS section had the opportunity to use Telnet to update DEL's in the data base at Taszar.

Innovative Printing Capability

However, one of the disadvantages of using Telnet was the inability to print DEL's and shipping labels from a remote location. With the help of the TC ACCIS Project Management Office (PMO) at Fort Belvoir, Virginia, a file transfer package was developed that allowed files to be sent to a personal computer (PC) at the Tuzla office and printed by a printer connected to the PC. Thus, Tuzla had the capability to print DEL's and shipping labels on printers attached to the movement control team's PC.

Once the capability to print DEL's and shipping labels was established, units initiated the redeployment process 45 days in advance of the unit's ready load date. The UMO initiated the redeployment process by copying a unit's deployment DEL (hand-carried on diskettes or electronically forwarded by the TC ACCIS PMO from the unit's home station) into the unit's redeployment DEL. The UMO's could not update the redeployment DEL until vehicles, containers, and pallets and their loads were accurately recorded. Most UMO's merely had to verify unit equipment on hand and ensure that the correct redeployment unit line number was linked to the right equipment. Once the redeployment DEL was complete, the unit equipment and redeployment dates were validated by the division transportation officer and the division G3. Then the TC ACCIS section in Tuzla notified its counterpart in Taszar, which sent the COMPASS report to the U.S. Army, Europe, movement operations center and the Army Forces Command.

The TC ACCIS section also e-mailed the DEL to the 27th Transportation Battalion plans office and the 1st Armored Division transportation officer, who used it to develop the load plan for moving equipment on European railcars from Lukavac or Brcko to the Port of Bremerhaven, Germany, for shipment back to the United States or Germany. Shipping labels printed in Tuzla were placed on the vehicles and containers to track the equipment through the various nodes to ensure that they arrived at their final destination. This was the first time since the initial fielding of TC ACCIS in 1989 that AUEL's, DEL's, and shipping labels were printed from a remote location.

Approximately 13 days after the equipment had been moved, the USAREUR movement operations center required validation of unit line numbers. For this, the division transportation officer printed a report from JOPES that detailed each piece of equipment associated with a unit line number. The cargo detail report was verified with the original DEL to make sure that each piece of equipment entered into TC ACCIS also had been entered into JOPES. If the cargo detail report and DEL matched, the unit line number was validated for movement, and funds were appropriated to order transportation. This was the final step in a detailed process that is transparent to most UMO's.

Lessons Learned

As military deployments continue at a high tempo, all company and battalion commanders should ensure that AUEL's are updated quarterly. When a unit is notified to deploy, it must create a DEL. Many company commanders notified to deploy in support of Operation Joint Guard had not updated their AUEL's in years. This caused numerous headaches and required precious time to fix. A great way to keep this from happening is to integrate the processes of updating TC ACCIS and completing a DEL into every field training exercise or emergency deployment readiness exercise. It trains the UMO and ensures updated information of unit equipment for all contingency and wartime deployments.

A lot of effort went into providing better support to the customer by the TC ACCIS section in the 27th Transportation Battalion and the TC ACCIS PMO. It was one of many successes for the 27th Transportation Battalion in support of Operations Joint Guard and Joint Forge. It was a success that benefited redeploying units as they moved unit equipment for the first time directly from Bosnia to their home stations. **ALOG**

Captain Corey A. New is the commander of the 377th Transportation Company (HET) in Graafenwoehr, Germany. When he wrote this article, he was the plans officer for the 27th Transportation Battalion. Captain New is a graduate of the U.S. Military Academy, the Combined Logistics Officer Advanced Course, and the Combined Arms and Services Staff School.

Sustaining Safe Equipment in the Field

by Richard A. LaScala

Most of the Army's system safety efforts take place in the acquisition and development phases of a system's life cycle. Little attention is given to a system after it is in the hands of our warfighters. Not so for the systems developed and fielded by the Army Communications-Electronics Command (CECOM) in Fort Monmouth, New Jersey. CECOM's Directorate of Safety Risk Management (DSRM), where I work as a safety engineer and directorate chief, has developed an effective sustainment safety program that helps to identify, evaluate, eliminate, and control hazards to the soldiers in the field who use CECOM systems.

Support to the Warfighter

CECOM is a major subordinate command of the Army Materiel Command (AMC). AMC's role in support of the Army's warfighters is stated as three "core competencies." They are—

- Technology generation and application.
- Acquisition excellence.
- Logistics power projection.

The Departments of Defense and Army have established requirements for integrating safety into AMC's technology generation and application core competency. In addition, much has been written on how safety is integrated into the acquisition process. Military Standard 882, Systems Safety Program, is a valuable tool that has been used by acquisition personnel for many years to tailor safety program requirements. Its language is easily understood by both Government and contractor personnel.

There are specific milestones identified in the acquisition process for which defense contractors and Government program managers can plan. This helps them to develop a proactive program for making a system safe by design. However, once a system reaches the field, the only safety information available to the user is in the systems technical manual or a field manual. There is little, if any, guidance to assist AMC in sustaining the baseline safety established in the acquisition phase.

In the past, safety in the acquisition phase was typically proactive, while the role of safety in sustainment was typically reactive. After the system was fielded, its safety was not looked at again until an accident occurred or a suggestion was received for evaluation.

Three E's

The CECOM DSRM has taken a dynamic approach to sustaining safe systems in the field. We have identified the key elements that drive a successful sustainment safety program: education, engineering, and evaluation. The three E's are not exclusive of each other but blend together, resulting in an effective risk-management and accident-prevention program. Execution of the three E's shifts the sustainment safety effort out of the reactive mode into a more proactive approach.

A vital component of each of the three E's is the CECOM logistics assistance representatives (LAR's). The LAR's are valuable links to our soldiers in the field. We often refer to them as the "key ingredient" in sustaining safe equipment in the field.

Education

CECOM has approximately 200 LAR's stationed at installations around the world to support users of fielded communications-electronics systems. They have an outstanding reputation for providing advice, assistance, and on-the-job training on the operation, support, and maintenance of CECOM-supported commodities. However, in the past, their safety activities were limited to distributing safety messages, videos, and other handout materials to warfighters.

The daily interaction between LAR's and soldiers provided CECOM with an untapped network of potential "safety ambassadors" who not only could hand out materials but also could provide instructions and advice on various safety-related topics. They also presented a great opportunity for acquiring near real-time information on accidents and incidents.

We found that using LAR's as conduits for informal information exchange far exceeded the effectiveness of formal accident reports, product quality deficiency reports, and suggestions. Formal reporting systems were not always used in the field and, when they were, they often did not capture the problems and issues encoun-

tered by soldiers who use the commodities. The LAR was the most valuable source of information when a user was involved in an accident or when a safety problem arose.

However, the LAR had very few safety tools at his disposal. We previously had provided the LAR's with an accident checklist, but that did not provide them the tools they needed to gather useful information when accidents occurred. This typically resulted in several communications with our office before complete and meaningful data were acquired. We also provided briefings to our LAR's during their annual reviews and analyses; however, only master technicians and supervisors—approximately 25 percent of the LAR workforce—attended. These briefings focused on specific safety issues affecting fielded commodities and not on subjects that would help the LAR's provide better customer support. It became obvious that a more comprehensive training program was needed for the LAR's.

Thus began the System Safety Training Course for LAR's. Our objective was to develop a 1-day course that would provide LAR's insight into communications-electronics equipment safety and give them the tools and information they needed to better support soldiers in the field.

Once the initial course was developed, it was important to critique it to ensure that the course objectives and materials met the needs of the LAR's. Before scheduling any training sessions, two critique classes were set up for the LAR's stationed at Fort Monmouth. These classes included discussion periods after each presentation to measure the usefulness of the information presented and the adequacy of the materials. The open and honest feedback we received proved very valuable and resulted in some major course content changes. We learned that it was important to evaluate the instructors and materials after each class. For this we developed a one-page course evaluation form that was given to students at the beginning of each class. These forms have provided valuable information and suggestions for improvements and attested to the success of the program.

The initial course addressed areas where the LAR could gain immediate profit. Building on that course, we then developed a follow-up course. Together, the courses cover DSRM functions, accident investigation, risk management, the ground safety notification system, communications-electronics hazards, battery safety, grounding; generator and maintenance safety, antennas and masts, radio frequency and optical radiation, laser safety, and lightning protection.

All students are given handbooks with copies of the briefing charts used in the course and technical bulletins on the subject matter. These are valuable reference sources for future use. In fact, we now have developed an LAR safety compact disk that contains all of the technical bulletins, safety messages, and briefings presented in the course.

Since we began presenting the two LAR safety courses, we have received more accurate and timely notification of accidents and incidents involving our commodities. Ironically, the number of reported incidents has increased as a result of our training, due to better reporting, not a higher accident rate. In addition, the courses open a dialog with many LAR's who did not know us or fully understand our role and relationship to them. Follow-on training continues with the LAR community. Safety offices throughout the Army need to develop and nurture a similar partnership with the LAR community that supports their organizations and ensures that equipment remains safe after it is fielded.

Our LAR's identified a need for similar training of the soldiers they support. As a result, we developed and now conduct a 1½-day Tactical Electrical Safety Training Course. This course provides soldiers and leaders with a basic understanding of electrical and grounding safety concepts so they will be able to recognize and avoid potential accidents when operating command, control, communications, computers, intelligence, electronic warfare, and sensors (C4IEWS) equipment. The target audience consists of soldiers at every level of command who are tasked with electronics shelter operation, safety, and grounding. The training is conducted in two phases. Phase 1 is a 6-hour presentation on various electrical safety subjects. Phase 2 is hands-on training with a 3-hour outdoor practical exercise. This initiative has been very successful in taking safety training to the field. As with the System Safety Training for LAR's, the course evaluation forms given to students at the beginning of each class yield valuable suggestions for improving the program.

Field exercises provide our staff with valuable experience. Our LAR's have been instrumental in assisting the DSRM engineers who participate in a variety of Army field exercises in the United States and abroad. These exercises help in the "greening" of the engineers. Because most DSRM personnel did not serve in the Army, field exercises provide a fertile ground for education. The engineers get the rare opportunity to see how the "real world" functions. More importantly, they see the impact their decisions have on the users of systems developed and acquired by CECOM.

The LAR's often ask us to participate in field exercises, because they see the value of having a safety professional support their units and the systems fielded by CECOM. Our participation in field exercises also has provided valuable information on the training needs of our LAR's, soldiers, and engineering staff. Many technical bulletins, reports, and guidance documents have been generated as a result of lessons learned by our engineers

who returned to the field. In addition, video productions on topics such as batteries, grounding, and radiac calibrators multiply our training effectiveness. Videos are produced by our safety staff in coordination with the CECOM audiovisual support organization. As with our hard-copy publications, videos are distributed directly to major Army command headquarters for distribution to the field and through our network of LAR's. Most hard-copy publications also are available on our website.

Engineering

Safety engineering activities take place throughout the life cycle of Army systems. Systems in the hands of troops in the field provide a fertile ground for research. Research that we have conducted in the areas of lightning protection and new and improved grounding systems stems from problems surfaced on our visits to the field. Products developed through research not only are incorporated in systems in design but also are made available for those systems currently fielded.

Most of the CECOM DSRM's engineering effort is accomplished during the acquisition phase. Engineering activities in the sustainment phase involve both proactive and reactive approaches. Planned improvements to systems through modification work orders or engineering change proposals allow orderly integration of safety engineering into designs. Of course, these design changes also can result from accidents, user suggestions, or product quality deficiency reports. All of these changes may require an interim fix until more permanent changes can be developed and implemented.

For various reasons, users sometimes need to deviate from the standard system operational requirements that are published in technical manuals. Sometimes procedures change and, in other cases, users want to implement their own hardware modifications to a system. These changes often are undertaken to meet an immediate need. In such cases, following to the formal program for modifying the equipment would be too costly or time consuming. In these cases, CECOM does not endorse a field modification, but it does provide onsite safety engineering consultations to assist in identifying engineering controls that help reduce the risk to the user.

Evaluation

Evaluations are conducted for a variety of reasons. The three main reasons are to gather accident, incident, and hazard data; to conduct safety engineering assessments; and to ensure that safety information reaches the users. DSRM has little involvement in accident investigations in the field. Depending on the severity of the accident, either the installation on which an accident occurs or the Army Safety Center typically investigates accidents involving CECOM commodities. In addition, there have been numerous accidents with CECOM commodities in the field that do not meet the minimum threshold for reporting in accordance with established Army requirements. Again, our LAR's have established themselves as safety "eyes and ears" in the field. Using the information obtained when accidents or incidents occur, we have trained our LAR's to investigate accidents. Having the LAR's investigate and report accidents and near misses in the field is critical to maintaining safe equipment. They have reported problems and accidents to us for resolution that we would not have been known about if we had relied on the formal reporting channels only. Knowing about and acting on reports of minor accidents or incidents surely have prevented them from becoming serious accidents. Also, it is usually the LAR's who prepare and submit product quality deficiency reports that identify safety hazards that should be eliminated.

Our field visits help us to evaluate the effectiveness of our sustainment safety program. We get the opportunity to see if our training materials, safety messages, and engineering and procedural changes have reached the user. In many cases, we discover that plans developed at the command level have little or no impact at the user level. We sometimes find that engineering modification instructions have not reached all users. Also, we often discover that information disseminated by the Army Ground Safety Notification System about identified hazards in fielded systems has not reached the user who desperately needs it. We have implemented measures to help minimize these problems.

The Army's efforts to eliminate hazards during the systems acquisition phase have been incredibly successful. However, once production is complete and the systems are in the hands of the soldier, we must not wait for an accident to show our concern. Safety must be a concern at all times. CECOM's sustainment safety process has taken many years to evolve and is working well. For this program to remain successful, it must take advantage of technology, use available resources wisely, and remain flexible to meet the continually changing Army. We can ensure success if we continue to focus on CECOM's bottom line: the soldier. **ALOG**

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Reimbursable Depot Support in the ROK

by Donald R. Wheeler

The Depot Support Activity Far East in the Republic of Korea provides tailored support that is often faster, better, and cheaper than any other alternative.

If asked, "What U.S. Army depot is located in the Republic of Korea?" most people would say that there isn't one. They would be wrong. The Depot Support Activity Far East (DSAFE), an Industrial Operations Command activity, provides tailored services for clients in a specialized market. It is a unique activity because it operates very much like a commercial service company. It is also unique because it carries out its assigned mission efficiently with only 35 personnel.

All of the work done at the depot is by contract. Operated like a commercial business, DSAFE maintains a business base that exceeded $1.5 million in fees in fiscal year 1998.

Headquarters DSAFE, located in downtown Seoul, is the operations center. From there, project and program managers direct DSAFE's field operations at Camp Market (30 miles below the demilitarized zone) and at the Pusan Storage Facility, in the southern port city of Pusan. DSAFE's mission in support of U.S. Forces Korea is threefold—

- Depot-level contracting.
- Total package fielding (TPF).
- Application of depot-level modification work orders.

Staging the fielding of new equipment, applying modification work orders, and establishing depot-level contracts are challenging at best. The unique cultural differences and deployment of forces makes them even more challenging in the ROK. DSAFE is staffed primarily by U.S. and Korean civilians who are very adept at navigating what to outsiders appears to be a logistics maze.

DSAFE's U.S. civilians are hard-charging, card-carrying Department of the Army civilians. Card carrying? Yes—all DSAFE civilians carry Status of Forces Agreement Cards, commonly referred to as "SOFA" cards. DSAFE's civilians are all "emergency essential" and, in the event of a conflict on the Korean peninsula, don their battledress uniforms and continue working to support U.S Forces Korea.

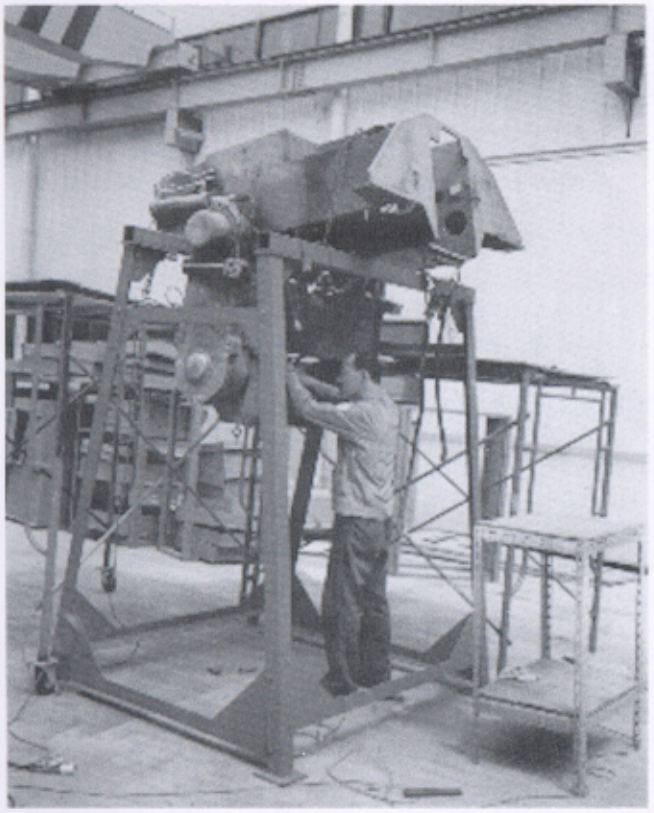
As a reimbursable service activity, DSAFE offers a commodity that is uncommon these days—great service at reduced cost with less risk. DSAFE provides support that is often faster, better, and cheaper than any other alternative.

How does DSAFE do it? Simply put, customers pay for the services they receive. DSAFE receives direct funding to cover overhead costs only. Unlike units operating under Department of Defense Working Capital Funds, DSAFE cannot go into the red. Its survival depends on customer satisfaction. For all practical purposes, DSAFE is a corporate entity with overhead costs, direct labor charges, and materials-handling fees.

DSAFE is a nonprofit activity that operates under a memorandum of agreement with Eighth Army. Under the terms of the agreement, DSAFE acts as Eighth Army's executive agent for fielding all new equipment and applying depot-level modification work orders. By contracting with the Korean industrial base, DSAFE performs 97 percent of all depot maintenance and rebuilds in Korea. DSAFE manages depot-level contracts for the Army Materiel Command (AMC) subordinate commands that sponsor the rebuilds.

The soldier is always DSAFE's first customer, but to AMC, hiring DSAFE means hiring a company that will represent their interests in Korea. DSAFE offers a full range of logistics and maintenance services, from tracking and receiving shipments to conducting an entire fielding and hand-off of new equipment.

In a customer-service business, little things mean a lot. DSAFE customers are picked up at the airport and delivered to a five-star hotel that has room rates below per diem. Unlike local rental car companies, DSAFE's vehicles and drivers already are cleared for access to military bases in Korea. Under provisions of the SOFA,



☐A target station on an M981 fire support team vehicle is repaired by a DSAFE contractor in Inchon, Korea.

civilians could have their passports confiscated if they are involved in a traffic accident. To reduce this risk, DSAFE customers are transported to and from their work sites in vehicles driven by highly trained and experienced drivers.

For each depot-level maintenance project, DSAFE prepares a complete procurement package and submits it to the Army Contracting Command-Korea. DSAFE program managers closely monitor the entire program from start to finish. DSAFE's contract support also includes supply support for each contract and preparation of technical data packages and statements of work. DSAFE even can perform contracting officer's representative functions.

DSAFE operates two TPF sites. These facilities provide support services such as receiving, inventorying, inspecting, deprocessing, and delivering a complete weapon system. The weapon system may consist of end items, authorized stockage list, prescribed load list, special tools, test equipment, additional support items of equipment, and technical manuals. If a customer is conducting a TPF, DSAFE offers large, secure storage areas, complete with materials-handling equipment and maintenance facilities. Through these sites, DSAFE can receive, inventory, deprocess, and hand off complete, "ready for war" systems directly to the soldier or to war reserves. DSAFE's project managers monitor all scheduled fieldings in Korea. Everything is done with emphasis on total satisfaction for the customer and the soldier in the field.

For depot-level equipment modifications, DSAFE serves as the central consolidation and reporting point. Things sometimes get lost in Korea; however, DSAFE has zero tolerance for lost items. High-tech equipment replacement costs easily can exceed what it would have cost to hire DSAFE in the first place.

Overall, DSAFE saves its customers' money. Some think that cost and risk are inversely proportional. But that is not always true; DSAFE can reduce both. Airfare from the continental United States to Korea and per diem rates while in Korea are expensive. With the services that DSAFE offers, materiel fielders can avoid a lot of these costs. DSAFE tracks customer shipments from origin to delivery. When a shipment arrives in Korea, DSAFE picks it up at the port of entry, clears it through customs, and transports it to a warehouse, where it is stored safely until the customer directs its disposition. Customers tend to think of DSAFE as insurance that nothing will "disappear." Everything is where the customer wants it, when he wants it.

DSAFE has two large warehouse and fielding complexes, one at Camp Market and one at the port in Pusan. Camp Market is in the vicinity of Inchon and is a staging area and breakbulk point for units stationed along the demilitarized zone. In Pusan, DSAFE serves as a receiving area for items shipped in by sea and as the supply point for depot-level contractors.

DSAFE's Camp Market operation has secure facilities for weapons and sensitive items. Operations at both Pusan and Camp Market include administrative support personnel, two 22,500-square-foot warehouses, 100,000 square feet of fenced-in, open storage, complete motor pools, office space for fielding teams, classrooms for new equipment training, and e-mail and datafax access. Cold storage also is available at Pusan.

DSAFE owes its reputation for effective and efficient operation to its people. As in all military organizations, the commander exercises command authority and leadership over the organization. However, the section chiefs are empowered to manage the day-to-day operations of their respective functional areas.

DSAFE is relevant, responsive, and ready. On freedom's frontier, the DSAFE team is the chosen provider of logistics power projection. **ALOG**

Donald R. Wheeler is a project manager in the Depot Support Activity Far East. He has an associate in science degree from the State University of New York at Albany.

A Medical Unit EXTEV

by Major Leslie J. Pierce

As the commander of a medical company in a main support battalion, I was faced with a challenge. I wanted my unit to undergo an external evaluation (EXTEV), but I didn't want the evaluation to affect our ability to serve our customers. My goal was to avoid the problems I had witnessed a few years earlier, when a previous company commander had attempted an EXTEV. For the 2 weeks of that evaluation, the unit didn't provide customer support because the customers didn't want to put on field gear and drive for an hour for service.

Our solution was to hold the EXTEV close enough to garrison so we could continue issuing class VIII items from the division medical supply office (DMSO), see sick call and mental health patients, and perform biomedical equipment repairs and preventive medicine inspections. We also chose to deploy the company during a trainup period for a brigade National Training Center (NTC) rotation so our ambulance and treatment platoons could rehearse for their upcoming NTC support missions.

Unfortunately, the only suitable land available for our EXTEV was a vacant lot in garrison where an old hospital had stood. However, this vacant lot did have a couple of advantages: it gave us the opportunity to spread the company out and camouflage our equipment as we would at the NTC, and it kept us close enough to provide service easily to our customers.

Plan and OPORDER

After finding an EXTEV site, we faced another challenge: the company, in its entirety, had not been to the field in over 2 years. So we needed to do a lot of planning, which we actually began a year before the EXTEV. Using the eight-step training plan (plan, develop an operation order [OPORDER], teach, perform a reconnaissance, rehearse, execute, conduct an after-action review [AAR], re-execute), we conducted a series of small-scale field training exercises in which we executed mission-essential task list requirements and battle tasks, such as "deploy and establish an area of operation (AO)." In conducting these tasks, we also validated our field standing operating procedure (SOP), portions of which we incorporated as annexes to our OPORDER.

For each task and exercise, we conducted an AAR and then made appropriate adjustments to the annexes. To relearn our field skills, we used the crawl-walk-run method of training until we were satisfied that we were ready for external evaluation. The EXTEV and OPORDER were written 2 months before deployment and then reviewed and briefed to the company leadership. The planning included rehearsal, execution, and daily OPORDER's based on previous NTC combat scenarios. In addition, we double-checked our plan against our field SOP and the mission training plan for our company.

The final preparation was coordinating the observer-controllers (OC's). The division support command (DISCOM) did not have the assets to provide OC's capable of evaluating all the areas of our varied mission. So we relied heavily on the hospital and our battalion's assets to furnish OC's. We had to adjust our events matrix to suit the schedules of some OC's, but in the end we were successful in obtaining observations and evaluations for each of our sections, from the quartering party to the mental health section.

Teach, Reconnaissance, and Rehearse

After reviewing the OPORDER and annexes, we began the teach, reconnaissance, and rehearse portion of the exercise. Our goal was to ensure that every leader and soldier knew his first three missions. To do this, the company first sergeant and I met with the platoon leaders, platoon sergeants, communications sergeants, training noncommissioned officer, and supply sergeant in the orderly room and conducted a 3-day command post exercise (CPX).

The first day of the CPX included a reconnaissance of the convoy route and field site and mission backbriefs for the platoon leaders for each of their actions. In the rest of the CPX, we rehearsed everything, from operating a convoy, to establishing communications with the brigade in the field, to conducting mass casualty exercises. During the CPX, every detail was discussed, from the load plans for each vehicle to the placement of M8 alarms. It was by going into this level of detail that we found we hadn't included mallets for the quartering party to use in setting up the command post and treatment tents.

While I had the company leaders locked up for 3 days in the CPX, the squad leaders and team leaders rehearsed establishing the AO with the soldiers. The junior lead-

ers practiced their first, second, and third missions, as well as handing off soldiers from mission to mission. In this way, the soldiers began to understand how their individual tasks related to each action needed to establish the AO. The results were that the soldiers got very good at their tasks, they no longer stood around waiting for someone to tell them what to do next, and the squad leaders knew exactly where their soldiers were and what mission accomplishment looked like.

Execute, AAR, and Re-execute

For all but a few tasks, we built our timeline so that each area would be evaluated, reviewed (the AAR), retrained, and reevaluated a few days later. On day 1 of the EXTEV, each convoy was checked and cleared to move to the starting point. At the starting point, the battalion's transportation coordinator from the support operations office checked the convoy again before it embarked on its 10-mile route to the field site. Meanwhile, the battalion S3 provided us with an OC for the quartering party and established an AO. The chief of the Division of Medical Operations evaluated our ability to establish our medical operations.

During the first week, OC's evaluated us on class VIII warehouse operations (conducted by the class II, IV, and VII accountable officer), mental health operations (by the chief of the hospital's Department of Psychiatry), and preventive medicine (by the installation's community health nurse). At the end of the first week and the beginning of the second week, we participated in a series of mass casualty exercises with the medical company of the forward support battalion in support of the brigade in the field. For these exercises, we coordinated with the aeromedical evacuation company to have two UH-60 Black Hawk helicopters stationed with us. During the first mass casualty exercise, the DISCOM commander came to our site to hear the call for support and then moved forward with the MEDEVAC aircraft. The division medical operations center chief was able to evaluate how we coordinated and received ground and air evacuation casualties. In the mass casualty exercises, our treatment platoon received evaluation and teaching from the hospital's emergency room chief and the division surgeon.

As these exercises were going on, I found that I no longer had anything to do with this event and began preparing for the next one. I realized the benefit of the rehearsal when I saw that all the tasks were being performed and checked at the appropriate level and I was free to coordinate the next mission.

Customer Support

During the EXTEV's 2 weeks, we continued to provide customer support. The dental officer worked on the battalion's category 3 and 4 soldiers. The DMSO issued class VIII items on a 1-day turnaround basis: the customer would call or drop off an order, and that night DMSO personnel would return to the warehouse and fill the order for issue the next day. The mental health section continued to see scheduled and unscheduled patients and make chapter evaluations, just as they do in their offices. The biomedical equipment repair section continued to receive, repair, service, and issue equipment. The organizational maintenance section serviced vehicles and even towed the only not-mission-capable vehicle to the field site and repaired it there.

During the middle of the second week, we set up a recovery mission using an ambulance. This complicated mission involved locating a downed aircraft, transferring patients, and then performing an 8-mile recovery mission for evaluation.

Recovery

At the end of the EXTEV, we redeployed the company to garrison just as we had deployed to the field. The advanced echelon packed and deployed with the mission of occupying a built-up area. As each convoy and serial closed in garrison, each leader continued to report its status just as though they were occupying a new site and preparing to conduct combat operations.

Using FM's 25-100, Training the Force, and 25-101, Battle Focused Training, the crawl-walk-run method, and the eight-step training plan, we executed the intent of the operation without flaw. The OC's provided excellent feedback and, in most cases, recommended better ways to conduct business.

Since this was the first time in over 5 years that this company had undergone an EXTEV, we had a lot to learn in some areas of field operations. We had the big tasks down pat, so the EXTEV gave us the chance to benefit from the experiences and observations of the OC's. We used the evaluations to adjust our annexes in field operations, which we then converted into a new field SOP. My personal AAR of this experience is that if a medical company of a main support battalion can move its uniquely diverse mission to the field for a 2-week EXTEV, any combat service support company can do it as well. **ALOG**

Major Leslie J. (Chip) Pierce was the battalion executive officer of the 704th Main Support Battalion, 4th Infantry Division (Mechanized), at Fort Hood, Texas, when he wrote this article. He is a graduate of Louisiana State University at Shreveport and completed the Army Medical Department Basic and Advanced Courses and the Army Combined Arms and Services Staff School. He is currently attending the Army Command and General Staff College.

Change Agent for Defense Transportation

by Teresa Schoppert

The Joint Traffic Management Office brings military customers and commercial carriers together to provide transportation for the force of the 21st century.

The Military Traffic Management Command (MTMC), headquartered in Falls Church, Virginia, is a major Army command that provides the Department of Defense (DOD) worldwide port management, transportation, and traffic management services and deployment planning and engineering using 21st century technologies. In any successful organization, there must be a vision for the future if that organization is to ensure success in the performance of its mission. MTMC's vision is to be the world leader in rapid force projection and projection of sustainment materiel. One of MTMC's four core competencies is global traffic management that provides rapid, flexible, cost-effective transportation services.

Every vision and goal needs a catalyst or a change agent. In July 1996, MTMC, under the direction of the U.S. Transportation Command, established the Joint Traffic Management Office (JTMO) to be the change agent for the Defense Transportation System. The JTMO was created to address the fragmentation of traffic management among the Services and among different modes of transportation. It merged modal and intermodal transportation specialists from MTMC and the Navy's Military Sealift Command into process- and customer-oriented teams.

Facilitating Traffic Management

The JTMO staff develops the full range of transportation and logistics options for their customers by acquiring transportation services for domestic and international freight movements using Federal Acquisition Regulation (FAR) contracts and non-FAR agreements. This is accomplished by negotiating, executing, and administering the contracts and agreements for transportation services with commercial rail, truck, barge, ocean, and pipeline transportation firms worldwide.

Serving as the facilitator between the commercial freight transportation industry and DOD shippers, the JTMO's goal is to provide its DOD customers with "one-stop shopping." In other words, the JTMO acts as its customers' central point of contact while employing whatever combination of transportation modes is necessary to move the customers' commodities "door to door," from origin to destination.

The JTMO is composed of seven divisions that provide freight traffic management for the following major customers: the Army, Navy, Air Force, Marine Corps, Defense Logistics Agency, Defense Energy Service Center, Army Materiel Command, Army Industrial Operations Command, Defense Threat Reduction Agency, Defense Commissary Agency, Defense Security Assistance Agency, Army and Air Force Exchange Service, and General Services Administration.

Supporting Velocity Management

Since the inception of the JTMO, several transportation and traffic management improvements and initiatives have been implemented. The JTMO staff is responsible for developing and implementing longer-term contractual arrangements with industry counterparts and for managing value-added carrier awards.

Among the many special programs supported by the JTMO is the Army's Velocity Management program, which is designed to reduce order ship time within the continental United States and overseas. The JTMO is working on reducing the time in transit of Army shipments worldwide. The staff has been very successful in reducing transit times for general commodity and reparable movements under the Integrated Sustainment Maintenance program and by negotiating agreements for dedicated truck service. The JTMO constantly is seeking new methods of reducing transit time to meet the

Shipper Benefits

- Improved service.
- Reduced overall transportation costs.
- Reduced administrative costs.
- Uptempo operations.
- Rate stability.
- Focused quality control.

Carrier Benefits

- Long-term agreements.
- Large traffic volume.
- Better revenue projections.
- Improved equipment utilization.
- Reduced rate-filing requirements.
- Shipper partnerships.

☐ VISA offers benefits to both military shippers and commercial carriers.

Army's overall velocity management goals and is moving to expand its reach globally.

Improving Customer Service

In order to keep up with the constantly changing transportation environment and better support their customers' needs for a best-value contract negotiation, the JTMO recently has developed the Optimum Benefit Negotiations (OBN) program. OBN uses a carrier selection process that considers the past performance, technical aptitude, and cost competitiveness of each carrier. The intended outcome is for all JTMO domestic freight agreements to use commercial practices to procure the best possible transportation services, with minimum risk, at a competitive cost. This will provide better service to customers and avoid the tendency to choose a carrier merely by selecting the lowest cost provider.

JTMO's accomplishments are not only in the domestic freight arena. The JTMO was an active participant in creating the first jointly developed sealift mobilization program, the Voluntary Intermodal Sealift Agreement (VISA). This agreement provides a framework for partnering between the Government and the ocean carrier industry in peace and war. The Universal Service Contract (USC) concept was designed by the U.S. Transportation Command and industry to provide procedures and guidelines for peacetime VISA business processes. The VISA peacetime business concept provides incentives for industry to participate in VISA by leveraging peacetime business for contingency commitments. It also maximizes the volume of peacetime cargo shipped under contracts requiring VISA participation, incorporates existing service contracts in the USC structure, and awards contracts based on the best value to the Government while ensuring services that meet the customer's needs.

The USC created an umbrella system structured to outline the requirements of VISA participants. At the same time, the contracts use commercial terms and conditions, such as service guarantees by the carriers and use of electronic data interchange.

A relatively new mission for the JTMO is DOD's Intermodal Equipment and Services Program, which procures specialized intermodal equipment and provides standardized equipment to DOD shippers for moving DOD cargo. The JTMO has taken on this task as they have all others, with fervor and a determination to become the intermodal equipment third-party provider of choice.

During its first 2 years, the JTMO made significant strides by providing value-added benefits to the services and improved support to Defense Transportation System customers, but it does not intend to stop there. Some future changes and innovations will include single-bill-to-the-customer procedures, lowered rates, new contracts, and continued streamlining of current processes using the World Wide Web and electronic data interchange.

The JTMO is a customer-oriented organization designed to provide excellence in transportation and traffic management support to the military services, DOD shipping activities, vendors, the carrier industry, the supported theater commanders in chief, and, most importantly, the servicemen and women who protect our Nation. The JTMO will lead the way into the 21st century by providing fast, flexible, cost-effective traffic management services to support the rapid power projection of our forces. **ALOG**

Teresa Schoppert is a supervisory traffic management specialist in the Office of the Deputy Chief of Staff for Logistics, Department of the Army. She formerly worked with the Military Traffic Management Command. She is a graduate of the Army Management Staff College.

Army Reserve Role in Force Projection

by Major Hilda Martinez and Major Lisa Tepas

The force projection Army must integrate the capabilities provided by Army Reserve units in order to deploy our combat forces smoothly and rapidly.

The Army's mission is too great to be achieved by any one component.

—General Dennis J. Reimer
Chief of Staff of the Army

As the military continues to downsize, access to the capabilities of the U.S. Army Reserve (USAR) has become vital to meeting our force projection requirements. Active Army and Army Reserve forces must be configured seamlessly to accomplish force projection missions. Today's Army Reserve has proven itself to be an essential partner in America's Army. In recent years, the Army Reserve has participated in a wide variety of contingencies, including Operations Desert Shield and Desert Storm, where 35 percent of all Army forces were from the Army Reserve, and the intervention in Haiti, where over 70 percent of all reserve component forces mobilized were Army Reserve personnel. Today, 47 percent of the Army's combat service support assets are found within the Army Reserve.

Unquestionably, the Army is undergoing a revolution in military logistics. It is changing the way it does business in getting forces to the next contingency. Since the end of the Cold War, the Army has gone from a forward-deployed force to a force based largely in the United States that has a limited forward presence. Even with that shift, the Army's mission remains unchanged: deter the enemy. The key to successful deterrence is *credible force projection*.

Our military personnel are being deployed today with greater frequency than at any other period in our history. In the 39 years from 1950 to 1989, our Nation participated in 10 major deployments. Since 1990, the number of deployments has almost tripled. The lessons learned from these numerous deployments demonstrate that we need to be able to move combat power faster than we have ever done before.

Fort to Port to Foxhole

The Army Reserve provides units in all three deployment phases of force projection: fort to port, port to port, and port to foxhole. Though the Army Reserve plays a vital role in each phase, it is during the first phase—fort to port—that Army Reserve organizations serve as key enablers in getting the required force to the theater of operations. Moving the force to the port and loading it out within the required timelines are critical to meeting the timelines for the last phase of a deployment. There is little we can do to make up for lost time during the port-to-port phase, so if we lose time during the fort-to-port phase, the effects will be seen in the port-to-foxhole phase.

Decisions to use Army Reserve assets must be made early in the planning process in order to meet critical force projection timelines. To ensure that the Army Reserve's perspective is represented when such decisions are made, the Chief of the Army Reserve has committed to fill positions on the staffs of the combatant commanders in chief with Reserve personnel. These authorizations are part of the Joint Reserve Unit Program and are designed to enhance the Army leadership's focus on joint experimentation while also providing dedicated support to the combatant commanders.

☐ A soldier of the 1198th Direct Support Battalion (USAR) attaches chains to railcars to secure vehicles for shipment home after Exercise Roving Sands at Fort Bliss, Texas.

Force projection typically begins at a power projection platform. There are 15 designated power projection platforms within the continental United States (CONUS). As combat units prepare for departure from these installations, Army Reserve units such as deployment support brigades assist the combatant commanders in preparing equipment for shipment to a port of embarkation. At the port, other Army Reserve entities—transportation terminal brigades and battalions—are positioned to process and plan the loading of that equipment onto Military Sealift Command vessels for the second leg of deployment (port to port).

The additional work load created by Reserve units mobilizing at power projection platforms can disrupt a garrison's peacetime operational structure. However, the missions of various Army Reserve units can enhance an installation's capability to process an influx of soldiers and equipment. One of the key expanders at each power projection platform is the Army Reserve garrison support unit. This unit's primary purpose is to provide administrative, intelligence, operations, and logistics base operations support to the installation commander. Expansion of power projection platform medical facilities during a deployment is achieved by using a combination of Army Reserve expansion hospitals and installation medical support units (IMSU's). The IMSU's perform soldier readiness processing in support of installation medical activities during call-ups. Depending on the type of contingency, it may be necessary to use Army Reserve divisions (both institutional training and exercise) to expand the Army's training base and evaluation capabilities.

The Army deploys individual soldiers as well as units. There are six CONUS replacement centers designed to perform individual soldier processing by providing refresher training in military occupational specialties as well as training in common soldier skills. Army Reserve replacement battalions and companies are the primary organizations used to perform this mission.

Improving Deployment Support

To achieve rapid force closure, the Army Reserve is refocusing its efforts and reorganizing its structure to meet the challenges that Force XXI will pose. Based on lessons learned in Operation Desert Thunder in Kuwait in 1998, the deployment support brigades are expanding their mission capabilities to include aerial ports of embarkation. To achieve a seamless force, the Army is creating multicomponent organizations composed of both active and reserve component entities. Initiatives by the Army Materiel Command have created the USAR Logistics Civil Augmentation Program (LOGCAP) Support Unit (see related story on page 51). As we continue to increase the speed at which we deploy our forces, the concept of simultaneously using two seaports of embarkation has planners looking at using reserve component heavy equipment truck companies to move combat equipment in conjunction with rail and commercial surface assets.

☐ A sergeant of the 1397th Terminal Transportation Brigade (USAR) inspects vehicle weights and fuel capacities before the vehicles are loaded for shipment to Exercise New Horizon in Guyana.

In the final leg of deployment—port to foxhole—the Army Reserve provides units ranging from transportation and quartermaster to military police in support of force projection. The key Army Reserve role in this phase is to provide the majority of movement control assets for echelons-above-corps operations.

The substantive challenge of expanding the power projection platforms is accomplished with Army Reserve organizations, like the garrison support unit, that are tailored to provide the services required at those sites. Deployment support brigades meet the deployment challenge head-on for the combatant commander by providing direct support at installations, while terminal transportation brigades and battalions provide the expertise to load out in the second leg of deployment. In the final leg of deployment, the Army Reserve has postured itself to meet the Army mission by providing early-entry modules and units to deploy rapidly to any theater in support of port opening. Future success in deploying our force projection Army clearly depends on the capabilities found in the Army Reserve. **ALOG**

Major Hilda Martinez is an Active Guard/Reserve officer assigned to the Total Force Integration Office at Fort Eustis, Virginia. She is a graduate of the Combined Arms and Services Staff School.

Major Lisa Tepas is an Active Guard/Reserve officer serving as the Chief of the Total Force Integration Office at Fort Eustis, Virginia. She is a graduate of the Army Command and General Staff College.

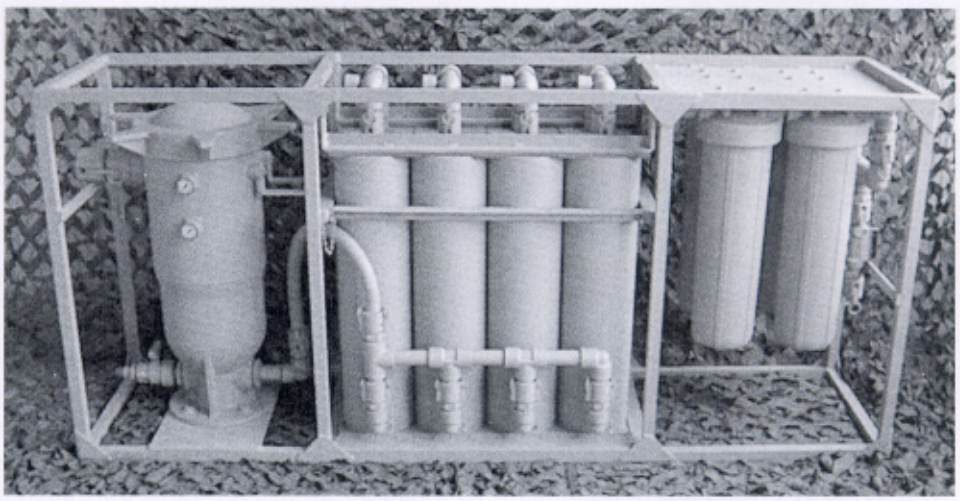
Water Purification—Acquiring the Tools to Make It Happen

by Captain John W. Mark, Jr., and Richard E. Long

Have our prayers been answered? For years, unit water purification training has been stymied by the inability of the reverse osmosis water purification unit (ROWPU) to meet the standards set by environmental regulations. In some states, units have been able to operate the ROWPU only without chemicals; in other states and countries, they could operate an ROWPU only under wartime conditions. The Quartermaster Corps soon may have a solution for meeting the Environmental Protection Agency's wastewater requirements—the Multifunctional Modular Fluid Filtration System™ (MMFFS™).

ROWPU's can remove most petroleum products from water. However, fouling of the ROWPU's filter elements and multimedia tanks increases operational costs dramatically and reduces the life of the ROWPU. The MMFFS is a commercially available system that can serve as a pre-treatment method of preventing severe fouling of the ROWPU filter elements and contamination of multimedia tanks.

The real benefit of the MMFFS is realized when it is used as a post-treatment filter of ROWPU backwash residue. This process reduces the residue to a level that can be discharged back into the water source, thus eliminating the requirement to backhaul wastewater to a sewer system. Additionally, this process can recycle the waste as source water in an arid environment where water is scarce.



☐ **The MMFFS can be carried by four men and takes up only one-half of the cargo bed of a high-mobility, multi-purpose, wheeled vehicle (HMMWV).**

How the MMFFS Works

The MMFFS was designed specifically to be used with U.S. military tactical water purification, distribution, and storage systems. It is a portable, lightweight, high-flow pre- and post-treatment unit that enhances ROWPU operations and aids in meeting environmental discharge regulations. It can reduce a broad range of inorganic and organic chemicals and compounds. Its three fluid process stages, each designed to remove a specific class of contaminant and enhance the performance of each consecutive down-line stage, are—

- ***Stage I:*** A 5-micron (nominal) filter. Here the MMFFS prevents all particulate matter larger than 5 microns from entering the system. It effectively removes dirt, sand, rust particles, debris, and other large particles.
- ***Stage II:*** Eight modular canisters. The first four modules contain special absorbents; the second four contain research-grade, granular, activated carbon impregnated with specialty adsorbents. These eight modules combine their absorbing, adsorbing, and kinetic processes to reduce oil, grease, biological oxygen demand, chemical oxygen demand, total suspended solids, total organic carbon, benzene, toluene, ethyl ben-

MULTI-FUNCTIONAL MODULAR FLUID FILTRATION SYSTEM™

Applications

- Pre-treatment for ROWPU
- Post-treatment for meeting discharge standards for backwash
- Treats field laundry and shower water enabling discharge
- Treats DECON solutions contaminated with NBC constituents

Specifications

- Unit total combined weight: 650 lbs
- Unit size: 74in. L x 34in. H
- Operating temp: 35 – 125 degrees Fahrenheit
- Operating PSI: 40 – 60 PSI, 90 PSI max
- Flow rate 35 GPM – (higher flow rate systems available)
- TDS range: 0 – 60,000 ppm
- pH range: 3-12
- Two person lift in disassembled phase
- Media: proprietary ad/absorbents, contactors and specialty filters

Advantages

- Protects and extends life and performance of key ROWPU components
- Allows ROWPU discharge to meet NPDES and other Federal and state standards
- Removes wide range of inorganic and organic contaminants
- Designed for high mobility and rapid response

Source: TerraGroup, Corp. and Global Environmental Technologies, Inc. MMFFS is a trademark of the TerraGroup, Corp.

zene, xylene, polynuclear aromatics, natural organic material, and certain heavy metals such as lead, cadmium, nickel, zinc, and copper.

- ***Stage III:*** A final polishing stage. This stage uses filters to remove trihalomethanes, volatile organic compounds, and other chemicals. Effluent is filtered to 25 microns, with the additional capability of reducing the level to .5 microns.

System Scores High on Tests

The MMFFS was tested successfully at the Army Forces Command Centralized Salt Water Purification Training Site, Fort Story, Virginia, and during numerous training exercises such as Roving Sands '97 and Petroleum Oil and Lubricant Exercise (POLEX) '97. During Roving Sands '97, a leak-and-pressure test was conducted on a petroleum pipeline by flushing the line with water. This procedure led to a mixture of 9,000 gallons of water and 22,000 gallons of JP-8 fuel (or 120 parts per million of JP-8). The MMFFS processed the mixture and reduced the contaminants to a non-detectable level.

During POLEX '97, the 475th Quartermaster Group encountered environmental restrictions on the wastewater being generated at their field laundry and bath sites. The MMFFS was used to remove all detergents and residuals from the wastewater, producing clear, clean water. These tests not only validated the capability of the MMFFS but also illustrated its usefulness to other quartermaster units in overcoming environmental restrictions.

System Improvements Continue

The MMFFS 2000 was sized to work with the 600 gallons-per-hour (GPH) ROWPU. It cannot handle the discharge flow rate from the 3K (3,000 GPH) ROWPU. Currently, the Army Tank-automotive and Armaments Command Armament Research, Development and Engineering Center, Picatinny Arsenal, New Jersey, is testing the model MMFFS 2000 to determine the life expectancy of its canisters and polishers. They also are determining the correct size MMFFS needed to meet the discharge pounds per square inch and flow rate of direct discharge from the 3K ROWPU.

The MMFFS, currently being developed by TerraGroup Corporation, will be an investment—around $15,000 for a system complete with accessories—that your unit cannot afford to overlook. If the MMFFS is integrated with the ROWPU, units will be able to get back to training in the field where they belong. **ALOG**

Captain John W. Mark, Jr., is a senior analyst for services, Army Forces Command Deputy Chief of Staff for Logistics (DCSLOG). He has a bachelor of science degree in economics from the University of Southern California and is a graduate of the Quartermaster Officer Basic Course, the Combined Logistics Officer Advanced Course, and the Combined Arms and Services Staff School.

Richard E. Long is the program manager for petroleum and water for the Army Forces Command DCSLOG. He is a retired master sergeant with a wide range of experience in supply and services and logistics.

MTMC Moves the Warfighters

by John Randt and Mike Bellafaire

The Military Traffic Management Command moves a 1st Cavalry Division task force from Texas to Bosnia to assume the peacekeeping mission.

The challenge was great: Move a mighty Army task force from its training base in the United States to a deployment zone far away. The task force of 8,000 soldiers required over 700 vehicles, aircraft, and shipping containers of supplies. The shipment had to travel to a far shore across many time zones, mountains, and kilometers of salt water. The route had to be secure. The movement had to be safe.

It was an everyday mission for the Military Traffic Management Command (MTMC), the Department of Defense's surface transporter. For several decades, MTMC has been responsible for moving task forces and military equipment on a worldwide basis. The requirement remains the same, whether the Department of Defense has a forward-deployed or a force-projection force.

All military missions are important. This mission was critical: Move a task force of the 1st Cavalry Division from Fort Hood, Texas, to Bosnia. It was an historic move. It was the first time a continental United States (CONUS)-based contingency unit would assume the Bosnian peacekeeping mission for 1 year.

The movement to Bosnia could have been just another of the myriad tasks MTMC accomplishes from its base of 26 Army-manned ports around the world. It proved to be something else.

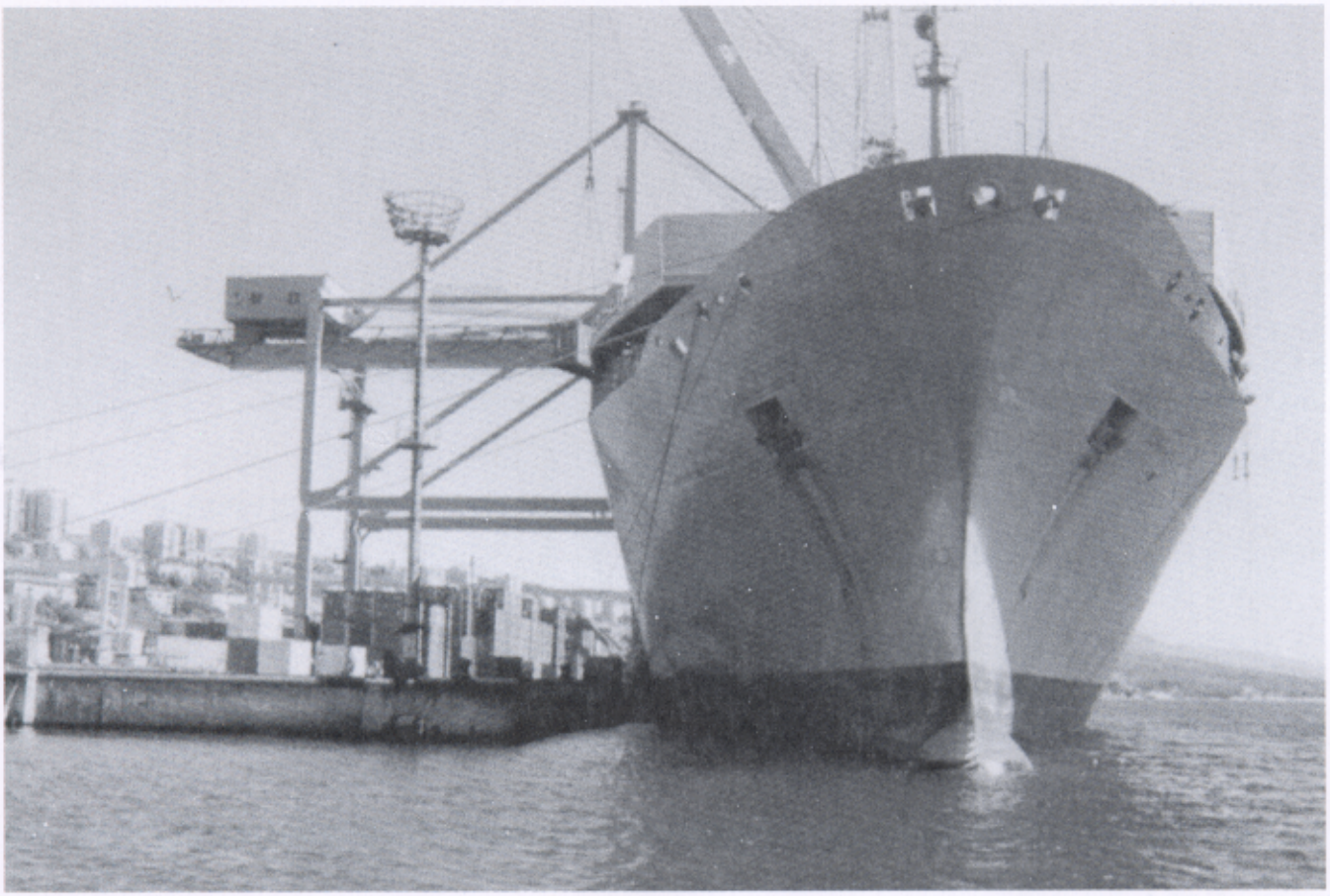
1st Cavalry Division Assigned to Bosnia

The 598th Transportation Group (Terminal), Rotterdam, The Netherlands, began initial planning in the spring and early summer of 1998. The equipment of the 1st Cavalry Division task force would concentrate at the 596th Transportation Group (Terminal) in Beaumont, Texas, then be moved by motor convoy, rail, and air delivery. Additional cargo would be loaded at Wilmington, North Carolina.

The Military Sealift Command would be tasked to provide one its of the new roll-on-roll-off civilian containerships converted to military use. After crossing the Atlantic Ocean, the ship would be routed to Rotterdam for discharge of the task force's 48 helicopters. The ship then would continue to Bremerhaven, Germany, to discharge general cargo. Once unloaded, the task force's remaining cargo would move by rail, via Hungary, to Bosnia.

Change in Plans: Straight to the Adriatic

Spring turned into early summer. MTMC planners began to hear whispers. Pentagon planners were talking about a shipping movement much closer to the destination. Aviators were concerned about maintenance and safety issues associated with a long air transit across the heart (and mountains) of Europe. Leaders in the 1st



☐ **The *USNS Soderman* unloads the equipment of the 1st Cavalry Division at the Adriatic Sea port of Rijeka, Croatia. The *Soderman* could handle two to three times as much cargo as the division had to move.**

Cavalry Division wanted to hurry the movement of their heavy equipment to ease the mission transfer. The whispers that MTMC planners heard began to take form: Although an Adriatic Sea port might create infrastructure and security problems, it would speed the entry of the task force's heavy equipment into the theater.

It was early July. MTMC was scheduled to move the 1st Cavalry Division's 2d Brigade from Beaumont to Rotterdam and Bremerhaven in just 30 days.

The New Destination

It was official. Change of mission: MTMC was directed to move the task force via an Adriatic Sea port. With time running out, transportation planners scanned the available ports but put most of their scrutiny on Rijeka, on the northern coast of Croatia. That city boasts a functional port facility with adequate road and good rail connections.

Rijeka has a storybook history. In this century alone, it has come under the political and military control, in succession, of Austria-Hungary, Italy, Germany, and, finally, Yugoslavia. Italy even had its own name for the port: Fiume. Now, Rijeka is a port city in the young nation of Croatia.

The city has no functioning civilian airport. Its airport was damaged in fighting between Serbia and Croatia before the signing of the Dayton Peace Accords and still is not repaired. So scheduled civilian airliners are flying to Trieste, Italy. Rijeka is about 2 hours from Trieste by road. The drive is partially through the nation of Slovenia, which is wedged in between Italy and Croatia.

In short order, MTMC planners were on the ground. Planning began at once to use Rijeka as a port of entry for the Bosnian peacekeeping force. It was just like Operation Desert Storm: Transporters are sometimes out in front of the combat troops. Croatians greeted the transportation planners warmly. Soldiers with the 839th Transportation Battalion, from Livorno, Italy, joined the Netherlands-based soldiers.

The visit was a success. The port has a suitable container crane, railroad and road linkages, and hardstand areas. A variety of buildings at the port could be made

☐ Vehicles discharged from the *Soderman* are prepared for rail movement to Bosnia. Using the port of Rijeka allowed the 1st Cavalry Division to get its equipment into Bosnia 2 weeks early.

available to the Army. An adjacent area would be able to serve as a small helicopter maintenance area. The mission to Rijeka was a go.

The Voyage to Croatia

The Military Sealift Command picked the *USNS Soderman* to move the task force's equipment. It was an excellent choice. The large, medium-speed roll-on-roll-off ship is three football fields long and 15 stories high from its bridge to its keel. It is the fifth commercial containership the Navy has converted to military use. With its vast size, the *Soderman* easily could handle two to three times as much cargo as would be needed for this mission.

Long lines of vehicles were concentrated at the Beaumont docks. The cargo was mostly from Fort Hood. However, some cargo was from Fort Carson, Colorado; Fort Riley, Kansas; Fort Sam Houston, Texas; and Fort Polk, Louisiana. Helicopters were flown into the port, some from as far away as a National Guard unit in California. Army Reservists from the 1192d Transportation Terminal Brigade, from New Orleans, Louisiana, began loading on 4 and 5 August. In all, the cargo covered 192,000 square feet.

After loading, the ship cleared port and steamed for Wilmington to receive equipment based at Fort Bragg, North Carolina. From North Carolina, the far waters of the Adriatic Sea beckoned. The *Soderman* was away. Its average travel speed is 24 knots, or more than 27 miles per hour. "The ship loves to go at fast speed," observed its commander, Captain L. Richard Haugh.

Arrival and Onward Movement

The distant port of Rijeka was closer by the hour. As the ship approaches "the Box," the lands of the former Yugoslavia, MTMC gets some new and valuable partners, military and civilian. Our military partners included the 21st Theater Area Army Command (TAACOM), of Kaiserslautern, Germany. TAACOM soldiers set up a small city to speed the transition from ship unloading to onward movement. In short order, a complete task force staff, from command sergeant major to public affairs officer, was functioning.

A second military partner was the 1st Cavalry Division. An advance party arrived that included many aviators and maintenance soldiers from the division's 2-227th Aviation Battalion. Other soldiers from the division would run a movement control center. The arrival of veteran troops added a new dimension to portside activities. "It was definitely a good feeling having all the helicopters here ready to go," said Captain Joe Phillips, commander of the battalion's Company D. "We face an exciting challenge working in a new country and doing missions over there."

There were civilian contractors as well. MTMC contracted with Jadroagent, of Rijeka, for port and stevedore services. American contractors included veteran overseas operatives Brown & Root Services Corpora-

tion and DynCorp. Brown & Root operated a dining facility and shower point. DynCorp maintenance specialists, many of whom are Army veterans, helped prepare the helicopters for flight.

The ship arrived a day early. No matter; the teams came together, and the job was accomplished. Stevedores unloaded some 765 pieces of cargo from the *Soderman* from 23 to 25 August. The cargo was prepared immediately for onward movement. Between 25 and 30 August, some 12 trains were loaded with vehicles and shipping containers. Helicopters were reassembled, tested, and flown to the Rijeka commercial airport before moving to Bosnia. Some nonstandard pieces of equipment went by road convoy.

The Rijeka operation had many challenges. The port was a new one for MTMC. The stevedores had another language and culture. As Sergeant First Class Nick Curcio of the 952d Transportation Company, Lajes Field, Azores, noted, "The challenge you have you don't learn in school."

After a period of team building, the stevedore crews began efficiently loading and securing vehicles for their journey to Bosnia. Through the day, lines of loaded railcars were swapped with empty ones. The efficient movement was marked only by the short horn blasts of the train engine. The reception and onward movement phase of the Rijeka operation was completed quickly. Most personnel left the port area on 1 September, 9 days after unloading began.

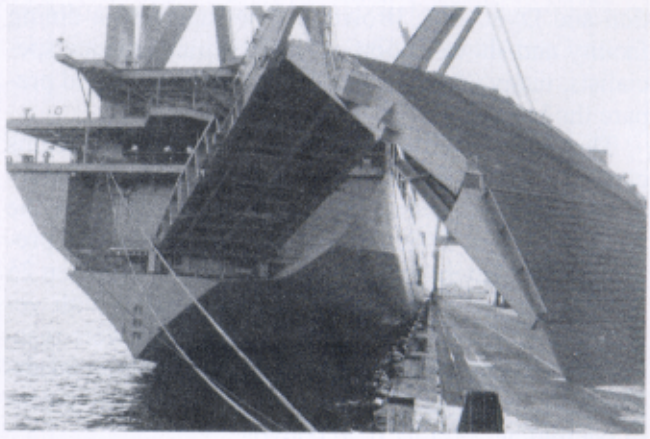
A Successful Mission

MTMC received its own after-action review. A team from the Center for Army Lessons Learned at Fort Leavenworth, Kansas, watched our operations and concluded that they were highly successful. At the same time, they offered some professional comments—

- In the final analysis, MTMC had two different loading plans, one from Beaumont and a second from Wilmington.
- There were two teams counting equipment discharge. MTMC had a team, and so did the 1st Cavalry Division. The double count increased the operation's footprint, which should be avoided.

The movement of the 1st Cavalry Division Task Force was a success. "Our success in Rijeka bolsters our resolve to support operations in the Balkans through ports

☐ Soldiers load railcars at Rijeka for movement to Bosnia.



☐ At left, soldiers of the 2-227th Aviation Battalion, 1st Cavalry Division, prepare their helicopters for flight from the port of Rijeka. Its mission completed, the *Soderman* retracts its stern loading ramp (above) and departs Rijeka on 25 August (below).

in the Adriatic," concluded Lieutenant Colonel Ray Duncan, commander of the 839th Transportation Battalion. "The port of Rijeka has proven itself fully capable in supporting the upcoming follow-on-force rotations in support of Bosnian peacekeeping efforts." Dutch Major General F.J.A. Polle, commander of the Stabilization Force's Communications Zone, agreed. "It is an outstanding success."

That it was an outstanding success was easy to see. The unloading of the ship and the loading of the railcars went smoothly. Soldiers and civilians at the port came together and worked as a team. Even while the *Soderman* was being unloaded, one by one helicopters were reassembled and flown out over the azure water and blue sky of Rijeka.

If there was a formal close, it took place in the early evening of 25 August. Duncan and others gathered at dockside to watch the *Soderman's* departure. The moment was poignant. Much work remained to be done, but the heat of the day was easing and mission success was obvious. Two powerful tugs eased the vessel into the harbor. Several hundred meters offshore, the *Soderman* gave a sustained blast of its horn in farewell.

John Randt is the public affairs officer of the Military Traffic Management Command.

Mike Bellafaire is the command historian of the Military Traffic Management Command.

Bill and Hold—Bridging the Logistics Gap

by John McAndrews

The early 1990's found the Clothing and Textiles Directorate at the Defense Logistics Agency's (DLA's) Defense Supply Center Philadelphia (DSCP) "stuck in the mud." Although availability of clothing items was high, the logistics system was burdened with "stuff." An Army customer could count on an average wait of 3 to 4 weeks to receive goods from the DLA depot system—longer when there was a severe backorder situation. Service downsizing and the resulting budget cuts caused a need to rethink business "the way we've always done it." When the Pentagon number-crunchers went looking for dollars, the top-heavy inventory system was a prime target.

DLA was faced with the challenge of making their customers happy, maintaining the same high level of support, and tightening up their assets. This was not an easy undertaking, given the inertia of years past in the legacy Standard Automated Materiel Management System, but DLA was up to the challenge.

Quick-Response Delivery System

The first step was a push to deliver goods directly to customers by a quick-response (QR) vehicle. The idea was simple: divert customer requisitions from DLA depots to the end-item manufacturers. The manufacturer then would either take the item from his inventory or manufacture it before shipping it to the customer. This procedure worked fairly well for true commercial items, such as undershirts and socks. However, a number of items procured by DSCP, although bought under commercial item descriptions, were not truly commercial. They were military-unique items manufactured using best commercial practices. There is not much of a commercial market for AG-415 shirts or Navy white trousers, and military-unique coats have a high price tag and a lead time of up to 6 weeks in production.

The customer's advantage in getting QR shipments directly was a reduced surcharge, typically a 6- to 10-percent reduction over the standard price. The disadvantage was that, other than for the commercial items, QR deliveries were taking as long as or longer than the depot system. That is because the average DSCP contractor is a small business without the working capital to maintain an inventory of items that may have as many as 70 different sizes.

DLA System Changes

The advent of QR delivery led to a change in the way that DLA depots conduct business. The commander of DLA's Defense Distribution Center mandated a 1-day processing time for both receipts and issues. The use of direct-delivery trucks, part of the Army's Velocity Management program, was initiated at major customer locations. The depots also contracted with major carriers to deliver orders to customer locations within specified timeframes, further tightening the logistics lines between DLA and its Army customers. The depot initiatives reduced the average document turnaround time from 23 days to less than 10 days. This left little incentive for customers to continue using QR deliveries since, in materiel logistics, time is money!

Bill and Hold

Enter "bill and hold." This method allows today's cost-conscious customer to take advantage of the savings of a nondepot shipment within the needed response time. In clothing and textiles, the manufacturer produces the item, is paid for his product, and then places it into DLA-owned inventory. The vendor receives orders only for what is on hand at his location, eliminating the guesswork often encountered under QR. Orders are shipped from the contractor's "depot" directly to the customer. Contractor locations operating under bill and hold are exempt from the depot surcharge, which saves the customer money. Shipments from vendors are under a 4-day delivery requirement, which equals the current depot delivery time.

DSCP's Clothing and Textiles Directorate is attempting to make the logistics effort as seamless as possible to the customer. Bill and hold is the latest, but not the last, initiative to provide required goods where and when required. The directorate has an on-line catalog called ASCOT (Automated System of Catalogs and Orders for Textiles), where customers can view their products and even order on the screen. The ultimate goal is to allow customers to eliminate the need for "backup" inventory at their locations, so that when they look over the logistics bridge, the clothing and textiles truck will be rolling across it. **ALOG**

John McAndrews is a product manager in the recruit clothing commodity business unit at the Defense Supply Center Philadelphia. He is a graduate of Villanova University.

The Korean Service Corps: Eighth Army's Three-Dimensional Asset

by Lieutenant Colonel Russell L. Prewittcampbell

The special relationship forged in war between the soldiers of Eighth Army and the Korean people of the Korean Service Corps remains as strong today as it was nearly 48 years ago. Although the forklift has replaced the A frame, U.S. commanders still visualize the Korean Service Corps as a means to maximize their forward fighting strength. Through the prudent use of these unarmed, paramilitary civilians to augment many CS and CSS [combat support and combat service support] functions, soldiers can be leveraged to perform critical combat tasks leaving the more laborious tasks to the members of the Korean Service Corps.

Today's members of the Korean Service Corps are three-dimensional. They hold down a normal 40-hour a week job, are engaged in CS and CSS battle task training with their U.S. wartime affiliate headquarters, and simultaneously prepare themselves for cadre leadership positions in the Korean Service Corps' mobilization companies. The immediate employment of Korean Service Corps members in these CS and CSS battle tasks is absolutely essential in the first days of hostilities before the arrival of reinforcing units. The Korean Service Corps is truly Eighth Army's only on-peninsula CS and CSS reinforcement.

During hostilities, the Korean Service Corps expands tenfold with the armistice members taking key leadership positions within the mobilization companies. This infusion of Korean manpower to haul ammunition and fuel, operate forklifts within supply points, drive ambulances to evacuate the wounded, and operate construction equipment to maintain roads and bridges or build fortifications is as necessary today as it was in 1950, when General Walker found himself short of soldiers on the Pusan Perimeter. The expansion of the Korean Serv-ice Corps gives Eighth Army a much-needed CS and CSS boost during the most critical days.

The Korean Service Corps is a unique organization; no other organization of similar design exists in the U.S. Army today. Eighth Army is fortunate to have such a dedicated group ready to perform their wartime mission with the same level of service as their predecessors of the Korean War. The Korean Service Corps has been, for almost five decades, a full member of the Eighth Army team. This will continue well into the 21st century.

—Lieutenant General Randolph W. House
Commanding General
Eighth U.S. Army

"Frank, I need troops—bad. Have you got anything? I mean anything!" So Lieutenant General Walton H. Walker, commander of the Eighth U.S. Army, succinctly summed up his situation in the opening weeks of the Korean War during the summer of 1950. Brigadier General Francis W. Farrell, Chief of the U.S. Military Advisory Group, Korea, replied that he had only a battalion-sized cadre of South Koreans who served primarily as instructors in a replacement training center. General Walker replied without hesitation: "I'll take them."

Facing a severe shortage in his foxhole fighting strength along the Pusan Perimeter, General Walker knew that only an infusion of South Korean manpower could relieve his soldiers from hauling supplies and other laborious duties and get them back into the fight. An emergency decree signed by South Korean President Syngman Rhee on 25 July 1950 directed the Republic of Korea (ROK) Army to provide civilian carriers to haul supplies to the U.S. front line. The result was the creation of the Civilian Transportation Corps, later renamed the Korean

Service Corps. Thus began a unique relationship between the South Korean people and the Eighth U.S. Army.

A-Frame Army

For the duration of the Korean War, the unarmed members of the Korean Service Corps moved ammunition, fortification material, food, and supplies to front-line Army and Marine Corps units. To do this, they had to traverse steep and rugged terrain inaccessible by vehicles and overcome harsh weather conditions while under the constant threat of hostile action. They served at Porkchop Hill, Old Baldy, Carson, Vegas, and numerous other locations, some of them the scenes of the bloodiest fighting of the war. They brought in supplies and helped to build bunkers during the day and took out the dead and wounded before nightfall.

Affectionately nicknamed the "A-Frame Army" by American soldiers because of their wooden backpacks, the Korean Service Corps, at its wartime peak, had over 133,000 Koreans organized in 3 ROK Reserve divisions. Each division consisted of seven regiments and was assigned in direct support of U.S. forces, one division for each U.S. corps. Soldiers called the individual Korean Service Corps members "KSC's," a term still used today.

After the war, the Korean Service Corps' mission evolved from front-line labor support to that of a skilled, general-purpose labor force employed to support Eighth Army units in their garrison locations. As Eighth Army units became mechanized, logistics support became dependent on motorized equipment, and forklift operators replaced the A-framed heavy laborers. Although events removed many KSC's from direct support of soldiers, the KSC's practiced their wartime mission by providing labor support to both on-peninsula and deploying off-peninsula units during exercises. Deploying U.S. divisions used KSC's to help build fortifications, move supplies, and practice the evacuation of wounded soldiers during these exercises. Through their continued interaction, the relationship originally forged during the Korean War between U.S. soldiers and their Korean Service Corps laborers never lost its true meaning.

As the evolution of the Korean Service Corps continued, individual KSC's retained their status as an unarmed, paramilitary labor force but came under the manpower accountability rules applying to other Eighth Army Korean civilian employees. The guarantee made by Syngman Rhee during the Korean War to fill any Eighth Army manpower requirement was codified in 1967 in the Status of Forces Agreement between the United States and the Republic of Korea. Subject to Eighth Army's ability to pay their salaries, the source of KSC's became the Korean Government itself. No matter the difficulty of the job, the remoteness of the job site, or the hours of employment, the ROK Ministry of Labor underwrote the filling of the vacancy. This guarantee, applicable in both peace and war, became the cornerstone of Korean Service Corps support to Eighth Army. However, it was the removal of the majority of Eighth Army's CS and CSS units from Korea and the requirement to incorporate more than 20,000 Korean mobilees into the Korean Service

☐ **Members of the 7th KSC Company conduct medium girder bridge battle-task training.**

☐ **Members of the 22d KSC Company stand in formation after completing a no-notice alert exercise.**

Corps to bridge the resulting CS and CSS gap until the arrival of U.S. time-phased force deployment units that brought this unique organization's importance into focus.

Organization

Today, the Korean Service Corps is organized into 14 geographically based armistice companies, to which all members in the area are assigned regardless of their job assignment. These companies fall under the Korean Service Corps Battalion, a flagged table of distribution and allowances (TDA) battalion commanded by a U.S. Army lieutenant colonel. The Korean Service Corps companies provide administrative support and training to all assigned KSC's.

To improve the Korean Service Corps' go-to-war readiness, each individual is authorized military clothing items and a complete issue of nuclear, biological, and chemical gear, to include an M40 protective mask and individual chemical equipment. These items are maintained at the 14 company locations and are prepared for issue when the companies are notified of an alert.

In reality, each KSC is three-dimensional. The first dimension is his normal 40-hours-per-week garrison job, such as a plumber. In this respect, the KSC is no different from any other Korean employee of the U.S. Army. The second dimension is his assignment to certain CS and CSS battle tasks for which he must train periodically to maintain proficiency. The last dimension of the KSC is his service as cadre in the mobilization companies that are formed when Eighth Army transitions to war. These three dimensions are built around a training program of 15 critical combat survival common task tests on which each KSC receives an annual evaluation.

Garrison Relationship

The Korean Service Corps is Eighth Army's only on-peninsula CS and CSS reinforcement. This reinforcement occurs upon declaration of defense readiness condition (DEFCON)-3. That is when each of the 14 Korean Service Corps companies severs its garrison relationship and assumes duty with the Eighth Army major subordinate command (MSC) that has been designated as its wartime-affiliated headquarters. This lash-up, approved by the theater G3, is based on the MSC's assigned mission, its in-place forces, and the expected arrival date of its time-phased force deployment units from outside Korea. The goal is to give the U.S. commander some additional manpower to cover the CS and CSS capability gap. Since the armistice relationship is already established, the U.S. unit commander can determine the CS and CSS tasks for which he needs im-

mediate augmentation. These requirements become battle tasks for the respective Korean Service Corps companies.

Battle Task Training

Battle tasks are assigned by either the theater or the wartime-affiliated gaining command. Battle tasks for the Korean Service Corps are CS and CSS tasks that the U.S. commander must be prepared for but, in many cases, does not have sufficient resources to execute (for example, mortuary affairs and medium girder bridge construction). In addition, the battle tasks may result from the need to free the commander's limited number of soldiers to perform combat assignments, such as manning the perimeter. Since KSC's can be battle-rostered, for example, to operate a hot refueling point, the soldiers normally assigned to that duty can be reassigned to the perimeter mission. The KSC's who are battle-rostered for this mission may be plumbers, carpenters, or general laborers, but, because the battle task existed, they were trained to perform the task.

The Korean Service Corps company commander, who in reality is only a force provider, writes each battle task so that it is definable, measurable, and achievable. Since the Korean Service Corps company commander's responsibility is to assign people by name to the battle task and ensure their attendance at the scheduled training, his training assessment is strictly objective. The quality of the training received by the KSC's remains the wartime-affiliated units' responsibility, since they possess both the equipment and the subject matter experts.

The battle task standard must be written so that it is achievable. A subject matter expert determines the number of personnel required for the particular battle task. The same expert determines the minimum initial training required to understand the basic operation or performance objectives of the battle task. Since the training is conducted outside the Korean Service Corps arena, the awarding of a certificate of training by the subject matter expert assures the Korean Service Corps company commander that the KSC possesses the required baseline knowledge and therefore may proceed to further training.

The standard also is written in a manner that allows the force provider, the Korean Service Corps company commander, to achieve success. The same expert who determined the number of individuals to be assigned to the battle task and the amount of initial training required again determines the frequency and amount of sustainment training. The goal of sustainment training is to ensure proficiency in the battle task. KSC's receive only a limited number of training hours, which may be divided over several battle tasks. KSC's serve as task augmentees; a KSC who trains a few hours each quarter cannot be expected to be as proficient as a soldier who trains on his equipment daily. However, through the sustainment training program, KSC's can perform the nontechnical aspects of the battle tasks and, with a little U.S. supervision, significantly decrease the number of soldiers required for those tasks. In this manner, KSC's serve to leverage U.S. manpower, not totally replace it.

Finally, the Korean Service Corps company commander needs a mechanism to measure objectively his success as a force provider. If he keeps his battle task team together and ensures that they attend both initial and sustainment training, he has performed his function as a force provider. It is the wartime-affiliated headquarters' responsibility to ensure that all training objectives are met. Since battle tasks are established to mitigate expected operational shortfalls, the U.S. commander has a vested interest in conducting training to the highest standards.

Mobilization

Battle task-trained KSC's are prepared to serve as cadre members in a mobilized Korean Service Corps company. The theater CS and CSS requirements far outstrip the limited number of on-peninsula CS and CSS units. When hostilities begin, these requirements continue to increase tremendously, far in advance of the arrival of any reinforcing CS and CSS units. A partial solution to this problem is to request wartime host nation support, for which the Korean Service Corps provides the manpower.

Units on peninsula and deploying off peninsula annually submit requests for Korean Service Corps mobilization companies. Each submission must justify why the unit cannot accomplish all tasks with its assigned forces. The verification process takes Korea's terrain and infrastructure into consideration. Since the Korean Service Corps never was designed to be a fix-all organization, the requirements are converted into the need for a given number of standardized Korean Service Corps functional platoons. The seven types of functional platoons are ambulance, supply, heavy construction, facility support, labor, heavy-truck driver, and maintenance. Each platoon is composed of Korean civilians who possess the skills required by the platoon's TDA, such as forklift operators and truck drivers in a supply platoon. The platoons are mobilized by the ROK Government, fulfilling the guarantee made by Syngman Rhee in 1950, organized into Korean Service Corps companies based on the requesting commander's concept of operation, and levied against one of the four Korean Service Corps mobilization stations.

All requirements for Korean Service Corps mobilization companies are assigned to the closest mobilization station. These requests then are sequenced according to the date requested, the priority of the requesting unit,

☐ **The KSC's Seoul Mobilization Station practices in-processing of a Korean Service Corps member.**

and the production capability of the Korean Service Corps mobilization station. The final sequence is approved by the theater G3. In each mobilization company, ROK Army Reserve officers are assigned to the company commander and platoon leader positions. To provide some continuity and familiarity with U.S. operations, armistice KSC's are assigned to the noncommissioned officer positions of assistant company commander, assistant platoon leader, and squad leader. This assignment of armistice KSC's is vital to the smooth incorporation into the mobilization companies of the 20,000-plus Koreans who were civilians just days earlier. Unfortunately, the number of armistice KSC's required does not match the number provided by the shrinking budget.

In this scenario, a KSC who has no supervisory responsibility during armistice is suddenly thrust into a position of leadership during hostilities. This is to be expected when an organization goes through a tenfold expansion and must be mission capable immediately upon formation. A program of instruction based on the current U.S. noncommissioned officer education system but tailored for a paramilitary environment provides the baseline to fill this experience gap. Since their exact leadership position is known, a gaining U.S. commander can muster the armistice KSC's in the mobilization companies designated for his unit and provide unit orientations and other specific programs aimed at educating them about their wartime unit and its mission.

The Korean Service Corps is an important member of the Eighth Army team. Few individuals are required to prepare for such a variety of responsibilities as is a KSC when he transitions from his armistice job through battle task team assignments to designation as a leader in a mobilization company. In each assignment, the KSC becomes involved with a different group of U.S. soldiers. It is because of this constant exposure, at the individual level, that the relationship between Eighth Army soldiers and the Korean Service Corps remains as strong today as it was during the Korean War.

Winston Churchill once said that the reserve soldier was twice the citizen. In the case of Korea, a member of the Korean Service Corps is a three-dimension member of Eighth Army. He prepares in armistice for serv-ice in war, a true patriot to his country and a CS and CSS multiplier for Eighth Army. **ALOG**

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LEW to the Rescue

by Major Thomas A. Battle

It is 2130 hours at the brigade tactical operations center somewhere near the Geronimo drop zone, Fort Polk, Louisiana. After receiving the division order, the brigade staff conducts a mission analysis and develops three courses of action to analyze and compare. The brigade operations officer and the brigade intelligence officer begin wargaming the first course of action, with input from other staff officers and supporting element leaders. The staff officers use a matrix to synchronize combat functions in time and space. At the bottom of the synchronization matrix, the brigade logistics officer reviews the list of tactical logistics functions (man, arm, fuel, fix, sustain, and move) and contemplates his input.

Tactical logisticians have been struggling for some time with how to estimate logistics requirements accurately in combat. Providing meaningful and timely input to a brigade's course-of-action analysis always has been a challenge to support operations officers and noncommissioned officers. They know it would be ideal to use an analytical process to compare capabilities with requirements. However, in the past, there was no easy, user-friendly estimating tool to use. Invariably, tactical logisticians had to fall back on gut feelings and experience to estimate logistics requirements. The Operations Logistics Planner, although ideal for higher level combat service support (CSS) planning, is minimally useful in a brigade course-of-action analysis because of its link with a predetermined scenario. Clearly, there was a chronic need for a simple CSS estimation tool at battalion and brigade level. That tool is now available—the Logistics Estimation Workbook (LEW).

The LEW is a Microsoft Excel workbook designed to help logisticians determine requirements for each course of action. It was developed by Captain David Sales and Major Mike Morrow, instructors in the Support Operations Course (SOC) at the Army Logistics Management College (ALMC), Fort Lee, Virginia, with some technical expertise from ALMC's Systems Engineering Department. The LEW uses doctrinal combat profiles and usage rates to calculate supply, maintenance, transportation, and casualty estimates. Although initially developed as a classroom tool for SOC, it was discovered early on that the LEW had extraordinary potential to relieve the significant shortfall in tactical logistics estimation capability in the field. As more and more SOC students returned to their home bases with the LEW software in their kit bags, word traveled quickly throughout support operations circles that the LEW is an extremely useful tool in the logistics estimation process.

LEW computes personnel losses, types of medical care required, casualty evacuation requirements, subsistence and water requirements, transportation requirements by mode for the subsistence and water, maintenance losses and their evacuation requirements, types of maintenance required, catastrophic equipment losses, fuel requirements, and fuel shortages. These requirements are generated after the user inputs the type of mission, number of personnel, density of equipment, ration cycle, issue cycle, gallons of water per man per day, and time-distance factors.

A unique feature of the LEW is its adaptability. The user can override doctrinal inputs and tailor planning factors to specific operations or missions. Thus, the "book solution" is not the only alternative. Additionally, users have two options for entering data. They can input data in a sequential, process-oriented fashion to reflect an operation over several days, or they can input data in a non-process-oriented format. For example, if there is a need to figure out the transportation requirements for bottled water for 4,500 soldiers at 3.8 gallons per person per day, the LEW requires input only of data directly associated with the water computation. The requirement, seven M871 trailers per day, is produced instantly.

The LEW enables tactical logisticians to determine their customers' requirements quickly and become more integrated into the decision making process. The Commander of the Army Combined Arms Support Command (CASCOM) approved the LEW last year as a handy tool to help tactical support operators do their jobs. It is available on ALMC's home page at http://www.almc.army.mil under "Support Operations Course," and on CASCOM's homepage at http://www.cascom.army.mil/multi/Operations_Logistics_Planner under "Related Product." **ALOG**

Major Thomas A. Battle is the Director of the Support Operations Course at the Army Logistics Management College. He holds a B.S. degree in accountancy from the University of Illinois and an M.S. degree in logistics management from the Florida Institute of Technology.

SMART Ideas Pay Big Dividends

by Dorsey G. Kimbrell

Soldiers and civilian employees have always had good ideas about how to improve logistics operations. Unfortunately, many of their ideas never are adopted beyond the unit level. The Army now has two programs dedicated to evaluating these ideas so that Army-wide logistics operations can benefit from the knowledge, experience, and ingenuity of those who daily work in the system. These programs are SMART (Supply and Maintenance Assessment Review Team) and TIPS (Tool Improvement Program Suggestions).

SMART

In the early 1980's, the Army's Deputy Chief of Staff for Logistics (DCSLOG) initiated a program to tap into the great pool of knowledge and experience found in our logistics force. The purpose of the program was to provide an efficient means for evaluating ideas about how to reduce the burdens of the Army's logistics operations and functions. The SMART program was formed by the Army Combined Arms Support Command (CASCOM), Fort Lee, Virginia, and the DCSLOG program became known as SMART. The SMART program is now administered by CASCOM.

TIPS

The TIPS program was developed by the U.S. Army Force Management Support Agency (USAFMSA) to evaluate suggestions for tool improvement. USAFMSA served as the executive agent for TIPS for approximately 6 years, and all tool improvement ideas were processed through that agency. However, because of the similarity of the two programs, the DCSLOG directed the CASCOM SMART cell to assume management responsibilities for TIPS on 1 August 1997.

Suggestions Pay Off

Since its inception, SMART has processed over 14,000 suggestions and recommended over 2,100 ideas for adoption. The savings to the Army resulting from these ideas have exceeded $174.5 million, and individuals have received $885,000 in cash awards. Of these savings, tool improvement ideas have saved the Army nearly $2.4 million and resulted in recommendations for over $65,000 in cash awards to individuals.

Valued Suggestions

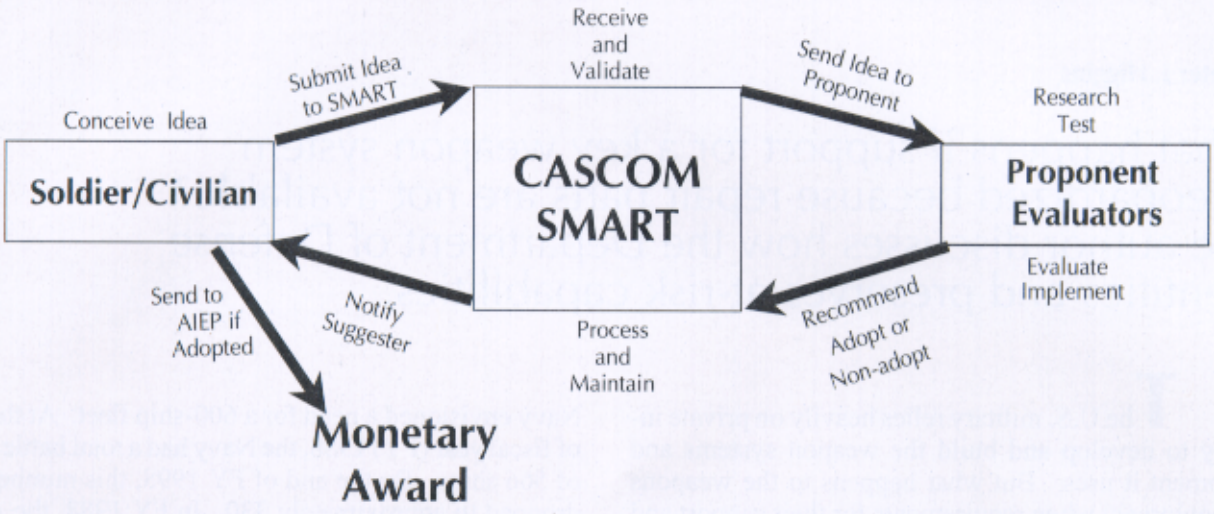
Ideas submitted through SMART range from simple to complex. All suggestions received are evaluated. Suggestions are judged on their overall value to the Army's logistics operations. Adopted suggestions range from a method of calculating class III products, to reduction of excessive issue of tools, to camouflage painting of reusable shipping containers.

SUGGESTION TITLE	PROJECTED SAVINGS IN DOLLARS
Quarterly services for tracked vehicles	48,490,043
Method to calculate class III products	24,235,180
Revise rail and truck load plan form	13,610,000
Change Maintenance Allocation Chart	8,490,890
Glass replacement on tactical vehicles	2,300,000
Modify 7-day engine run-up requirement	1,687,680
Lube/adjustment of 21/2 ton spring seat bearing	1,451,000
Reduce excessive issue of tools	988,866
Extend scheduled service interval	781,550
Lower latch fitting wears out	736,530
Cancel contract on electric engine analyzers	734,474
Non-repair of M60 tank external telephone	665,226
Add teflon bushing to aft pylon on CH-47	621,089
Maintenance fix for CH-47 corrosion problem	571,673
Relocate oil sending unit on M60 tank	567,004
Modified hand pump	536,450
HMMWV fender area repair	394,630
Camo painting of reusable shipping container	350,000
Timing light bulbs too costly	175,547
Sheridan air intake hose is inadequate	146,598
Chip size causes compressor replacements on AH-64	110,000

☐These 21 most significant suggestions resulted in sizeable recommended awards for the individuals who submitted them. The average recommended award is $415.

SMART/TIPS

SUGGESTION FLOW



Pathway to Evaluation

The pathway to evaluation of SMART ideas is very simple. If an idea affects only a local installation, suggestions should be submitted to the installation Army Ideas for Excellence Program (AIEP) coordinator. Otherwise, the suggestion may be submitted directly to the CASCOM SMART office.

After an idea is validated, it is assigned an identifying number, and the CASCOM SMART cell tasks the appropriate agency to evaluate it. The evaluating agency completes the evaluation, which may require testing if complex systems are involved, and returns the results to CASCOM with a recommendation to adopt or reject. CASCOM then forwards the evaluation results to the suggestion's originator with specific instructions of what to do next. If the suggestion has been recommended for adoption, the evaluator also will make a cash award recommendation. The originator must apply for the cash award through his local AIEP coordinator.

Anyone who is employed by a component of the Army as a soldier or Department of the Army civilian may submit suggestions to SMART/TIPS. Department of the Army Form 5533, SMART Suggestion Form, is the preferred way to submit a suggestion. Suggestions also may be submitted on plain paper or by e-mail as long as the required information is provided. Internet users may submit suggestions through the SMART web page at www.cascom.army.mil/multi/Project-_SMART/.

SMART ideas often return huge dividends. Your idea may be the one that pays the biggest dividend. Don't keep the idea to yourself. Be smart! Take time to suggest! **ALOG**

HOW TO CONTACT THE SMART/TIPS PROGRAM OFFICE
Write:
DEPARTMENT OF THE ARMY
PROJECT SMART/TIPS
DIR OF CBT DEVS FOR CBT SVC SPT
3901 A AVENUE SUITE 220
FORT LEE, VA 23801-1809
Call: (804) 734-2406, DSN 687-2406

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When the Industrial Base Goes Cold

by Peter J. Higgins

What happens if support for a key weapon system is jeopardized because repair parts are not available? The author discusses how the Department of Defense identifies and preserves at-risk capabilities.

The U.S. military relies heavily on private industry to develop and build the weapon systems and equipment it uses. But what happens to the weapons and equipment when requirements for their support and replacement decline and the producer decides to cease support? What short- and long-term problems arise when contractors decide not to remain part of the military-industrial complex, or to stop producing the essential components of a system on which our military depends? We must identify these problems early and find viable solutions to them.

First, we must determine which industrial capabilities are unique and vital to our national defense and if our military will be jeopardized when a company decides to terminate a vital activity or move production offshore. The national defense environment is dynamic, and, unfortunately, no single criteria applies in all situations. Identifying vital, at-risk capabilities requires program managers and other logisticians to become involved. Together, they are able to develop a strong, ongoing, mutually beneficial relationship with their counterparts in the private sector that helps to minimize the impact of a potential loss in capabilities.

Second, we must determine how logisticians can support that smaller force so that it remains credible and capable. This second determination is paramount, since in many ways it is easier to manage and support a large force, which has a large budget, inventory, support structure, and industrial base, than a minimally sized and resourced force. This is because the available support options and the redundancies in the support structure are fewer with the smaller force.

Since the end of the Cold War, the size of the U.S. military has decreased dramatically. At one time, the Navy envisioned a need for a 600-ship fleet. At the end of fiscal year (FY) 1988, the Navy had a total battle force of 566 ships. By the end of FY 1998, this number had dropped to approximately 330. In FY 1988, the Army had 18 active and 10 reserve divisions. Those numbers are now 10 and 8, respectively. Authorized end strength has decreased from approximately 2.2 million active duty military, 1.2 million reserve military, and 1.1 million civilian personnel in FY 1988 to approximately 1.4 million active duty military, 886,000 selected reserve, and 770,000 civilian personnel in FY 1998.

We now have a reduced force supported by a large infrastructure, which probably seems paradoxical to American taxpayers, particularly when our military, even though smaller, is the preeminent military force in the world. However, reducing infrastructure means closing bases and reducing jobs, which are loathsome to politicians desiring re-election. Reduced infrastructure means fewer jobs, and that can mean lost votes.

Traditionally, reducing the size of our military, while maintaining core military competencies, has been difficult for the United States to achieve. The state of our military following World Wars I and II and the Vietnam War offers three examples. Each time, the post-drawdown military was weak and hollow, in large part because it was not a balanced force, and weapons modernization had lapsed.

As a natural consequence of today's smaller military force, materiel requirements are lower, and both the total Department of Defense (DOD) and acquisition budgets have been reduced dramatically. In FY 1988, DOD's budget authority was $374.6 billion compared to $250.7 billion in FY 1998 (using constant FY 1998 dollars)—a decrease of 33 percent. Budget authority

(in constant FY 1998 dollars) for the DOD procurement account dropped from $101.8 billion in FY 1988 to $42.6 billion in FY 1998—a 58-percent drop in purchasing power. The result of these reduced budgets is that the readiness and sustainability of our military is threatened unless replacements for aging weapon systems or ways to extend their life are found. Unfortunately, systems modernization will occur only if money argued for in the Quadrennial Defense Review is made available or funding is added to the top line of the DOD budget. Compounding this problem, a number of long-standing niche contractors are less interested in the defense business, because reduced contract sizes equate to a bad risk-to-profit ratio.

Private Sector Business Practices

In the private sector, companies reduce expenses through economies of scale. In part, this helps to explain the number of mergers, consolidations, and acquisitions in the defense sector during the last few years. Combining operations eliminates duplicate overhead operations, inventories, and personnel.

Secretary of Defense William S. Cohen asked Congress for, and so far has been denied, two more rounds of base closures to free up money for weapons procurement and modernization, an action that mirrors the choices available to private enterprise. Secretary Cohen subsequently hinted at drastic steps to obtain additional weapons modernization funding, including allowing military bases to fall into disrepair and furloughing civilian DOD employees. The funds saved would be used to modernize some front-line systems by replacement or upgrade and to replace money siphoned off to pay for unbudgeted military operations in Bosnia and other locations.

Private industry is driven by profits it may earn and growth it can expect if it increases business volume and reduces costs. Corporate managers cannot be altruistic if they and their companies are to survive. Since DOD relies on defense contractors to produce the tools of war, it must allow contractors profit levels necessary to continue operations. Unfortunately, DOD is forced to operate within a limited budget, only a small portion of which is discretionary, and with a group of fairly fixed requirements.

Production Capabilities

As a result of fewer and smaller DOD contracts, some vital production capabilities unique to the defense industry are in jeopardy of being lost. For corporations to remain viable, their individual components must be profitable, or they will be shut down. This situation has grave consequences for DOD, particularly when the manufacturing processes at stake are unique to the defense industry. If any unique manufacturing capability is lost, how will DOD continue to support the affected weapon? What are DOD's options? These can be significant problems for our nation's warfighters as they develop their operational plans.

Unfortunately, some companies in specific market areas that rely exclusively on defense contracts are at risk. Obviously a problem is brewing, because defense contracts are both fewer and often of lower dollar value, and nondefense business alternatives are frequently less risky and potentially more profitable in the long run due to volume efficiencies.

The near-term potential for growth in the DOD budget is small because of the balanced budget agreement passed by Congress in 1996. DOD estimates that its budget will remain at the $250-billion level (plus inflation adjustments) for the next few years. This helps to explain DOD concerns, not only about weapons modernization, but also about maintaining the industrial base that supports military requirements.

What can DOD do if support for a key weapon system is jeopardized because essential repair parts are not available? During peacetime, DOD cannot coerce an industry or company to bid on work. In time of war, private industry can be required to perform military work. However, once a national emergency is declared, there may not be enough time to produce essential items in the quantities needed.

Identifying the Problem

The Industrial Capabilities and Assessments Directorate in the Office of the Deputy Under Secretary of Defense for Industrial Affairs and Installations is responsible for the policies and procedures used to identify at-risk capabilities. The actual assessments are performed on a case-by-case basis, and this occurs ideally at the lowest appropriate organizational level. However, when the capability issue affects more than one DOD program or product, the components coordinate their analyses and related decisions with any other affected DOD component or program. The Industrial Capabilities and Assessments Directorate usually leads or participates in these broad reviews.

These analyses are performed by appropriate representatives from the Services and the Office of the Secretary of Defense and experts hired to work for the study team under the direction of the Deputy Under Secretary of Defense for Industrial Affairs and Installations. When a potential problem with a manufacturing process important to DOD arises, here is how that group proceeds.

In their initial analysis, the Industrial Capabilities and Assessments Directorate determines if the problem is a routine management problem that the vendor can solve. If the vendor cannot solve the problem, and the situation is covered by any one of several scenarios, further analysis is performed. The first scenario occurs when

DOD has a problem getting a needed product or service because the production rate is too low for the vendor to continue operations. The second occurs when a vendor or industry association warns DOD that low business volume endangers an industrial capability. The third happens when the capability is being terminated, either temporarily or permanently.

At first it may appear that there is little difference in these three scenarios. In each, the needed capability is threatened by economic, environmental, or other factors. Whatever the reason, a solution must be found if the capability is truly unique and its loss would jeopardize national security.

Assessing the Risk

When a capability issue meets the criteria described in one of the scenarios above, experts in the Industrial Capabilities and Assessments Directorate initiate a capabilities analysis. The analysis includes a review of financial documents to determine the result of operations and the justification for requests for support. It verifies that the potential for losing the capability exists, identifies and evaluates alternatives, and recommends a course of action. While the potential solutions are wide ranging, there is risk with any course of action or solution. No action may be required if the cost, time, and technical implications can be identified and the capability can be regenerated in the future, or if the capability will not be required in the future. Cost, of course, is always a consideration. Unfortunately, these capability analyses are usually complex and expensive.

The United States encourages foreign countries to compete for DOD contracts, which allows DOD to obtain an improved technology base at a competitive price. In fact, reciprocal procurement arrangements are in place with many nations that are potential suppliers for defense purposes. For example, an Israeli firm provided the air vehicle for the tactical unmanned aerial vehicle program. However, domestic source restrictions sometimes are placed on a program when a foreign source poses an unacceptable risk.

A substitute capability also may be an alternative, or the needed item or service may be obtained using different methods. Sometimes slight revisions to specifications can result in sufficient performance. For example, a mechanical gyroscope currently in use may be replaced with one that is based on laser technology.

Sometimes, when no substitute item or source can be found, DOD buys a sufficient quantity to meet all future needs. This "life-of-type" buy must be practical for the situation and may require congressional authorization. This solution is particularly useful for electronic items or as a stopgap measure until another viable solution is found.

A rather creative way to preserve an important capability involves a "smart shutdown." In this situation, production stops, but the essential elements of production are preserved. Equipment and tooling are stored, personnel with needed skills are cataloged and tracked, the manufacturing process is photographed and videotaped, raw materials may be stockpiled, and computer-based models of the product are reproduced. Two issues should be analyzed when considering a smart shutdown: What is the expectation of restarting the activity, and would taking no action be a more effective option than a smart shutdown? For example, when current needs did not justify continued production, a smart shutdown was employed to maintain the capability to meet the Navy's future requirement for torpedoes.

Still another alternative may be to invest money to induce the vendor to maintain production. This solution also may involve directing maintenance work to the manufacturer or stretching out production, which is costly. Of course, the size of a contract may be increased by foreign military sales or finding civilian applications that also require the endangered process.

The partial spectrum of solutions offered above starts at the low-risk, low-cost end and progresses to those with greater risk and cost implications. This list is by no means exhaustive, and some other options or combination of options may be more appropriate depending on a specific situation. One longer range solution is for DOD to reduce its reliance on defense-unique industrial capabilities by increasing the use of commercial off-the-shelf hardware.

The difficult aspects of the capability issue are deciding which capabilities are at risk and the cost and time it may take to preserve them. Unfortunately, the costs involved can be quite large and the resource pool is finite. Because of limited budgets, all identified problems cannot be solved. This explains why certain criteria must be met before starting an analysis.

The industrial base capability issue is likely to become even bigger as both DOD and industry become smaller. In the end, the answers will be based on priority. Ultimately, as President Harry S. Truman said, "We must be prepared to pay the price for peace, or assuredly we will pay the price for war." **ALOG**

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USAREUR Theater Excess Management

by Captain Augustine A. Olive

In any theater of operations, the generation of excess materiel is inevitable. Unit drawdowns, the requirements of contingency operations around the world, adjustments in unit authorizations, and changes in the demand for supplies all cause excess. In order to address this issue in U.S. Army, Europe (USAREUR), the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) has developed a Theater Excess Management Command Plan. Under this plan, USAREUR's major subordinate commands (MSC's) are required to identify their excess and provide status on the actions they take to dispose of that excess properly. Theater-level visibility and command emphasis on excess reduction are provided by means of monthly in-process reviews (IPR's) to the USAREUR DCSLOG and quarterly IPR's to USAREUR's Deputy Commanding General.

Tracking Excess, From the Unit to the Theater

The goal of the excess management program is to reduce excess through the focused application of Army regulations, Department of the Army guidance, and internal reviews and analyses. USAREUR defines excess as follows—

- At the property book level, for class II nonexpendable items and class VII major end items (such as trucks and tanks): Excess includes equipment not authorized by current authorization or a modification table of organization and equipment (MTOE) that will come into effect within 1 year.
- At supply support activities (SSA's), for class II expendable items (such as items one might obtain from a hardware store), class III packaged items (such as antifreeze), class IV items (such as barbed wire or wood), and class IX items (such as tank engines): Excess includes any item above the requisitioning objective (RO).

In order to reduce excess, USAREUR submitting units and agencies must understand and use the same definitions and terms as those appearing on USAREUR's excess charts. For example, submitting units need to use properly terms such as "Items To Move" and "Items To Retain." To ensure the integrity of data, all agencies use the data current at the end of each month. These data are provided by USAREUR MSC's and staff agencies and are briefed by those same agencies, which avoids the problem of the MSC's and agencies explaining other people's numbers.

USAREUR's excess management program is designed to establish a method for tracking both the dollars and the number of items tied up in excess, by class of supply, within each MSC and in the theater as a whole. USAREUR's leaders then can identify problem areas by MSC, supply class, and commodity and gain visibility of USAREUR's most costly excess items (the top excess dollar-drivers) at the MSC level. By having visibility of the top 12 excess items, USAREUR can focus its efforts on reducing those excess high-dollar items. As each unit works off its top 12 dollar-drivers, other items will migrate to the top of its list. Eventually, we hope that the majority of excess items will be contained within the top 12 charts.

The excess management program also seeks to ensure that MSC's cross-level excess items within their commands within 90 days before reporting those items as excess to the theater level. Once an excess item is reported to the theater level and a document number is obtained on the turn-in document, the unit has 60 days to turn in that item or cross-level it in accordance with disposition instructions.

In the USAREUR excess command plan, we have incorporated lessons learned about reducing excess, proven areas of excess generation, and programs and policies that permit commanders to identify the causes of excess within their units. MSC's within USAREUR have made tremendous strides, reducing their total excess value by 57 percent since the program was initiated in January 1997.

Program Benefits

The ODCSLOG staff briefs the DCSLOG each month

on excess data obtained from each MSC and the 200th Theater Army Materiel Management Center (TAMMC). The charts detailing excess status are returned to each MSC so they can compare their excess reduction efforts to those of other MSC's. This action also provides MSC's with information about equipment in other USAREUR units that can fill their equipment-on-hand shortages.

The decision to place special command emphasis on the top 12 dollar-drivers is based on the assumption that high-dollar-value items retained as excess affect Army readiness in several ways: by denying needed equipment to a unit with a shortage; by draining maintenance dollars from the unit retaining the excess item; and by wasting the time of mechanics who maintain equipment that they are not authorized and possibly not trained to maintain.

Special emphasis on the top 12 dollar-drivers has resulted in significant reductions in the total dollars tied up in excess within USAREUR. For example, excess M1A1 tanks held by the Seventh Army Training Command constituted our number one dollar-driver as reported on that command's excess report. These tanks were used originally for training in Hungary (for tank crews redeploying from Operation Joint Endeavor) and were no longer needed. They since have been shipped to the Texas National Guard.

USAREUR's excess management program has produced some other benefits—

- Theater excess retention policy. Sometimes units report on their monthly excess reports that they want to retain excess items, which they intend to add to their authorization documents. This practice led the USAREUR Office of the Deputy Chief of Staff for Operations (ODCSOPS) to publish a theater excess equipment retention policy. The policy addresses requests for changes to authorization documents (DA Form 4610-R and DA Form 2028) and letters of retention for units, pending release of a new authorization document. The visibility of these retained excess items is maintained through monthly excess reports, which include a chart that lists the number of 4610-R and 2028 submissions and where they are in the system. This information is passed to the ODCSOPS Force Management Division for review in conjunction with their records on unit submissions.
- USAREUR equipment classification technical inspection standard. The ODCSLOG Maintenance Division has issued a standard that calls for performing classification technical inspections within 15 work days from the date equipment is job-ordered to the supporting direct support (DS) maintenance unit.
- A review by the ODCSLOG Maintenance Division of USAREUR's policy on orphan units. Orphan units are those units without organic maintenance facilities. They are supported by the closest maintenance support activity. Long "awaiting inspection" times reported on the monthly excess charts have resulted in new policy for support to orphan units, which has reduced the amount of time a unit needs to perform required inspections on equipment.
- Materiel readiness reviews conducted by V Corps and other MSC's. These reviews now address readiness issues that affect management of excess materiel.

Using Automation to Obtain Excess Data

Reporting excess data requires coordination with several staff elements within a unit. The information required for the current excess reports is obtained from property book officers (PBO's). The PBO must coordinate with the unit's maintenance officers and force management personnel to provide these reports. Many hours are spent adding numbers, making the necessary calculations, and ensuring that all numbers on the unit's chart are accurate.

During the April 1998 quarterly IPR for the Deputy Commanding General, the ODCSLOG fielded an automated version of this process. This program was developed by a Washington State reserve component officer, Major John Knowlton, while he was serving on active duty at Headquarters USAREUR. Using Microsoft Office Excel and its Visual Basic programming language, he created a program that automatically calculates, totals, and fills in charts with information supplied by the user. Units have to put in numbers only once. If the same numbers should be used in more than one place on the excess chart, the program automatically places those numbers in the required locations. These charts then are sent electronically to the MSC's.

The MSC has an automated excess consolidation program that combines the input from all of its subordinate units. This program also can tell the MSC the date and time that the units submitted their reports. Two added features are the Help file and the virus protection feature. The Help file allows the unit and the MSC to access a step-by-step procedure that guides them through the data input and consolidation process. The virus protection system prevents another program from opening while the user is accessing or using the excess consolidation program. When the MSC has completed its excess consolidation, it can send its automated consolidated excess reports to Headquarters USAREUR electronically.

Individual units are not required to provide numbers on excess consumable and repair parts. This information is obtained monthly from the TAMMC. The TAMMC

accesses the Standard Army Retail Supply System (SARSS–2AC/B) using INFORMIX–Standard Query Language (ISQL).

The ODCSLOG is exploring the possibility of automatically accessing the Standard Property Book System–Redesign that PBO's use to obtain data required for excess reports. The goal of this initiative is to reduce significantly the amount of time units need to access data required in USAREUR's excess management charts.

When the user first accesses the excess consolidation program for the MSC, four buttons appear. The "Reports" button brings him to the individual excess reports; the "Help" button accesses a descriptive, step-by-step help program; the "Quit" button causes him to exit the program; and the "Consolidate" button accesses the consolidation screen. When the user accesses the consolidation screen, he will see on the left all the files contained in the accessed directory. On the right he will see a list of the files to be consolidated. The user can remove any file by pressing the "REMOVE" button. If his Excel program is not defaulted to the proper directory, he can change the directory by pressing the "Directory" button at the top of the screen and typing in the correct directory.

Excess materiel from USAREUR units has gone to support various programs, including some non-Army programs such as the Humanitarian Assistance Program and Foreign Military Sales. More importantly, excess materiel has been used extensively to fill equipment-on-hand shortages in other units throughout USAREUR. Excess equipment also has been used to fill equipment requirements for contingency operations such as Operations Joint Endeavor, Joint Guard, and Joint Forge in Bosnia and Task Force Able Sentry in Macedonia.

While great strides have been made in USAREUR to reduce our excess, we know that excess will never go away. Authorization documents change as we modernize and improve our MTOE's. Our challenge is to continue to ensure that there is command emphasis on the reduction of that excess and to continue to be good stewards of Army resources. **ALOG**

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