

# Quartermaster

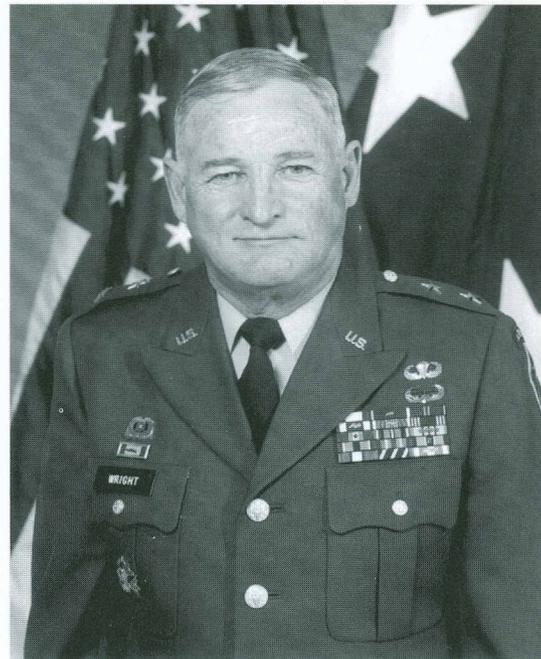
PROFESSIONAL BULLETIN  
AUTUMN 1997 PB 10-97-3  
SUPPORTING VICTORY



*Dispelling the  
Weekend Warrior Myth*



## *From The Quartermaster General*



**Major General James M. Wright**

My first few months as your Quartermaster General have been tremendously eventful and exciting. We have a great Quartermaster team and the ongoing initiatives are bold, innovative steps that will further enhance our reputation as the "Warfighter's Logisticians" well into the 21st Century.

I am convinced that Quartermasters are on the cutting edge of doctrinal and training development at the US Army Quartermaster Center and School (USAQMC&S) and in tactical employment and innovation in the field. A number of particularly significant projects are underway at the USAQMC&S, including a comprehensive strategy to improve the Standard Army Retail Supply System-Objective (SARSS-O), a bottoms-up review of 92A (Logistical Automation Specialist) and 92Y (Unit Supply Specialist) supply courses, development of model warehouses, distance learning and the Total Army School System (TASS), and the distribution system. These represent but a few of the monumental programs being worked - not just at Fort Lee, VA, but in partnership with field commands, notably, the 1st, 3d and 13th Corps Support Commands (COSCOMs). Among the SARSS "fixes," we are working revisions in Quartermaster Mobile Training Teams (MTTs), which in FY98 will be two weeks long and will incorporate hands-on training in warehouses as well as manager-level training. Multimedia CD-ROM for SARSS-1 sustainment training and Unit Level Logistics System-Ground (ULLS-G) are also being developed, thanks to the superb support provided by the 3d COSCOM. This project will provide commanders in the field the tools to execute computer-based

sustainment training on these systems at the job site. Soon, updated training will be imbedded into software changes so units will have constant access to the newest developments.

Warehouse training at the USAQMC&S is fully resourced with the Material Release Order Control System and the Automated Manifest System, and we are in contact with all three active COSCOMs to develop a partnership to create model warehouses within each command. These initiatives emphasize the concept of *TEAM* within our logistics community. I am also excited about Battlefield Distribution. As the proponent for distribution, the USAQMC&S, along with the US Army Combined Arms Support Command, is incorporating the latest developments in civilian industry, field innovations across all functional areas, and also technology enhancements such as Radio Frequency tagging and movement tracking devices, to name a few, to assemble a framework for an interoperable distribution system that will ensure timely "factory to foxhole" service and expand to encompass joint executive agency for the battlefield of the future.

I am tremendously impressed by what I see during visits to Quartermasters in the field. Our soldiers, noncommissioned officers and officers are magnificent and doing yeoman's work for our Army. I will continue to visit soldiers across the Army because I am committed to maintaining an iron-clad link between Fort Lee, and the field. Forty-two percent of all Quartermaster soldiers are assigned to combat units, so the relevance and impact of what we accomplish collectively is resoundingly obvious.

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# Quartermaster

PROFESSIONAL BULLETIN



## Supporting Victory

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**INSIDE BACK COVER:** Keith K. Fukumitsu, Quartermaster, researches and illustrates the battalion-size units featured with a page in each edition. LTC (Retired) Fukumitsu was formerly assigned as Chief of the Course Development Division, Directorate of Training and Doctrine, US Army Quartermaster Center and School, Fort Lee, VA.

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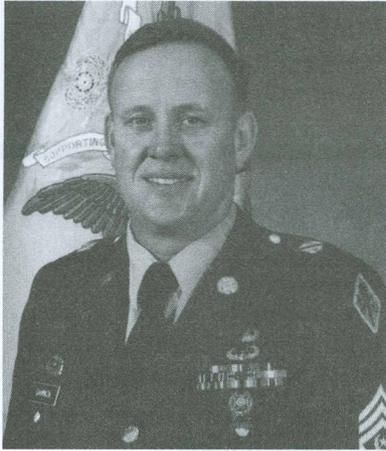
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## Quartermaster Careers and the Future

*Command Sergeant Major Larry W. Gammon*

Quartermaster! I say the word with PRIDE. The Quartermaster Corps is doing great, and that is because the Quartermaster noncommissioned officers (NCOs) are doing great! I am proud to be your Regimental Command Sergeant Major so that I can attempt to improve this great Corps even more. I have traveled a few miles and visited many posts/installations during my short time in this job. I would like to give you some facts about our Quartermaster Corps that many did not know when I visited their units. For example, did you know that only 29 percent of the US Army is overseas? Overseas assignment opportunities have declined substantially over the last few years.

Did you know that only 39 percent of the total Quartermaster Corps is on active duty? This is the reason why we must wrap our arms around US Army Reserve and Army National Guard soldiers and ensure they are ready to do their jobs.

The fact is that 9.6 percent of the Total Army is Quartermaster. That means 1 in every 10 soldiers represent the great Quartermaster Corps.

Of almost 49,000 active duty Quartermaster soldiers, 95 percent are enlisted, 3 percent are officers, and 2 percent are warrant officers. Sixteen percent of Quartermasters are assigned to table of distribution and allowance (TDA) units and 84 percent to modification table of organization and equipment (MTOE) units.

Now that I have told you a little about our Quartermaster Corps, let me give you some of the most-asked questions that I get from the field, with a short response to each:

**Q: What are some career tips that will help me?**

- ✓ Do your best in all jobs. The best job should be the one you have right now.

- ✓ Keep in contact with your branch manager.
- ✓ Stay prepared for boards. It has always frustrated me to find out after each board how many great Quartermasters are not maintaining their records.
- ✓ Always meet height and weight standards and lead the way in physical training. Being in great physical shape is the cornerstone to building a very successful career.
- ✓ Always maintain high morals and standards.
- ✓ Ask for and take on the harder jobs. A few examples of hard jobs are drill sergeant duty, Airborne duty, recruiter duty, Active Component/ Reserve Component advisor duty, instructor or small group leader duty and observer/controller duty at the National Training Center, Joint Readiness Training Center, or Combat Maneuver Training Center. You can request all these jobs with a DA Form 4187 (Personnel Action) sent to the Quartermaster Branch.
- ✓ Ensure you have successful NCO Enlisted Evaluation Reports and complete your NCO Education System courses.
- ✓ Always seek leadership and challenging jobs.
- ✓ Continue your military and civilian education throughout your career, if possible. Education is a "win-win" situation.

**Q: What will the future bring for the Quartermaster Corps?**

- ✓ Continued promotion opportunities
- ✓ Fewer overseas opportunities
- ✓ More continental United States (CONUS)-to-CONUS assignments
- ✓ Longer tours at one station
- ✓ Continued resident and nonresident schools
- ✓ More reliance on self development

*(Continued on Page 3)*

(Continued from Page 2)

I never tire of telling Quartermaster soldiers that I am proud of the job you do and the professionalism with which you do it. There is no better job for me than to represent you.

If there is a Quartermaster topic you wish me to address, please let me know. **Telephone:** DSN 687-3248 or (804) 734-3248. **Mailing address:** Commander, USAQMC&S, ATTN CSM Gammon, 5000 22d St, Fort Lee, VA 23801-5000. **Fax:** DSN: 687-3343 or (804) 734-3343. **E-mail:** gammonl@lee-dns1.army.mil.

I highly encourage soldiers to use your chain of command and NCO support chain. If you ask me a question, I guarantee you a response. It may not be the one you are looking for, but you will get a response.

*Command Sergeant Major Larry W. Gammon has served in a variety of leadership positions as Command Sergeant Major, 45th Corps Support Group (Forward), Schofield Barracks, Hawaii; Command Sergeant Major, 23d Quartermaster Brigade, Fort Lee, Virginia; Commandant, Noncommissioned Officer Academy, Fort Lee; Command Sergeant Major, 99th Forward Support Battalion, Fort Lewis, Washington; First Sergeant, Headquarters and Headquarters Company, 109th Forward Support Battalion, Fort Lewis; First Sergeant, 2d Support Command Corps Materiel Management Center, Stuttgart, Germany, and Platoon Sergeant, S4 Noncommissioned Officer in Charge. His military education includes Airborne School, the Sergeants Major Academy, First Sergeants Course, Senior Supply Sergeants Course, Noncommissioned Officer Logistics Course and Advanced Noncommissioned Officer Course.*

## *New Enlisted History Office*

The Regimental Command Sergeant Major has established an enlisted history office at the Home of the Quartermaster Corps to collect, store and access historical documents on noteworthy personnel to keep for use by future researchers. More extensive documents on Quartermaster officers already are maintained in the Quartermaster Historian's office. In the case of enlisted Quartermasters, too often records relating to important projects are destroyed shortly after completing an action. These documents include notes, messages, memoranda, briefing charts, official reports, telephone logs and photographs. Regimental CSM Larry W. Gammon has placed the first "enlisted historian" in Room 118, Mifflin Hall at Fort Lee, VA. CSM Gammon's office also is located in Mifflin Hall. MSG Melvin Kendricks is actively interviewing retired Quartermaster enlisted soldiers and NCOs and seeking the records of key "personnel who have moved on."

MSG Kendricks said that Quartermaster personnel too often complete missions successfully, but leave no tangible record explaining who was involved, what issues were at stake, and why certain decisions were made. The results: future decision-makers are deprived of an opportunity to learn from the past. MSG Kendricks would like to reach anyone who knows Quartermaster enlisted soldiers, past or present, who have made a difference in the success of the Quartermaster Corps. Phone MSG Kendricks at (804) 734-4743 or DSN 687-4743; E-mail to kendricm@lee-dns1.army.mil; or write to him at this address: COMMANDER, USAQMC&S, ATTN ATSM QMG, 1201 22D STREET, FORT LEE, VA 23801-1601. To contact CSM Gammon, phone (804) 734-3248 or DSN 687-3248 or E-mail to gammonl@lee-dns1.army.mil.

(Continued from inside front cover)

Keep the lines of communication open, and together we will build the system and train the soldiers to sustain our Army. The Army is counting on all of us to create a revolution of military logistics. Let's all "ruck it up" and move out toward the logistics system of the future.

*Major General James M. Wright, 45th US Army Quartermaster General, has held numerous command and staff positions. His previous assignments include Commander, 21st Theater Army Area Command, Germany; Deputy Chief of Staff, Logistics, United States Army, Europe, and Seventh Army and also Director of Logistics, Controller Staff, Exercise Atlantic Resolve '94; Director of Plans and Operations for the Deputy Chief of Staff, Logistics, United States Army; Commander, 1st Corps Support Command (COSCOM), XVIII Airborne Corps; Commander and Assistant Division Commander, Division Support Command, 7th Infantry Division (Light); Chief of Staff and later Deputy Commander, 1st COSCOM; Commander, 426th Supply and Service Battalion, 101st Airborne Division (Air Assault); Commander, Special Troops Battalion, 1st COSCOM; Commander, Logistical Support Unit, Multinational Force and Observers, Sinai; S1 (Logistics) Advisor, Advisory Team 25, United States Military Assistance Command, Vietnam; Commander, 25th General Supply Company, 95th Supply and Service Battalion, 3d Support Brigade, United States Army, Europe, and Seventh Army.*

# Professional Dialogue

## *The 3/5 Platoon – No Fuel: No Flames! No Bullets: No Bang!*

*MSG Melvin Kendricks*

What is a “3/5 Platoon” and how does it relate to the mission of the Quartermaster Corps? Soldiers with military occupational specialties (MOSs) 77F (Petroleum Supply Specialist) and 55B (Ammunition Specialist) have been the life-line supply personnel in the Aviation battalions for



years. These two functional areas of support coined the term “III/V” or “3/5 Platoon” for the Quartermaster and Ordnance Corps classes of supply. A 3/5 Platoon consists of about 44 personnel with the 77F and 55B MOSs, depending on the battalion requirements. That number is an ideal scenario, but you will probably never see that many soldiers. At best, the platoon maintains about 35 soldiers. The mission of a 3/5 Platoon is to provide fuel and ammunition support in the forward battle area for attack helicopters such as the Cobra AH-1 and the Apache AH-64. The platoon’s equipment includes hoses, fittings and ammunition crates. The Forward Area Refueling Point (FARP) provides support.

FARP team leaders, in most instances, are sergeant E5s. They must have their equipment set up and working within 30 minutes after arrival onsite in an operational environment. It is not uncommon for a FARP team to relocate several times in a 24-hour period, generally at night. Army aviation refuelers and ammunition handlers agree that theirs is a tough, thankless job - particularly during extended field exercises and gunnery and even during day-to-day activities when an aviation battalion is deployed. Imagine the effort involved in pumping 35,000 gallons of aviation fuel in a single day. This is not an unusual amount of daily fuel for an Army Aviation battalion. Also, consider the long hours and hard work involved in packing up the FARP, moving the FARP, setting it back up and then pumping fuel for 24 hours straight. For the 3/5 Platoon’s soldiers, the

mission also includes filling and sling loading 500-gallon collapsible drums and keeping up with all operational requirements.

With this mission for the 3/5 Platoon, an observer would wonder if these 3/5 soldiers are eating as well as they should. Generally, the FARP teams try to keep at least 10

cases of Meals, Ready to Eat (MREs) as a basic load at all times. For many soldiers in a 3/5 Platoon, a hot meal comes in the form of several heated MREs during the entire gunnery or field exercise. Most soldiers in a 3/5 Platoon will not complain about field conditions. In fact, on occasion the platoon sergeants have had to give the FARP team leaders a direct order to set up living quarters. If left up to the members of the 3/5 Platoon, these 3/5 soldiers would rather not set up their frame tents or general purpose (GP) small tents. Without these living accommodations, soldiers in the 3/5 Platoon may be found sleeping in the cabs of vehicles, trailers or somewhere under the stars.

The 3/5 Platoon sergeants and platoon leaders must ensure the comfort and welfare of their soldiers in every possible way. This type of leadership builds soldier morale and confidence.

Dealing with the dangers of fuel and ammunition day in and day out takes courage and dedication. To all Petroleum Supply Specialists and Ammunition Specialists throughout the Army, thanks for the outstanding job you are doing and for the superb job I know you will do in the future. No fuel: no flames! No bullets: no bang!

*MSG Melvin Kendricks is organizing the first enlisted history office at the Home of the Quartermaster Corps, Fort Lee, Virginia. His office is in Room 118, Mifflin Hall. Phone him at DSN 687-4743 or (804) 734-4743 or E-mail to kendricm@lee-dns1.army.mil. He is actively seeking records of enlisted Quartermaster soldiers, past or present.*

# Force XXI Forward Support Battalion Redesign

LTC Arturo Aldana      CPT Joseph H. Lawson III      CPT Clement A. Namangale  
CPT Mark A. Thomson      CPT Donald R. Worden

Force XXI is about to become a reality. After the success of the EXFOR (Experimental Force), a fully digitized mechanized Infantry brigade tested at the National Training Center in Fort Irwin, CA, the Department of the Army appears ready to embrace a fully digitized and redesigned division. Under the direction of the Army's Force Design Directorate (FDD), the various battle labs have war-gamed possible new designs for their respective elements. These battle labs include the US Army Combined Arms Support Command (USACASCOM) Combat Service Support (CSS) Battle Lab.

One of the proposed designs is a radical shift from the way the heavy forward support battalion (FSB) does business today. This new design puts much more responsibility in the hands of CSS company commanders and platoon leaders, while simultaneously improving the quality and responsiveness of CSS elements, thereby better meeting the needs of the maneuver battalion commander.

## Current Doctrine

Under current doctrine, the heavy FSB's mission is to provide direct support to the brigade and all units operating in the brigade area. The FSB currently operates out of the brigade rear area, 25 to 30 kilometers behind the forward line of own troops (FLOT). The FSB commander is in charge of the brigade support area (BSA), which consists of the FSB, field trains from the supported maneuver battalions, combat trains, and divisional slice elements such as Signal, Military Police, Chemical, and other support units. The field trains move forward from the BSA to resupply their maneuver battalions near the FLOT. The combat trains are also located near the FLOT and provide emergency Class III (petroleum, oils and lubricants), V (ammunition) and medical support. The current organization of the FSB and the maneuver battalion support assets are shown in Figure 1.

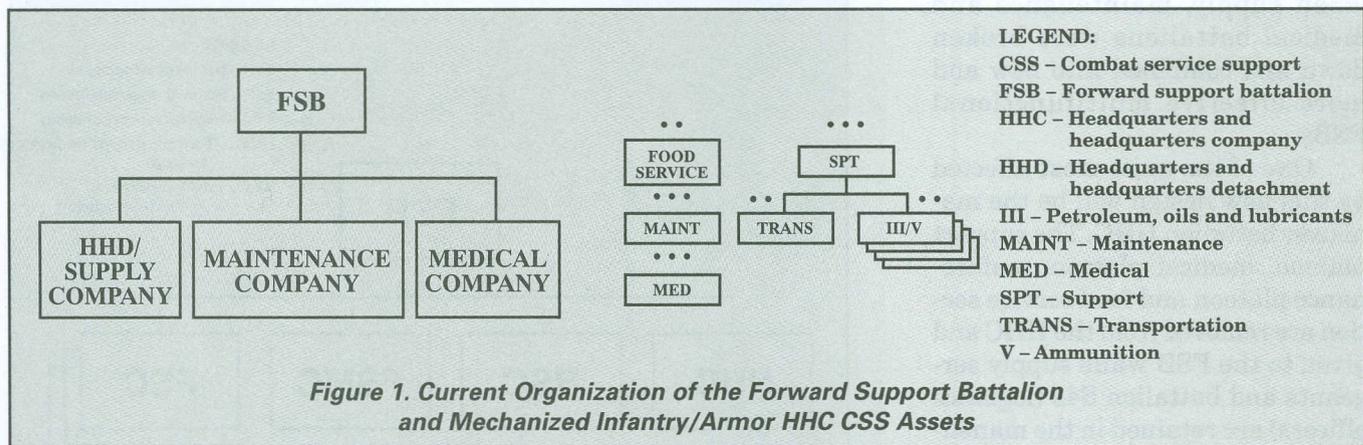


Figure 1. Current Organization of the Forward Support Battalion and Mechanized Infantry/Armor HHC CSS Assets

**Headquarters and Headquarters Detachment/Supply Company.** The headquarters and headquarters detachment (HHD) is responsible for billeting, discipline, security, training and administration of personnel assigned to the HHD. It is responsible for providing food service support to the FSB and selected units in the BSA. The supply company receives and issues Classes I (rations), II (general supplies), III, IV (construction and barrier materiel), and VII (major end items). The supply company is made up of the company headquarters and the supply platoon.

**Maintenance Company.** The maintenance company provides direct support maintenance to supported elements in the brigade area and maintains an authorized stockage list (ASL) to provide Class IX (repair parts) support to the brigade. The maintenance company also provides backup recovery support. The maintenance company has a company headquarters, automotive and armament platoon, ground support equipment platoon, and a maintenance support team (MST) for each supported battalion.

**Medical Company.** The medical company provides division- and unit-level health service support to all units operating in the supported brigade area. It also provides ground evacuation from battalion aid stations and designated collection points, emergency dental care, emergency Class VIII (medical supplies) resupply and a 40-patient holding area. It has a company headquarters, treatment platoon, and ambulance platoon.

**Mechanized/Armor CSS Assets.** The mechanized Infantry and Armor headquarters and headquarters companies (HHCs) contain a medical platoon, a support platoon, a maintenance platoon, and a food service section. The medical platoon provides limited treatment, recovery, and transportation assets for its battalion. The support platoon maintains the unit basic load of ammunition plus some fuels and lubricants. The support platoon's organic transportation assets are used to assist company supply sergeants in transporting Classes I, III and V supplies to the maneuver companies. The maintenance platoon provides organizational maintenance support, receives and stores Class IX, including retaining a prescribed load list (PLL) for each company, and provides limited recovery assets to the battalion. The food service section provides field feeding service for the battalion, with the ability to prepare one cook-prepared ration (Unitized Group Ration-A) and one Heat and Serve Ration (formerly known as the T-Ration) per day.

### Proposed Design

The proposed FSB redesign centralizes all support to the maneuver battalions under a single multifunctional company, the forward support company (FSC), which is located close to the FLOT. This company has medical, supply, maintenance and transportation assets dedicated to providing direct support to a single maneuver battalion. The FSC, under the proposed doctrine, would have the mission of providing all classes of supply, as well as both direct (DS) and organizational maintenance to its supported battalion/task force. There will be one FSC per maneuver battalion. The remainder of the brigade's CSS assets will be organized into a base support company (BSC), a forward support medical company (FSMC), and a HHC, each of which operate out of the location where the BSA is traditionally based. Figure 2 depicts the organization of the proposed FSB.

This design is reminiscent of the FSB redesign of the late 1980s, when supply, maintenance and medical battalions were broken down and combined into new and more effective multifunctional FSBs.

One of the units most affected by this new design will be the maneuver battalion HHC. The support platoon, medical platoon, maintenance platoon and food service section are removed from the HHC and given to the FSB while supply sergeants and battalion S4s (logistics officers) are retained in the maneuver battalion. Most of these personnel are slotted into the FSC. This consolidation of maneuver HHC support elements and FSBs provides economies of scale and increases the effectiveness of CSS.

Now that all maneuver battalion commanders reading this have decided to lock up their CSS soldiers to prevent their theft by the FSB, let us explain why there is no need for alarm. The physical location of the new FSC will be virtually identical to the current location of maneuver battalion combat trains today. The difference is that the new FSC will have improved CSS capability through information dominance and predictive logistics and will be dedicated to support a single maneuver battalion. By having all CSS under the control of the FSC, the barrier between unit supply and DS supply is broken. Figure 3 depicts the organization of the FSC.

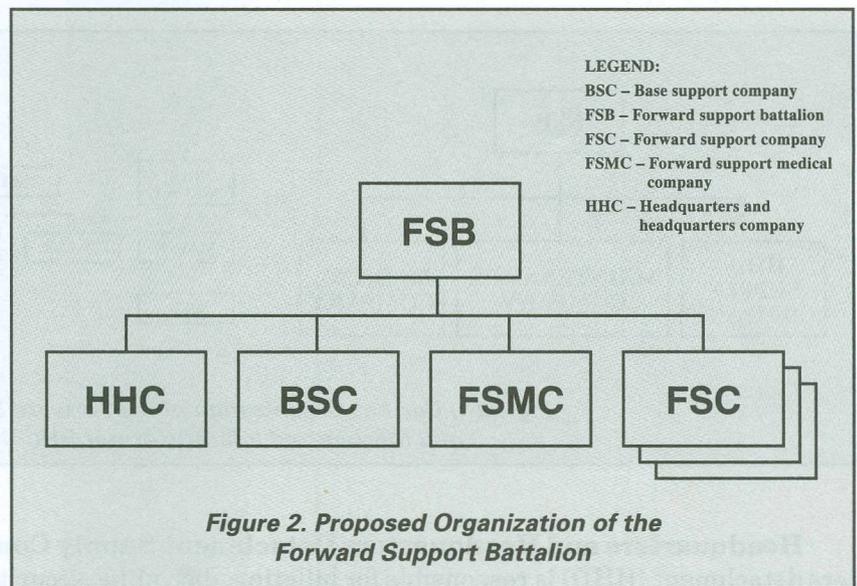
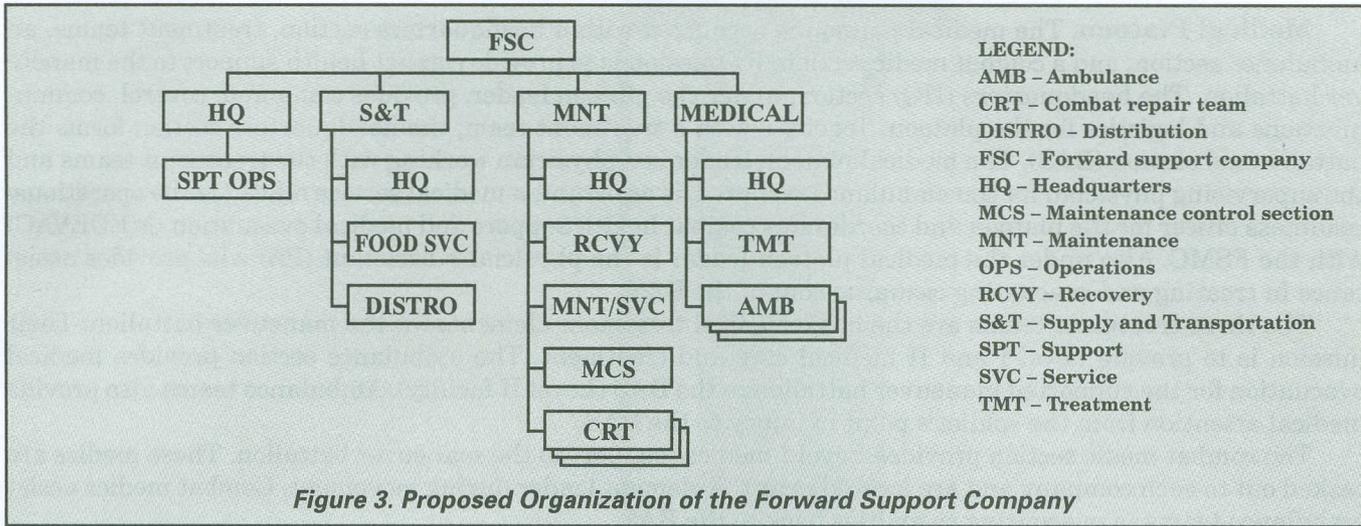


Figure 2. Proposed Organization of the Forward Support Battalion



**Headquarters Section.** The company headquarters of an FSC is divided into a command section and support operations section. The command section is responsible for the command and control of the FSC and its subordinate elements. It directs the operations of the subordinate sections as well as being the single agent responsible for all CSS operations in support of a maneuver battalion. This centralization of support provides the maneuver commander with improved mobility and flexibility on the battlefield. The support operations section (SPO) provides the coordination and supervision for the FSC's CSS mission, including DS supply, DS and organizational maintenance, combat health service support, transportation, and field services. The FSC commander works with the SPO to ensure that the maneuver task force commander's guidance is available and that the FSB commander's intent is accomplished.

**Supply and Transportation (S&T) Platoon.** The supply and transportation (S&T) platoon consists of a headquarters section, distribution section, supply section, and food service section. Its mission is to distribute all classes of supply (less Class VIII) and provide food service forward from the task force support area (TFSA) located near the FLOT. The platoon leader and platoon sergeant manage the operations of three sections: distribution, supply, and food service. The platoon's distribution section provides the task force with one day of operational requirements of ammunition and one-half day of operational requirements of Class III bulk fuel. The supply section requisitions, receives and issues Classes II, III(packaged), IV, VII, and IX for the supported task force. This section operates a field supply support activity (SSA) minus stockage with the FSC's Standard Army Retail Supply System-Level 1 (SARSS-1) equipment located in this section. The food service section provides food service and preparation for the FSC and task force. It can prepare and/or serve cook-prepared meals and also heat-and-serve ration meals in maneuver company areas.

**Maintenance Platoon.** The maintenance platoon consists of a headquarters section, maintenance control section, recovery section, combat repair team, and maintenance and service section. Its mission is to provide organizational and DS maintenance support to the task force. With maintenance centralized, the platoon leader (similar to the FSC commander's role with the task force), becomes the senior battalion maintenance officer for the task force.

The headquarters section provides command, control and supervision for all administrative functions within the platoon. The maintenance control section coordinates maintenance activities for all repair sections. It uses Standard Army Maintenance System-Level 1 (SAMS-1) and Unit Level Logistics System-Ground (ULLS-G) in managing maintenance for the battalion and is broken down into Class IX teams that maintain the PLL for each maneuver company. The recovery section provides dedicated wheel and track recovery for the task force and backup recovery and lift support to the combat repair teams. Combat repair teams provide dedicated tactical field maintenance (organizational and DS) for each maneuver company. The maintenance and service section provides scheduled services for all equipment organic to the maneuver battalion and FSC. It also provides armament support, communication and electronic repair, and backup support to the combat repair teams.

**Medical Platoon.** The medical platoon is organized with a headquarters section, treatment teams, an ambulance section, and a combat medic section. Its mission is to provide combat health support to the maneuver battalion. The headquarters (HQ) section, under the platoon leader, provides command, control, communications and logistics for the platoon. Together with a treatment team, the headquarters section forms the battalion aid station (BAS). The medical platoon leader is a physician working with the treatment teams and the supervising physician for the ambulance section. His assistant, a medical service officer, is the operations/readiness officer for the platoon and coordinates combat health support and medical evacuation (MEDEVAC) with the FSMC. Also under the medical platoon leader is the physician's assistant (PA) who provides assistance in treating and evacuating casualties out of the BAS.

The three treatment teams are the basic medical treatment elements for the maneuver battalion. Their mission is to provide Level I and II medical care and treatment. The ambulance section provides medical evacuation for the supported maneuver battalion to the BAS (Level II facility). Ambulance teams also provide medical attention from the soldier's point of injury to the BAS.

The combat medic section provides Level I medical support to the maneuver battalion. These medics are tasked out to each company and are located near the element leader during movement. Combat medics assist ambulance teams in evacuating casualties back to the BAS.

### Base Support Company

The BSC's mission is to provide support to elements within the brigade rear and also limited backup and reinforcing support to the FSCs. This includes DS maintenance, unit maintenance for the FSB HQ, medical company, brigade (BDE) HQ, and BDE reconnaissance elements, supply, transportation support, and command and control for assigned/attached CSS elements. Figure 4 shows the organization of the BSC.

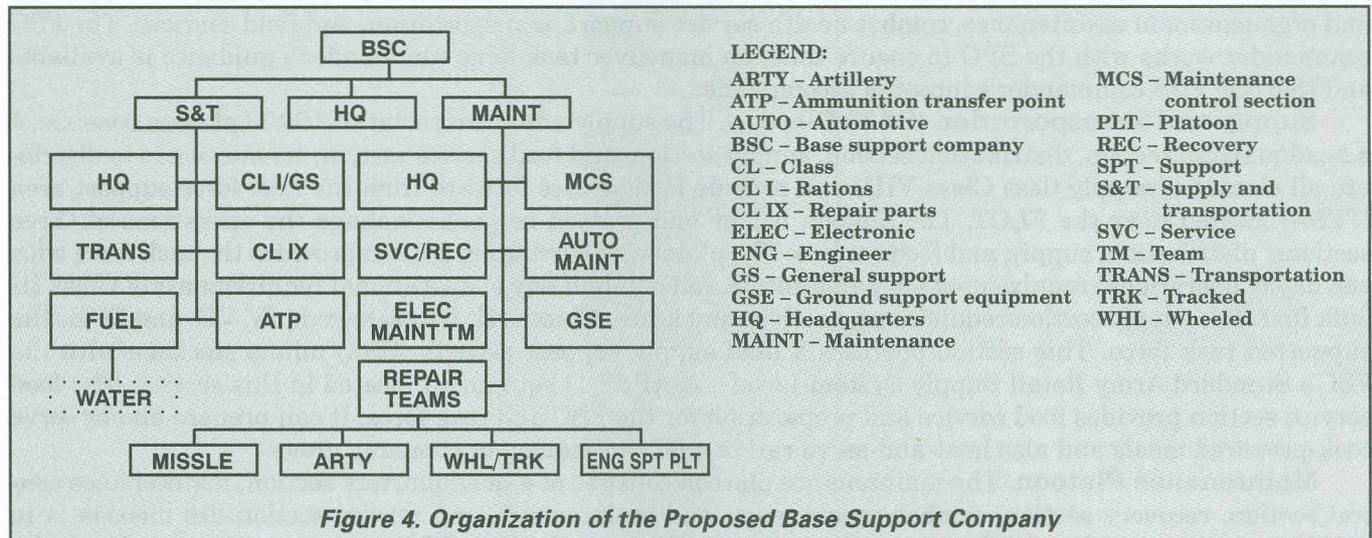


Figure 4. Organization of the Proposed Base Support Company

**Headquarters/Support Operations.** The company headquarters provides command and control of the BSC's personnel. It provides the brigade combat team a single source for all CSS operations (except for health support). The support operations section provides supervision of the flow of supplies and maintenance support.

**Maintenance Platoon.** The BSC maintenance platoon consists of a headquarters section and several individual sections. These sections provide unit and direct support to the BSC, FSMC, HHC FSB, HHC brigade, Artillery battalion, Engineer battalion, and the brigade reconnaissance troop units located in the BSA. Each section provides direct support maintenance for a specific type of equipment, and as a group, provides full direct support maintenance to nearly every asset in the entire brigade task force.

The center of these operations is the maintenance control section. It provides maintenance management, performs technical inspections, assigns and monitors job orders, and provides quality assurance and control of maintenance work. The service and recovery section provides welding and recovery support to brigade

vehicles and equipment. The ground support equipment repair section provides DS repairs in refrigeration and power generation equipment. The automotive maintenance repair section performs DS maintenance on wheeled and tracked vehicles. For electronic equipment, the electronic maintenance repair section provides field maintenance on electronics, armament, and fire control equipment. It can also provide limited backup repair support to the FSC's maintenance platoon.

For the brigade's specialized equipment, maintenance teams are formed to provide DS support. The missile system support team works on TOWs (tube launched, optically tracked, wire-guided missiles), Dragons, Bradley-Stingers, and long-range night vision devices for the entire maneuver brigade. As needed, it can break into three teams to provide support forward to the FSCs.

For the brigade's "big guns," the artillery support team provides DS maintenance to the Field Artillery battalion in support of the brigade. It can provide wheeled and tracked repair, armament support, limited power generation repair, and communications-electronics repair. An Engineer support platoon is available to provide DS maintenance to the Engineer battalion in support of the brigade. Lastly, the wheeled and tracked contact repair team provides backup DS maintenance to the FSCs. It also provides area coverage to units located in the BSA. Bottom line: the maintenance platoon has the personnel and equipment to provide nearly complete maintenance support to the brigade.

### **Supply and Transportation Platoon**

The supply and transportation (S&T) platoon receives, stores and issues Classes II, III, IV, V and IX (less Class VIII) and can receive and issue Classes I and VII to support brigade task force units. One of the more interesting features of the S&T platoon is a single warehouse operation, with no more split between supply Classes II and IV and IX and also organic water and transportation capability. Specific sections include the following:

- Class I and general supply provides Classes I, II, III(Packaged), IV and VII.
- Class IX supply provides maintenance parts support.
- Transportation provides organic truck capability within the FSB.
- Class V (ammunition transfer point) operates a transfer point between corps and supported units.
- An attached water section operates a water purification and distribution point. Tankers distribute water to the FSCs.
- Petroleum operates a Class III (Bulk) point that can displace if needed. This operation will provide bulk fuel resupply while retaining the ability to conduct retail support.

### **Forward Support Medical Company**

The FSMC's mission is to provide Echelon II medical care for the supported maneuver brigade and the BSA. It also provides Echelons I and II medical treatment on an area support basis to units without organic medical assets operating the brigade rear area. The FSMC is probably the single company within the BSA that has not undergone significant redesign. Figure 5 shows the proposed organization of the FSMC.

**Headquarters Section.** Provides command and control of assigned and attached personnel.

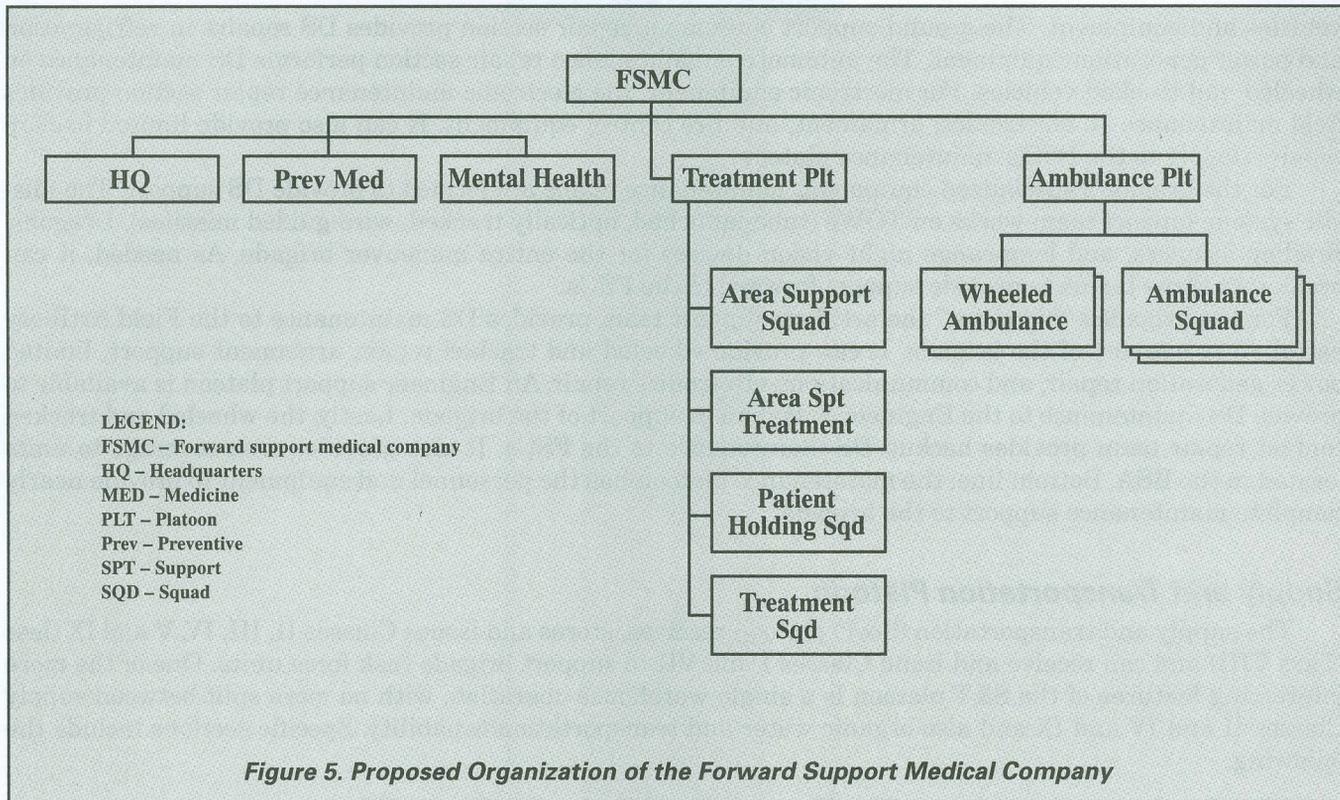
**Ambulance Platoon.** Provides medical evacuation from forward areas to the BSA.

**Treatment Platoon.** Provides stabilization, medical care, Class XII resupply to FSCs, dental care, and combat stress control to supported units.

**Preventive Medicine (PM) Section.** Oversees PM measures taken in the brigade and makes recommendations to supported commanders on how to improve their PM posture.

### **Headquarters and Headquarters Company**

The HHC provides the FSB HQ with command and control, administration, and supply. The food service section provides field feeding support for the HHC, BSC, FSMC, and other units in the BSA as required. Within the HHC, the support operations section provides command and control of supplies and maintenance support to customers and synchronizes of supply flow. What does this mean to Quartermasters in the field?



### Responsibilities Increase for CSS Soldiers

The most serious effect of the proposed redesign is a dramatic increase in the responsibilities of logistics company commanders, especially the FSC commanders. They will be controlling all CSS directed toward a maneuver battalion. This will increase responsiveness of logistics support by focusing all support efforts on a single, specific customer. There are two dangers, though. The first is that with the physical location of the FSC so close to the expected action, CSS soldiers will find themselves facing attacks more often than they are today – something that CSS units now are not well-structured to do. However, the increased situation awareness provided by various computer systems and the increased mobility of combat arms soldiers should help.

The second danger is that the FSC commander may find a conflict between the priorities of the maneuver battalion commander and the FSB commander. The FSC directly supports a single battalion but remains under the command and control of the FSB commander. This relationship between the FSC, its supported battalion, and the FSB may be somewhat strained by this operational environment.

Junior leaders and soldiers must also shoulder a heavier burden in the FSC. Platoon leaders must adjust to a more decentralized planning process and make many decisions traditionally made by the company commander. Sergeants will find themselves conducting missions without a section sergeant looking over their shoulders. Truck drivers will navigate both forward to the supported battalion and back to the FSB.

However, this proposed reorganization of the FSB promises to harness the power of digitization and Velocity Management, eliminating large stockpiles by increasing the speed of delivery. This will improve logistics support to the maneuver battalion commander. At the same time, the centralization of assets and the vast increase in the level of responsibilities shouldered by CSS soldiers present many challenges. Although this design is by no means the only possible solution, the FSC-oriented FSB provides more customer-focused, efficient logistics support to the combat arms soldier than ever before.

*The authors are Quartermaster graduates of the Combined Logistics Officer Advanced Course 97-7/8 at Fort Lee, Virginia.*

# Emerging Technology in Airdrop Operations

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*Operation Provide Promise* was the largest humanitarian airdrop operation in the history of the United States. Relief supplies to the former Republic of Yugoslavia (Bosnia-Herzegovina) started in February 1993 and officially ended near the close of 1995. More than 30,000 bundles of humanitarian aid were airdropped in support of this operation. These bundles included food, medical supplies and winterization items (such as blankets, clothes, plastic sheeting, nails, candles and tape).

## Dangerous Drop Zones

Because of the drop zones' dangerous locations, none of the airdrop equipment was recovered during *Operation Provide Promise*. This resulted in \$30 million worth of air items depleted from US war reserves. Though humanitarian resupply was a success, emerging airdrop technology demonstrates that airdrop missions could have been conducted more efficiently and cost effectively.

At the beginning of the mission, eight aircraft (six US, one German and one French) were loaded with bundles daily. In the wintertime, because of the necessity of the relief items, the mission increased to 16 aircraft (12 US, 3 German and 1 French) nightly. To accomplish the expanded mission, the 5th Quartermaster Detachment employed more than 200 soldiers, to include 30 additional riggers from US Army-Italy, nearly 100 soldiers from other US Army Europe units, 30 Reserve Component soldiers from Georgia, and 20 allied soldiers from France and Germany.

The two main types of airdrops were high velocity for airdrop altitudes of 10,000 to 18,000 feet and free drops for situations when ground convoys could not reach towns to distribute the food and supplies. The high-velocity method consisted of the Container Delivery System (CDS), a 26-foot ring slot parachute on top of an A-22 container. There were over 200 different CDS food and medical configurations developed for this operation.

When the operation expanded, the demand for the 26-foot ring slot parachute surpassed the quantity on hand. After conducting several tests, a larger parachute, the G-12D, was used. This parachute, 64 feet in diameter, cost \$2,500, roughly five times more than the 26-foot ring slot. Part of the decision to use the G-12D parachute was based on a stock of 26,000 of these parachutes in Europe that were starting to deteriorate. With the smaller 26-foot parachute, one bundle

was attached. The larger G-12D parachute allowed riggers to connect one to four loads on a single parachute.

The G-12D is a standard low-velocity parachute designed to drop heavier loads from a much lower altitude than what *Operation Provide Promise* airdrops required. To change this low-velocity parachute to a high-velocity one, the riggers had to modify the G-12D. This procedure adds about 10 minutes to the packing process. Instead of taking 1 soldier 30 minutes to pack the 26-foot parachute, the G-12D took 3 soldiers 49 minutes. After the rigging, the G-12D's modification gave the parachute the same capabilities as the 26-foot parachute, but the G-12D could handle twice the weight.

## New Inexpensive System

The other airdrop method used is free drop. A newly developed system is called Tri-wall Aerial Delivery System (TRIADS). This system is very effective and inexpensive, costing only \$72 per bundle, compared to the CDS costing almost \$800 per bundle. Unlike the CDS, where one package would draw a large crowd to one location and not distribute the food evenly, the TRIADS would spread supplies such as Meals, Ready to Eat (MREs), blankets and clothing over a larger area. Thus, TRIADS distributes the relief supplies to more people. The supplies were packed into a 39-inch x 41-inch x 50-inch cardboard box with cardboard honeycomb padding.

When the bundle left the aircraft, the box would open up, allowing the supplies to free fall to the ground. Although some supplies were destroyed upon impact, enough survived the drop to make this method worthwhile. However, TRIADS does have drawbacks. The number of MREs delivered by using one CDS is 768, while the TRIADS only can deliver 480 meals. A TRIADS is very labor-intensive to build and generates large amounts of trash.

The humanitarian aid operation in Bosnia-Herzegovina showed several drawbacks in the techniques and equipment used by US airdrop personnel. The relief effort also demonstrated a need for improved methods, cost-saving equipment and reduced man-hours for conducting stability and support operations. These operations are no longer the exception, but the rule. As a result, the US military's concept of airdrop operations must be adjusted to reflect this trend. The adjusted concept must focus on capacity, survivability and efficiency.

Capacity can be defined as tons of supplies per mission per aircraft. The goal of the new airdrop equipment is to increase capacity, therefore reducing cost, increasing accuracy and increasing aircraft survivability. Two methods of increasing capacity are building larger airplanes and designing CDS to handle more supplies. The procurement of the C-17 increased aircraft capacity. Now, however, the focus is on CDS innovations.

Survivability refers primarily to protection of aircraft, crews and equipment. The best protection is surprise. Two release techniques that increase survivability are high and offset, and low and fast. Low and fast delivery relies solely on surprise and does not work well with humanitarian relief operations.

High and offset delivery uses a standoff distance to decrease aircraft vulnerability, but several problems arise when the distance to the drop zone is increased. In particular, some problems are reduced accuracy, larger drop zones, and loss of supplies and equipment. Parachutes enhanced with the Global Positioning System (GPS) and manual guidance capability would greatly increase accuracy, but at a cost unacceptable for one-time-use humanitarian relief operations. The key to relief operations is achieving maximum survivability of aircraft at a lower cost. Currently, no military innovations address this specific issue.

### **Current Cost**

Efficiency is driven mainly by cost, labor and transportability. The primary factor affecting the cost of humanitarian relief operations is the one-time use of current airdrop items that were intended for multiple use. Labor involves the packaging of supplies into CDS, packing parachutes and attaching parachutes to loads. The primary concern is reducing the number of times supplies are handled. If supplies were prepacked suitable for airdrop and manufactured in dual-purpose containers and parachutes, the workload of riggers would decrease dramatically.

*Operation Provide Promise* identified the need for more accurate, less labor-intensive and less costly aerial delivery equipment. The need for better delivery equipment has opened the door for new technologies, taking into account today's three main concepts: the Low Cost Aerial Delivery System (LCADS), the Enhanced Container Delivery System (ECDS), and the Humanitarian Airdrop Container System (HACS).

The LCADS features a prepackaged, one-time-use parachute. This low-cost parachute can be used at all altitudes. The greatest advantage of LCADS is its impact on efficiency. First, the production cost is about one half of the current 26-foot ring slot para-

chute used in *Operation Provide Promise*. Second, having the parachute prepackaged at the manufacturer greatly decreases the time required to rig supplies and the strain on the rigger's workload. Riggers can focus on the load itself and not worry about packing or repairing the parachutes. There is no apparent effect on capacity and survivability.

The ECDS improves the existing CDS. It uses a 463L-based platform that is easier to transport and rig. The ECDS can be moved by forklift and transported by various means. Capacity increases from the current 2,200 pounds to 10,000 pounds. Increasing the capacity reduces the number of bundles. This has a positive impact on accuracy at multiple altitudes. The disadvantage for ECDS is cost. One system's cost is estimated at \$10,000, and the ECDS is not reusable based on the current design of 463L pallets.

### **Reduced Cost**

The HACS, intended for one-time use, consists of cardboard and durable plastic for the top and bottom. This system was developed out of necessity to reduce the cost of humanitarian relief operations. The HACS cost is about one-third of the current CDS. During relief food distribution, the use of airdrop containers proved labor-intensive and time-consuming. Trailers arrived with different types of food to be packed by riggers. The food then had to be moved from the trailers and dispersed into the different containers. Because of this time-consuming function, alternatives have been developed to reduce labor, as well as cost. Containers are received directly from the depot, prepackaged and ready to airdrop. Riggers attach a skid board and disposable prepacked parachute. The container is then ready for airdrop. Although HACS reduces labor and costs, its disadvantage still outweighs its advantages at this time. Capacity is yet to be determined but has the potential to reach the equivalent capacity of the current container systems. Survivability of supplies delivered using HACS, in the testing phase, has not been successful.

During *Operation Provide Promise*, the US forces dropped an average of 100 containers per day and recovered none. This resulted in the virtual depletion of war reserve stocks of aerial delivery systems at a substantial cost of over \$30 million. The TRIADS and modifications to the G-12D parachute developed through human ingenuity greatly reduced the cost to the US government. The need to explore all commercial capabilities and options in the arena of airdrop equipment is crucial for continuing humanitarian operations. Implementation of newly designed single-use equipment, such as parachutes

and containers prepackaged at the depot level, gives the airdrop community the ability to provide humanitarian support without depleting war reserves at a substantially lower cost.

*The authors are Quartermaster graduates of the Combined Logistics Officer Advanced Course 97-1/2 at Fort Lee, Virginia.*

## **Computer Simulation Equals Better Parachutes**

Parachutes have long played an important role in the deployment of soldiers and supplies. Airdrop technology will take on an even greater role in the future, as humanitarian operations increase in frequency and demand for the rapid deployment of food, medicine and relief shelters rises. The US Army Soldier System Command's Natick Research, Development and Engineering Center (NRDEC), Natick, MA, is constantly looking at ways to advance airdrop capabilities. NRDEC's Mobility Directorate is paving the way for more efficient parachute design and safer parachute deployment.

### **Parachute Physics**

Understanding the physical forces that govern the deployment, inflation, terminal descent and impact of airdrop systems is important to designing parachutes. The physics of these events are very complex, however, because they involve not only the motion of the airdrop system itself but also the turbulent airflow around and through the parachute. Analytical or numerical models describing and predicting parachute deployment and inflation have therefore been difficult to construct, and parachute designers have traditionally relied on trial and error tests in the field.

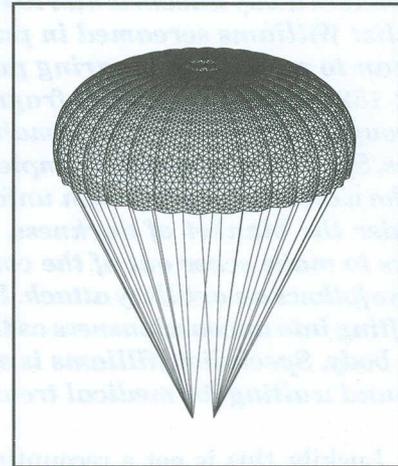
The Mobility Directorate's Computational Analysis Team (CAT) is now developing analytical models that predict the physics of parachutes by cou-

pling equations that govern the air with equations that govern the motion of the parachute. Soon, designers will be able to use computer software based on these models to create new parachute systems, rather than relying on full-scale testing.

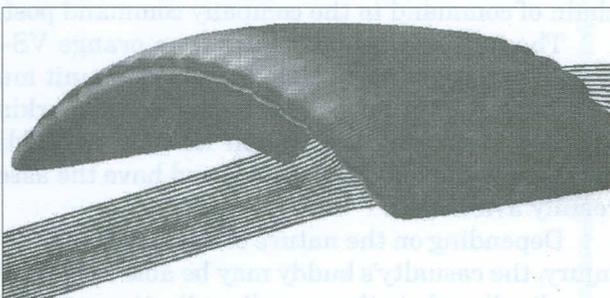
CAT aerospace engineers say that using computer simulations to develop parachutes and airdrop systems will reduce the time and save the expense associated with large-scale testing. It will also assist in the optimization of new capabilities and provide an "airdrop virtual proving ground environment."

The goal is to develop a relatively user-friendly design tool that can predict realistic parachute performances so that engineers can design new parachutes to meet a variety of performance goals. During humanitarian airdrop missions in Bosnia, for example, when the G12 parachute was found to be too large for the load, the technology was used to come up with ways to make the chute act like a smaller model.

Working with researchers from the Army High Performance Computing Research Center, the University of Connecticut, the Army Research Laboratory and elsewhere, with support from the Army Research Office, CAT researchers are trying to numerically couple software that predicts fluid dynamics with software predicting structural dynamics.



**T10 Parachute,  
Final Inflated Geometry**



**3-D Computer Simulation of  
Large Parafoil Flare Maneuver**

# Company Casualty Evacuation – Planning for Success

CPT Robert E. Burks

*0430 Hours, Brigade Support Area, Mojavia Specialist Williams, waking to the sounds of explosions, quickly left his cot and tried to put on his gear as he exited the tent. The young soldier barely took three steps before the concussion of the artillery shell exploding a mere 50 meters away knocked him to the ground. Specialist Williams screamed in pain as his brain began to register the searing pain of the white hot 152mm artillery shell fragments that tore through his body. Fighting to maintain consciousness, Specialist Williams attempted to call for help as he watched the confusion unfold around him. Under the blanket of darkness, his unit slowly tries to make sense out of the confusion that always follows an artillery attack. In the meantime, drifting into unconsciousness as the life slips from his body, Specialist Williams is still lying on the ground waiting for medical treatment.*

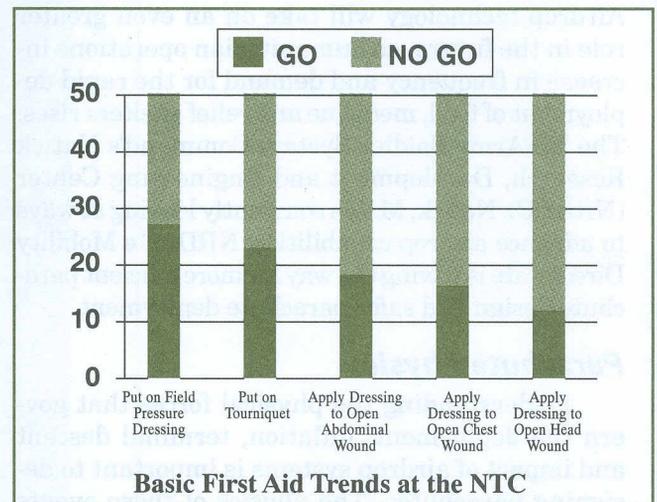
Luckily, this is not a recounting of an unfortunate story. Nevertheless, this is an event that occurs every rotation at the National Training Center (NTC). Trends at the NTC, Fort Irwin, CA, show that logistics companies - in the brigade support area - typically average 53 percent died of wounds. This rate is discouraging when considering that these companies are only 600 to 1,000 meters from the medical company. The two primary causes for this high mortality rate are the unit taking too long to evacuate the casualty and the unit having improper transportation and treatment techniques.

## Commanders Lack Casualty Plan

These causes are the result of logistics commanders not having an integrated casualty evacuation plan that includes both medical treatment and evacuation from the point of injury to the medical company. The company commander must understand that the unit will take casualties and develop a company plan to detail responsibility for both treatment and evacuation for each soldier in the unit, the area damage control team and the company casualty collection point.

The commander's casualty plan must start with immediate treatment at the point of injury. When a casualty occurs during an attack, such as artillery or reaction to direct fire, the first soldier on the scene to give assistance is normally the casualty's fighting

position buddy. It is this soldier's responsibility to start the treatment process by conducting buddy aid at the point of injury. Trends at the NTC show logistics units are not training their soldiers in basic first aid. The unit must understand that this initial treatment is the first building block in a successful company medical plan.



Depending on the nature of the attack, the unit may not be in a position to provide additional medical attention to the casualty for a prolonged period of time. The company commander must ensure all soldiers are trained to execute at least the first aid tasks found in STP 21-1-Soldiers Manual of Common Tasks.

Once the soldier completes the initial treatment, he needs to mark the location so additional medical and evacuation help can easily locate the site. He will then pass the casualty information through his chain of command to the company command post.

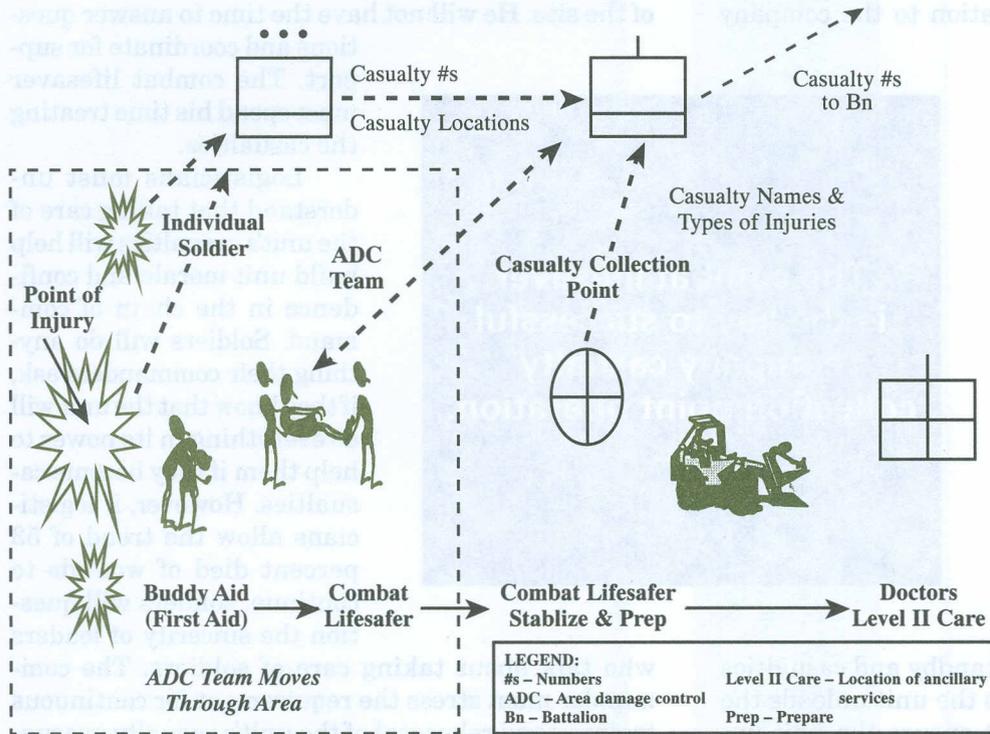
The unit can use anything from orange VS-17 panels to flags to mark this location. The unit must also have a plan for both day and night marking. The key to making the system work: every soldier must know the marking system and have the assets readily available.

Depending on the nature of the attack or type of injury, the casualty's buddy may be able to move the casualty directly to the casualty collection point. The unit's marking system will become essential if the injury or situation does not allow the soldier to move the casualty.

The company's area damage control team will use this marking system to help rapidly identify casualties as the team moves through the area. This team at a minimum should consist of a noncommissioned officer in charge (NCOIC) with communication capability, several stretcher bearers and at least one combat lifesaver.

This combat lifesaver is critical to the company's casualty evacuation plan. The goal is for each sec-

bring to the battlefield in terms of casualty assessment and evacuation. The unit must train and ensure that these soldiers maintain their bags to standard and keep them handy at all times. The combat lifesaver will be ineffective if he leaves his bag in the tent when the artillery attack occurs. The area damage control team will begin working the movement of the casualty after the combat lifesaver finishes treatment.



### Evacuation of Casualties

tion or area in the company to have an assigned combat lifesaver who can move through the area and provide additional medical treatment. The commander must realize that the combat lifesaver is likely to be the first medically trained individual on the scene who has the capability to stabilize and prolong the casualty's life. However, NTC experience shows that logistics units do not have sufficient numbers of combat lifesavers, with an average ratio of 1 lifesaver to 10 soldiers, to achieve the goal of combat lifesavers in each area of the company. To compound the problem of insufficient combat lifesavers, units typically average only 10 percent of their combat lifesaver bags filled to the standards outlined in the *Combat Lifesaver Course, Edition Bravo*.

The unit must understand the significant combat power multiplication these combat lifesavers

The area damage control NCOIC must relay casualty numbers and locations to the company command post. This information is essential for the commander to ensure that the casualty collection point is properly resourced. The company's area damage control team must understand its responsibility of directing and assisting in the transportation of casualties to the company's casualty collection point.

The company commander must designate the location of the company casualty collection point and ensure that the company properly resources it. This point is normally a static location, identified by the commander in order, such as "vicinity of the company command post." This is a good concept and will work if the unit has casualties equally distributed throughout the company area. The commander must maintain the flexibility to move this point to another area of the company, based on the casualty situation.

The key to making this shift occur is communication between all elements. Every soldier in the unit needs to know where the collection point is and rehearse moving to it before the event. The commander must ensure that this rehearsal is conducted based on how the unit will actually transport the casualty to the medical company. It is one event to walk the ground to the medical company in the day, but quite another to make the trip at night as part of a four-soldier litter team with a casualty. The commander must conduct this rehearsal both day and night, in

mission oriented protective posture IV (MOPP IV), and with soldiers carrying a simulated casualty.

### **Casualty Collection Point**

The casualty collection point must have at a minimum an NCOIC, communication with the company command post, an evacuation vehicle with litters and a combat lifesaver. The NCOIC of the company collection point will orchestrate the flow of casualties in and out and also collect and transmit the required casualty information to the company command post. This soldier must understand what data the commander requires and have the ability to call for more assistance based on the number of casualties.

The commander must designate a vehicle to transport casualties to the medical company. The unit does not have the luxury of time to wait for the medical company to send assets to pick up the casualties. The commander must station this vehicle at the casualty collection point and ensure the vehicle is ready to roll: completely downloaded. It does not help the unit to have a vehicle on standby and casualties lying on the ground waiting as the unit unloads the vehicle. The commander must ensure the unit understands the lift capability of the designated casualty evacuation vehicle. The unit must have litters on hand to ensure proper transportation of the casualties. The unit can use stretchers or any makeshift device, such as cots for example, to accomplish this. The key is to identify these items ahead of time instead of foraging for them while casualties wait.

The combat lifesaver is the key to a successful company casualty collection point operation. Observations at the NTC show that many noncritical casualties are transported to the medical company before their more seriously injured comrades. This action results in soldiers dying of their wounds while waiting for transportation, simply because the unit did not locate them first. This is why the combat lifesaver's role at the casualty collection point is to triage the casualties, prepare and prioritize them for

**The combat lifesaver  
is the key to successful  
company casualty  
collection point operation.**

movement to the medical company. One technique is to evaluate casualties based on the following three categories: urgent, priority and routine.

The collection point NCOIC will then coordinate to transport the casualties based on their injuries. One method to cut transportation requirements and time is to consolidate the routine casualties, which normally consist of minor injuries, and have them walk, with an escort, to the medical company. This combat lifesaver must be different from the NCOIC of the site. He will not have the time to answer questions and coordinate for support. The combat lifesaver must spend his time treating the casualties.

Logisticians must understand that taking care of the unit's casualties will help build unit morale and confidence in the chain of command. Soldiers will do anything their commanders ask, if they know that the unit will do everything in its power to help them if they become casualties. However, if logisticians allow the trend of 53 percent died of wounds to continue, soldiers will question the sincerity of leaders who talk about taking care of soldiers. The commander must stress the requirement for continuous training and rehearsal of the unit's casualty evacuation plan. Logistics units must use their available resources to provide the best possible care for casualties. Soldiers must know their responsibilities and what is required of them to make the commander's plan work.

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# Convoy Live Fire Exercise: Training Soldiers For Operation Joint Guard

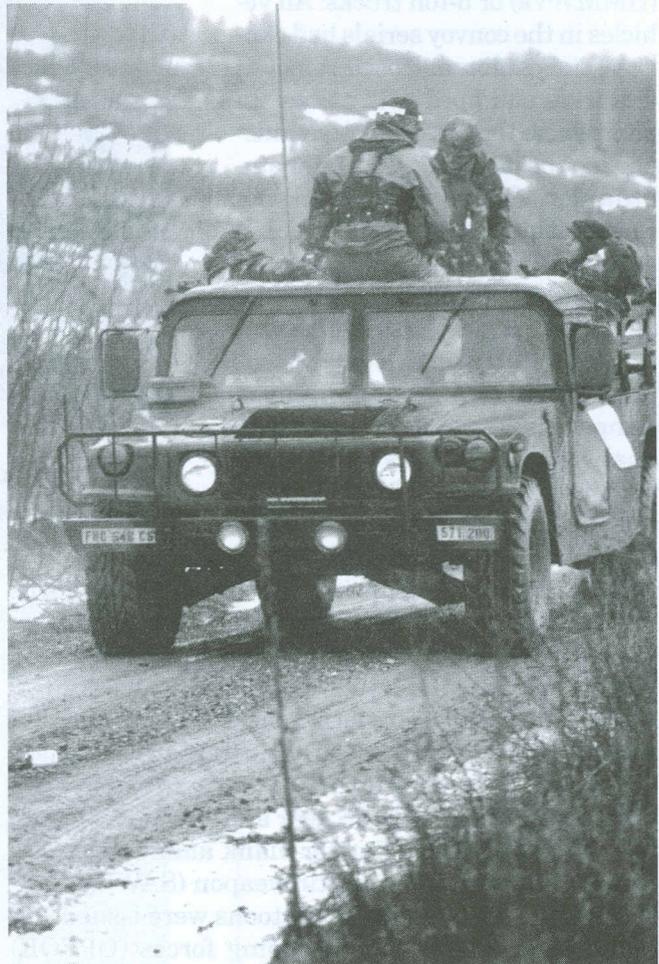
CPT Stacy L. Moore

*As the convoy commander peered over the map and confirmed his location using the Global Positioning System, he determined that the convoy was traveling on an unapproved route after missing a turn about a mile back. The convoy commander radioed this information to the rest of the convoy and told the convoy to continue on this route until a road junction just ahead, where the convoy would turn around. After acknowledgment from the other vehicles, the commander moved out the column. In less than a mile, the convoy commander heard a loud explosion behind him. Looking in his mirror, the commander saw the column's second vehicle engulfed in flames. The commander immediately ordered his driver to stop. He leaped out and began running to the flaming vehicle. The commander's last thoughts before stepping on the land mine that took his life were wishes that he had paid more attention to instructors at the convoy operations class before deploying.*

Although this story is fiction, this scenario could be true for soldiers in the Balkan theater today at any moment. One of the greatest challenges—and the challenge posing the highest risk to soldiers in Bosnia—is convoy operations. From 27 Feb to 15 Mar 97, soldiers from the 10th Division Support Command (DISCOM) executed a convoy live-fire certification range to train soldiers from the 642d Engineer Company and 2d Battalion, 14th Infantry, on the fundamentals of convoy operations before their deployment to Bosnia.

The 10th DISCOM received the mission to conduct the convoy live-fire certification range for soldiers of the 10th Mountain Division (Light Infantry) on 13 February. After a thorough mission analysis, the DISCOM identified the personnel and equipment to run the range and began certifying all required personnel. With such short notice, this became a total division effort with personnel and equipment not only from all DISCOM subordinate units, but also from division Artillery (DIVARTY) and Aviation units as well. The first mission was determining the tasks to provide the most realistic training for soldiers deploying to Bosnia and then developing the range concept to support the training requirements.

To ensure that 10th Mountain Division (Light Infantry) soldiers were trained to handle any situation during deployment, the DISCOM contacted the



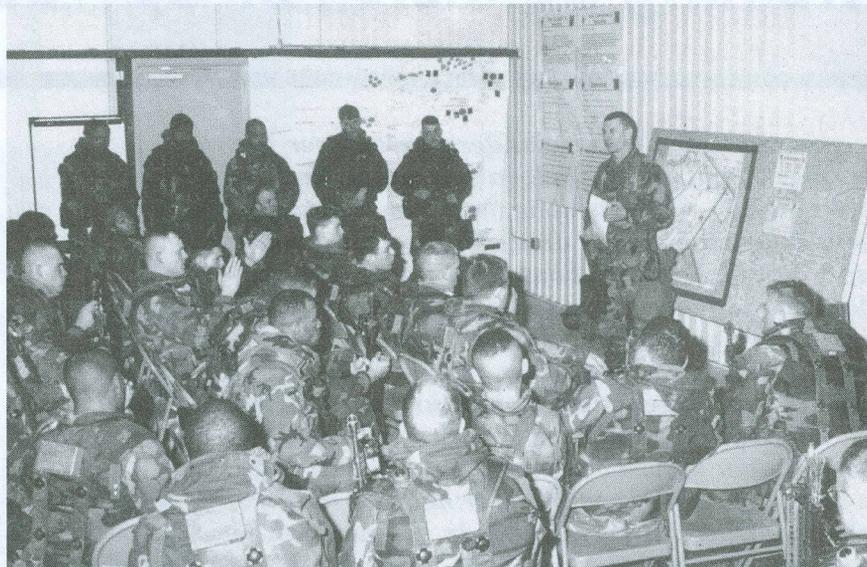
**An observer/controller conducts an immediate, informal after action review (AAR) called a "hotwash" in a convoy vehicle.**

Combat Maneuver Training Center (CMTTC) in Hohenfels, Germany, for the training plan that soldiers from the 1st Armored Division and 1st Infantry Division followed before their deployment to Bosnia. The Center for Army Lessons Learned (CALL), Fort Leavenworth, KS, also provided valuable information about the types of scenarios that Task Force Eagle soldiers have faced in Bosnia. Two tasks were selected for the convoy live-fire exercise: (1) react to ambush (road not blocked) and (2) react to a mine strike.

The next step was developing the scenarios and building the range to support these scenarios. To

maintain platoon integrity, the convoy serials consisted of five vehicles, either M-998 cargo high mobility multipurpose wheeled vehicles (HMMWVs) or 5-ton trucks. All vehicles in the convoy serials had canvases, tarpaulins and bows removed and were equipped with radios. In addition to the five vehicles transporting the platoon, a field litter ambulance (FLA) would trail the convoy. This vehicle would react to any real-world emergency, but the FLA could be incorporated into the scenario at a platoon's discretion.

Faced with an extremely compressed timeline, each of three companies had only two days to qualify their platoons on the convoy live-fire range. This forced the companies to push two platoons a day through the range. In keeping with the crawl/walk/run concept, each of the platoons first conducted a dry-fire iteration. The purpose was to familiarize soldiers with the range and the safety procedures for conducting a convoy live-fire range. After successfully completing the dry-firing, the platoons then executed a Multiple Integrated Laser Engagement System (MILES)/blank fire iteration. The platoons wore MILES gear and were armed with 20 rounds of 5.56-millimeter blank ammunition per soldier. The squad automatic weapon (SAW) and M-60 machine gunners in the platoons were issued 100 rounds per soldier. The opposing forces (OPFOR) during this iteration were also wearing MILES gear and were armed with blank ammunition. Hits and near misses were recorded by the observers/controllers (O/Cs) moving with each vehicle in the serial. After successfully completing the MILES/blank-fire iterations, the platoons were prepared to conduct the live firing. During the live-fire iteration, MILES fire-back devices were used to replicate the initiation of an ambush. After completing each iteration (dry, MILES/blank, and live firing), the platoons were immediately moved to the after action review (AAR) facility for thorough AARs led by a live-fire certified company commander. These AARs addressed the platoons' problems and forced leaders to think of ways to execute their next iteration more effectively. Time was also built into the schedule to allow for retraining platoons that failed to achieve a "go" during any iteration. Because the 642d Engineer Company was the first company to deploy, their soldiers had insuf-



**A captain conducts a platoon AAR, where the MEDEVAC and OH-58 pilots also tell soldiers how to coordinate helicopter use.**

ficient time to prepare for a live-fire exercise. Instead of a live-fire iteration, each platoon in the Engineer company executed two MILES/blank fire iterations.

To maximize training opportunities and minimize "down" time, the DISCOM developed two training stations to operate at the same times as the convoy live-fire range. At the first concurrent training station, soldiers had a class on field-expedient hardening of an M-998 HMMWV. A prehardened HMMWV was used as a training aid. Soldiers learned different techniques to reinforce HMMWVs to offer greater protection from the effects of a mine strike or small arms fire.

At the second concurrent training station, soldiers listened to the class instructor read through three to five scenarios that have faced soldiers currently in Bosnia. These scenarios were collected from the CALL. After the instructor read through the scenario, the soldiers said how they would prevent finding themselves in the same situation. After the soldiers' input, the instructor then read to them the tactics, techniques and procedures (TTP) that the CALL is teaching as a result of the incidents. The concurrent training stations were conducted before the platoons' MILES/blank fire iterations in order to allow the platoons more time to conduct precombat inspections and rehearsals before their live-fire iterations.

The 642d Engineer Company was the first unit trained on the convoy live-fire range. The first platoons arrived at Range 44 at 0700 on the 27 February, and all soldiers were moved immediately to the

AAR facility for a range orientation briefing and range safety briefing from the range officer in charge. The senior O/C then reviewed the tasks, conditions and standards and the performance measures for each task. The senior O/C then issued the convoy operations order. After receiving the order, the first platoon to execute the dry-fire iteration moved to the motor park while the second platoon moved to the concurrent training stations.

Before loading vehicles to begin their first iterations, the platoons had time to conduct troop leading procedures (TLPs) and precombat inspections (PCIs). This ensured that all platoon personnel understood the information in the convoy operations order. Also, the platoons began developing standing operating procedures (SOPs) for convoy operations, task-organizing their soldiers for the movement, and completing radio and weapons function checks, and conducting rehearsals.

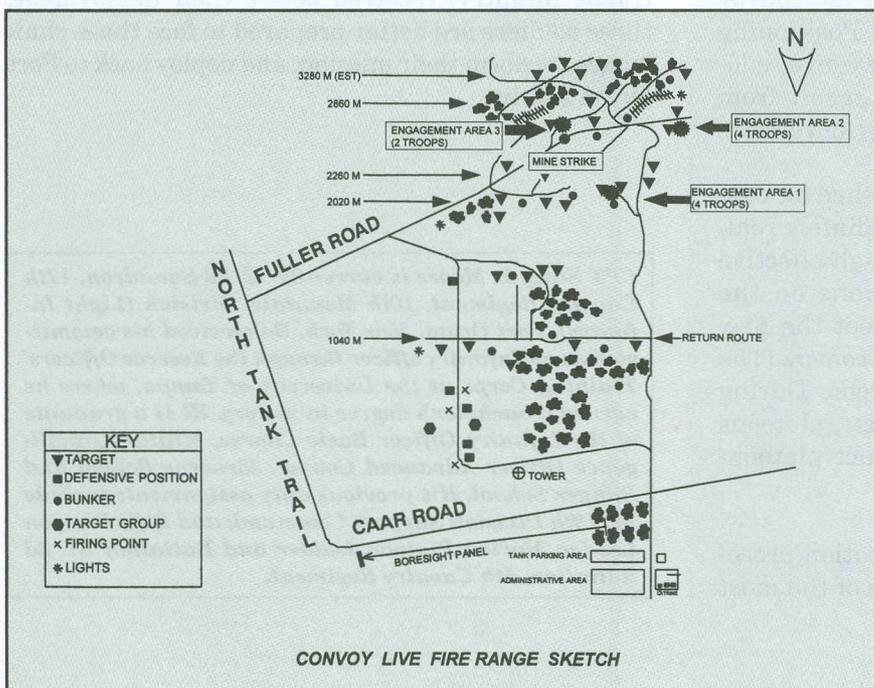
Once a platoon began movement on the range, the first scenario was an ambush from the left side of an unblocked road. As the lead vehicle entered the engagement area, three hostile targets and one friendly target were presented. The purpose of the friendly target was to force the soldiers to positively identify a target before engaging. During this engagement, only soldiers on the left side of the vehicle engaged while soldiers on the right side provided security. To ensure training for all soldiers, the target array was presented to each vehicle of the serial

as it entered the engagement area. To receive a "go" during this engagement, the platoon had to effectively suppress the enemy targets without hitting the friendly target. Other performance measures evaluated during this engagement were a platoon's reporting procedures, a platoon's ability to maintain proper intervals, and a platoon's ability to provide 360-degree security.

The second scenario for each platoon was successful negotiation of an ambush on the right side of an unblocked road. The tasks, conditions and standards for this engagement were the same as the previous scenario, but this time soldiers on the right side of the vehicle had the opportunity to practice using well-disciplined, accurate fire on an enemy target from a moving vehicle. The target array for this scenario also consisted of three hostile targets and one friendly target.

The third and final scenario for each platoon on this range was reacting to a mine strike. This task proved the most difficult. During this scenario, the convoy traveled into an unknown minefield where the lead vehicle struck a mine. The mine strike was replicated with the use of a grenade simulator and white smoke. As a result of the mine strike, casualties were accessed by the O/Cs traveling with a platoon. Once in the minefield, a platoon also had to neutralize two hostile targets.

After neutralizing the threat targets, the soldiers began the tedious process of treating casualties and extracting themselves from the minefield. During the extraction process, the platoons relied heavily on the tactics and techniques taught during the individual training of the soldiers before arriving at the convoy live-fire certification range. During the extraction process, the convoy commander had to ensure that reports of platoon casualties were sent to him so that he could prepare a nine-line medical evacuation (MEDEVAC) request and forward the MEDEVAC request to higher headquarters. After the platoon completed the extraction process, soldiers moved to a pre-arranged landing zone (LZ) and waited for the MEDEVAC aircraft. During this phase of the operation, aircraft and crewmen from the 229th Medical Air Evacuation



Company coordinated directly with the convoy commander on the ground for the evacuation of wounded personnel. In addition to arranging for MEDEVAC aircraft, the convoy commander also had OH-58D helicopters available to use for reconnaissance or attack, at his discretion. These missions were flown by the 3-17th Cavalry Squadron, 10th Mountain Division (Light Infantry) Aviation Brigade.

After the platoons completed this final scenario and conducted a 100-percent check on sensitive items, soldiers moved to the AAR site. During this time, the O/Cs who traveled with a platoon were collecting notes and target data to give the senior O/C for a platoon AAR. Other participants in the AAR were the MEDEVAC and OH-58 pilots. These pilots provided valuable insight not only on how to use their assets, but also on how to effectively communicate and coordinate for their aircrafts' use.

During the six days the 10th DISCOM conducted the certification range, more than 350 soldiers from the 10th Mountain Division (Light Infantry) received training. The following are some of the key lessons learned from their experiences:

- All personnel in the convoy must receive and understand the convoy operations order. This is one of the most important pieces of performing convoy operations. The order not only specifies the routes to be traveled, but also the location of all known obstacles along the route, location of all LZs along the route, and location of hostile towns or villages. All personnel in the convoy must know how to use the Global Positioning System to continuously confirm the convoy's location. Many accidents in Bosnia result from convoys becoming disoriented during movement.
- Platoons need to have SOPs established for convoy operations. The platoons immediately realized that pre-existing SOPs, although effective when conducting tactical operations on the ground, needed modification to meet the new challenges of operating a vehicle in a convoy. (The SOPs differed from platoon to platoon. During the 10th DISCOM's training exercise, platoons were training specifically to conduct platoon-level missions.)
- Platoons need to modify communication procedures. Communications proved one of the most

difficult challenges that platoons faced. Light Infantry platoons are used to operating in an environment where voice and also hand and arm procedures are sufficient. Such platoons found it very difficult to relay information effectively throughout the length of a convoy.

- Platoons need proficiency on minefield clearing and minefield extraction procedures and techniques. As stated earlier, this proved another of the greatest challenges. When operating in an environment with great threat of mines, such as Bosnia, a convoy may encounter a minefield every time the convoy travels. Platoons need to be armed with the necessary training to minimize the threat of encountering a minefield and also with the techniques and procedures to extract themselves from a minefield.

During a recent convoy operation in Bosnia, a convoy from the 642d Engineer Company was being followed by the 82d Engineer Battalion's commander from the 1st Infantry Division. After observing the company perform its movement, the commander sent an electronic message to the 41st Engineer Battalion's commander at Fort Drum, NY, to say that "they were absolutely moving at the right speed and the right amount of care for the road conditions." One of the biggest threats facing US soldiers in Bosnia is conducting convoy operations. As a result of the training that soldiers from the 10th Mountain Division (Light Infantry) received before their deployment, these soldiers are better prepared to face these challenges, perform their mission, and deploy back to Fort Drum safely.

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# Requisitioning, Maintenance and Accounting – What ILAP Can Do For You

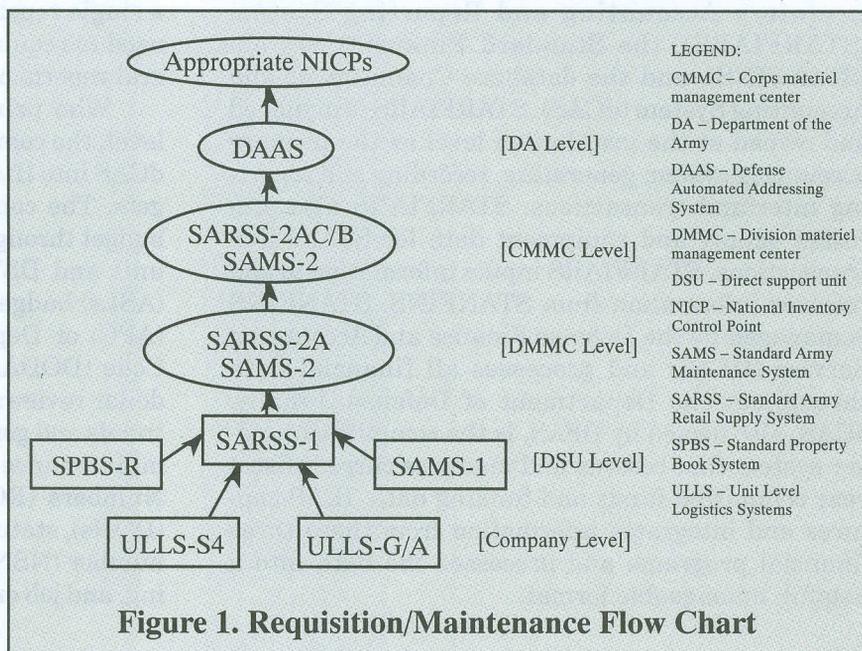
CPT Thomas A. Garman CPT Madalyn S. Kelly-Hinnant CPT Mark E. Neubauer  
 CPT Teresa L. Rae LT Devon D. NuDelman LT Paul R. Panozzo

The correlation between the maintenance, supply and budgeting processes in years past has been an elusive, frustrating and often impossible relationship. Separate databases existed for each area, causing users to draw information from independent data sources to understand the status of a given job order, request, or financial commitment. Frequently, the information gleaned from these databases was incomplete or inaccurate, and the redundancies from each report wasted time and resources.

In this age of automation and technology, logisticians must have information readily available in order to make timely and accurate recommendations and decisions. The Standard Army Management Information Systems (STAMISs) were developed to support the various functional areas independently, such as supply, maintenance and finance. In the past, logisticians pooled information from each STAMIS, manually integrated the data into a usable format, then made decisions based on that data. This pooling of information, depending on the desired data, involved considerable time and resources. Also, the data was often outdated by the time the information was compiled.

The Integrated Logistics Analysis Program (ILAP) is an evolving application that integrates information from the different STAMISs and provides logisticians and resource managers with a user-friendly, relational database. Simply put, ILAP draws information from the supply, maintenance and financial areas (at local, regional and national levels) and converts the information into a manageable database with predetermined reports. These reports allow multiple users access to information that provides logisticians instant access to current, integrated and timely information. In order to understand ILAP, you must first understand the requisitioning, maintenance and financial databases that feed into ILAP.

Figure 1 shows the information flow through a divisional unit. This same structure can be applied to a nondivisional unit with a little modification. At



the lowest level, the company, requests are processed through the Unit Level Logistics System-S4 (ULLS-S4) and the Unit Level Logistics System-Ground or Aviation (ULLS-G or A). Supply personnel routinely process Class II (general supplies), Class III(P) (packaged petroleum, oils and lubricants), and Class IV (construction and barrier materiel) requests through ULLS-S4 to their direct support unit's (DSU's) Standard Army Retail Supply System (SARSS-1) site. Maintenance personnel also process Class IX (repair parts) requests through ULLS-G to their supporting DSU's SARSS-1 site as well as maintenance data through the DSU's Standard Army Maintenance System (SAMS-1) site. At the same time the company is requesting parts and classes of supply, the company also is receiving status back from the supporting SARSS-1 and SAMS-1 sites.

At the DSU's maintenance site, requests are processed through SAMS-1 into SARSS-1. The division property book office orders through the Standard Property Book System-Redesigned (SPBS-R) and routes the request through its servicing SARSS-1 site. From all of the SARSS-1 sites across the division, information flows through the division materiel management center's (DMMC's) SARSS-2A site, through the corps' SARSS-2AC/B system and then into the Defense Automated Addressing System

(DAAS). DAAS routes the data to the appropriate National Inventory Control Point (NICP).

DAAS routes the information into three financial systems. They are the Standard Army Financial Inventory Accounting and Reporting System (STARFIARS), the Standard Financial System (STANFINS), and the database Commitment and Accounting System (dCAS). STARFIARS is managed and owned at the installation level as the primary accounting system generating, recording and reporting interfund transactions. STARFIARS also processes supply and equipment data for STANFINS transactions. STARFIARS inputs information to and receives information from STANFINS. STANFINS is managed by the Defense Finance and Accounting Service (DFAS) and processes all financial data throughout the Department of Defense. Finally, dCAS, also owned by DFAS, is the commitment ledger system that records and manages current fiscal year committed funds and funding data. ILAP captures and integrates information from these three financial programs and processes the data into a helpful, manageable format.

posted. Copies of many files from these STAMISs feed into ILAP. ILAP takes that data and manipulates it into a relational database that logisticians and resource managers can use to analyze information from a single report to accomplish the same mission that used to require analyzing the information from several reports of STAMISs.

Who primarily uses ILAP? Why? At division level, the comptroller inputs the financial data from dCAS into ILAP as well as unit quarterly/annual targets. The comptroller then manages the division's budget through queries aimed at checking individual unit and DSU budgets, authorized stockage lists (ASLs) budgets, roll-ups by accounting process code (APC) or Department of Defense Activity Address Code (DODAAC), due-ins and due-outs, and high-dollar reviews. The G4 uses ILAP for fleet readiness trends and general planning purposes. In the DMMC, maintenance managers can check Request Order Numbers (RONs) and Document Order Numbers (DONs), status of document numbers, national stock number (NSN) status, due-ins for ASL, parts tracking, and job order status. Supply managers can manage ASLs, check document numbers, and query the database for supply trends. Similarly, DSUs can use ILAP for their direct support mission because their support operations personnel, shop officers, and technical supply personnel can track parts, manage the ASL, check ASL stock status, and manage unit ASL budgets. Finally, at the customer level, battalion maintenance officers, S4s, executive officers, and company motor officers can use ILAP for parts tracking and budget management.

How does ILAP do all of this? As mentioned before, ILAP is a relational database, accessed through predetermined menus. The main menu is divided into these major areas: General Management, Supply Management, Maintenance Management, Financial Management, Data Input/Output, Edit Master Files, and Local Special Reports.

**General Management:** From this selection, managers can access the following: stock number analysis, document number analysis, (Direct Support Unit Standard Supply System (DS4) transaction register review, DS4 Input Transaction Error Listing (ITEL) file review, SARSS document history file, NSN demand analysis review, Repairable Exchange (RXA)

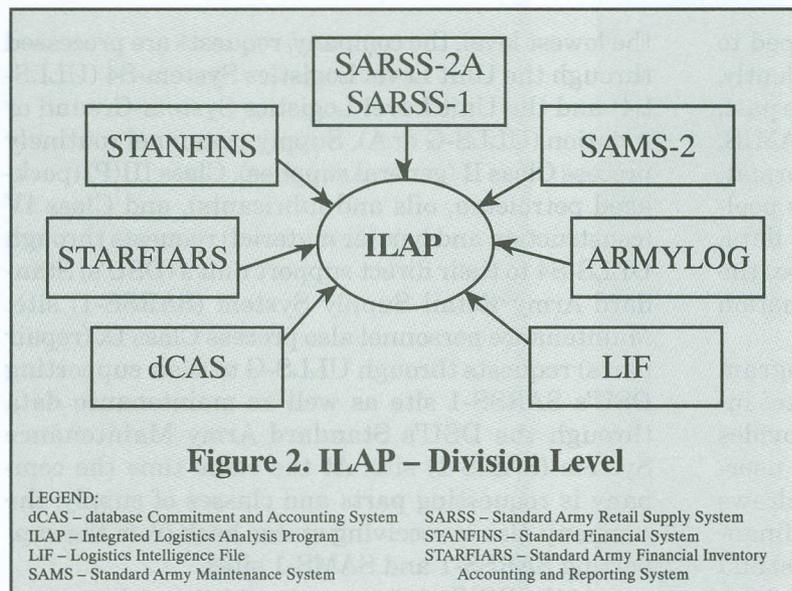


Figure 2 illustrates all of the programs, to include the financial and logistics automated systems, that feed into ILAP at the division level.

So, what has happened with the company's original supply and maintenance information? The data has been forwarded to the appropriate levels, necessary actions taken, records established, and status

management reports, historical document registers, Logistics Intelligence File (LIF) query input, and ARMY CD-ROM query. All support elements and customers have access to the same information without having to query SARSS, SPBS-R, LIF, and ARMYLOG individually.

**Supply Management:** Supply managers can use reports in this section to review the ASL stock status and the reparables/recoverable item control file (RICL). The ASL stock reports provide the ability to review a filtered subset of the full report. The recoverable management reports allow units and DMMC managers to review where repair parts have been issued without a matching unserviceable turn-in.

**Maintenance Management:** This selection allows maintenance managers to review, edit and print 2406 reports, analyze work orders, and check DSU document register reconciliation reports. Before ILAP, maintenance personnel had to use separate reports from SAMS, SARSS, and LIF databases to gain the same information.

**Financial Management:** Through this option, financial managers have access to the unit level management reports (unit account balance, dCAS weekly report review, and dCAS historical file review), direct support (DS) maintenance budget reports (dCAS account balance, dCAS weekly report review, and dCAS historical file), ASL budget reports (dCAS ASL account balances, and ASL inventory value report), resource management reports (cost drivers-annual internal demands, cost drivers-annual external demands, credit analysis reports, finance and supply reconciliation reports, dCAS management reports, and STARFIARS/STANFINS management reports), and a high-dollar review list from the SARSS manager review file.

ILAP's financial management capability most significantly impacts the way a unit manages money. Unfortunately, no financial database previously existed for financial managers to easily track and manage unit budgets. ILAP bridges the gap between the requisitioning and maintenance process and provides commanders at all levels the ability to manage their budgets effectively.

**Data Input/Output, Edit Master File, Local Special Reports:** These options provide administrators and operators a tool for updating and configuring the ILAP system. Under Data Input/Output, administrators load all of the STAMIS information into the ILAP database (SAMS, SARSS, dCAS, STARFIARS, STANFINS, and LIF). Under Edit Master Files, administrators can review their process log, log-in history file, and system error log file;

edit the DODAAC/unit master file, system master file, and equipment master file; and access the administrator's support menu. Finally, with the Local Special Reports option, administrators can set up special reports tailor-made for that unit. In short, these menus allow administrators to adapt the ILAP program to support the needs of that unit as well as update the database as often as desired.

Because of ILAP, the requisitioning, maintenance and accounting process will now become a more manageable, less frustrating operation. Logisticians will be able to tailor reports around the information sought by the chain of command, and answer any questions rapidly and accurately.

However, ILAP was developed to *augment* those STAMISs currently in use, not *replace* them. Also, depending on the frequency of updating information, ILAP may not be as current as the primary STAMIS. The ILAP fielding schedule is currently under revision. Units in line for ILAP fielding need to be aware that the hardware required to run ILAP is unit funded, and site surveys are often performed by the ILAP fielding team to prevent any problems with hardware and communications systems. Another area that has slowed the fielding is training. System administrators and SARSS-1 operators, at minimum, need to be present during ILAP fielding. Also, training time needs to be scheduled in advance for all potential ILAP users.

ILAP currently is not being taught at the US Army Quartermaster Center and School, Fort Lee, VA. However, coordination is underway to incorporate ILAP training into the Quartermaster Officer and Warrant Officer Basic Courses, the Warrant Officer Advanced Course, the Combined Logistics Officer Advanced Course, and the Finance Officer Advanced Course. This training will build upon SARSS, ULLS-G/A, and ULLS-S4 skills, all currently taught in the Quartermaster classroom.

*NOTE: The Project Officer ILAP, under the Project Management for Integrated Logistics Systems (PM ILOGS), is responsible for the overall ILAP development, fielding and sustainment. Phone DSN 687-7142 or E-mail talpase@lee-dns1.army.mil. However, route all technical problems to the single place for ILAP technical support at 1-800-631-8377, 0880-1700 Eastern Standard Time, Monday-Friday, or E-mail to Support@calibresys.com.*

*The authors are Quartermaster graduates of the Combined Logistics Officer Advanced Course 97-3/4.*

# 1997 Supply Excellence Awards

The Army Chief of Staff recognized 29 Total Army units with Supply Excellence Awards (SEAs) after evaluations worldwide by teams assembled by the US Army Quartermaster Center and School for the 1997 competition. The 2d Maintenance Company, Army Materiel Command, Camp Carroll, Korea, won in the category of Active Army MTOE COMPANY (with property book) for the second year in a row. The annual SEAs are sponsored by the American Defense Preparedness Association for units representing major commands in the Active Army, US Army Reserve (USAR) and the Army National Guard (ARNG). Units that want to participate in the FY98 competition may telephone (804) 734-3163 for more information. The following are the winners and the runners-up for FY97:

| STANDING               | CATEGORY                                | COMP   | UNIT   |
|------------------------|---|--------|--|
| Winner<br>No Runner-up | AIA - MTOE Co<br>with property book     | Active | 2d Maint Co (TMDE), Camp Carroll, Korea, AMC   |
| Winner<br>Runner-up    | AIB - MTOE CO<br>without property book  | Active | HH&S Co, 15th MI Bn, Fort Hood, TX, FORSCOM<br>9th MP Det, Fort Hood, TX, FORSCOM                              |
| Winner<br>Runner-up    | AIIA - MTOE Bn<br>with property book    | Active | 205th MI Bn, Fort Shafter, HI, INSCOM<br>505th Quartermaster Bn, Okinawa, Japan, USARPAC                       |
| Winner<br>No Runner-up | AIIB - MTOE Bn<br>without property book | Active | 1st Bn, 9th FA, Fort Stewart, GA, FORSCOM  |
| Winner<br>Runner-up    | BIA - TDA Unit<br>(Lower Level)         | Active | Co B, 2d Bn, 1st SWTG (A), Yuma, AZ, USASOC<br>HHC, 1/81st AR Regt, Fort Knox, KY, TRADOC                      |
| Winner<br>Runner-up    | BIIA - TDA Unit<br>(Upper Level)        | Active | Red River Army Depot, Texarkana, TX, AMC<br>U.N. Command, JSA, Panmunjon, Korea, EUSA                          |
| Winner<br>Runner-up    | CI - Direct Support<br>Unit (Small)     | Active | 19th Signal Co, Fort Huachuca, AZ, FORSCOM<br>Co C, 25th Avn Regt, Wheeler AAF, HI, USARPAC                    |
| Winner<br>Runner-up    | CII - Direct Support<br>Unit (Medium)   | Active | 22d Area Support Gp, Vicenza, Italy, USAREUR<br>24th Quartermaster Sup Co, Fort Lewis, WA, FORSCOM             |
| Winner<br>No Runner-up | AIA - MTOE Co<br>with property book     | USAR   | 1011th Quartermaster Company, Independence, KS, USARC  |
| Winner<br>Runner-up    | AIB - MTOE Co<br>without property book  | USAR   | 454th Regulating Repl Det, Frankfurt, Germany, USARC<br>HHC, 300th Spt Group, Fort Lee, VA, USARC              |
| Winner<br>No Runner-up | AIIA - MTOE Bn<br>with property book    | USAR   | 388th Med Bn, Logistics (FWD), Hays, KS, USARC   |
| Winner<br>No Runner-up | AIIB - MTOE Bn<br>without property book | USAR   | HHD, 467th Quartermaster Bn, Corpus Christie, TX, USARC  |
| Winner<br>Runner-up    | BIA - TDA Unit<br>(Lower Level)         | USAR   | Area Mnt Spt Gp #36, North Platte, NE, USARC<br>3d Bn, 378th Regiment, 2d Brigade (BCT), Norman, OK, USARC     |
| Winner<br>Runner-up    | AIA - MTOE Co<br>with property book     | ARNG   | HHD, 232d Corps Spt Bn, Springfield, IL, ILARNG<br>157th MP Co, Martinsburg, WV, WVARNG                        |
| Winner<br>Runner-up    | AIB - MTOE Co<br>without property book  | ARNG   | Co C, 1st Bn, 133d Inf, Iowa Falls, IA, IAARNG<br>Co D, 1st Bn, 252d Armor, Blandenboro, NC, NCARNG            |
| Winner<br>No Runner-up | AIIA - MTOE Bn<br>with property book    | ARNG   | 210th Finance Bn, Jackson, MS, MSARNG  |
| Winner<br>Runner-up    | AIIB - MTOE Bn<br>without property book | ARNG   | No competition submitted   |
| Winner<br>Runner-up    | BIA - TDA Unit<br>(Lower Level)         | ARNG   | HQ, 177th Regt (Regional Training Institute), Augusta, MI, MIARNG<br>90th Troop Cmd, Oklahoma City, OK, OKARNG |
| Winner<br>No Runner-up | BIIA - TDA Unit<br>(Upper Level)        | ARNG   | Director of Logistics, Mississippi State Property Office, Jackson, MS, MSARNG                                  |

# Mortuary Affairs Operations At Malmedy – Lessons Learned From A Historic Tragedy

MAJ Scott T. Glass

The author thanks First Sergeant Francis Miner of the 3060th Quartermaster Company, Colonel David A. Pergrin of the 291st Engineer Battalion, Joseph Potten of Malmedy, and Henri Rogister of Liege, Belgium. Without their assistance, this article would not have been possible.

Throughout US Army history, Quartermaster Corps soldiers have performed countless noteworthy logistical missions. During the Malmedy Massacre mortuary affairs operation, Quartermaster soldiers added to the Corps' legacy of mission accomplishment in the face of adverse conditions. Lessons learned from this World War II operation can apply to present-day mortuary affairs missions.

In December 1944, Germany launched its Ardennes Offensive (called the "Battle of the Bulge"). The axis of advance chosen by the German high command ran through the Ardennes Forest in the tri-border area of Belgium, Luxembourg and Germany. Part of German preparation for the attack included directions from military leaders to all troops: fight with the utmost brutality. German officers urged their soldiers to show no mercy, even to prisoners of war.

Later, a German assault unit would murder US prisoners of war (POWs) at the Baugnez crossroads

in Belgium, southeast of the town of Malmedy. The event would occur December 17, 1944, and become known as the Malmedy Massacre. Although not an isolated incident because the German unit that carried out the killings was responsible for at least THREE similar incidents that day, the Malmedy Massacre is the best-known event of its type. Quartermaster soldiers in the graves registration (now mortuary affairs) service recovered and processed the remains of the murdered soldiers.

## Collision

COL Joachim Peiper was commander of an armored battle group from the 1st SS Panzer Division during the German offensive. The SS (abbreviation for *Schutzstaffel* elite guard) units had earned their reputation as some of Germany's most capable and sadistic fighters. Indeed, in earlier fighting on the Russian Front, a unit commanded by Peiper earned the nickname "The Blowtorch Battalion" for actions against captured Russian villages and their inhabitants. On December 17, the offensive's second day, Peiper strove to keep his attack going and take advantage of initial US confusion.

The US Army's Battery B, 285th Field Artillery Observation Battalion had begun a road march from bases in Holland to Luxembourg on December 16. The march passed through Malmedy around 1200 on December 17 before the German offensive interrupted this movement. An officer from the battery's parent battalion riding with the march element stopped and conferred briefly with LTC David A. Pergrin, commander of the 291st Engineer Battalion holding the town. Although strongly cautioned by LTC Pergrin about likely contact with German combat units to the east of Malmedy, the battery officer continued the road march.

At about the same time, Peiper's German tanks and mechanized infantry were maneuvering southeast of the Baugnez crossroads on a route that would pass south of that intersection. However, Peiper detoured in order to use a hard-surface road more suitable for his vehicles. This detour would take Peiper on a loop through Baugnez. At approximately 1300, as Battery B moved through the Baugnez intersection,



Five sets of remains in the Baugnez field, with most of the fresh snow swept away one month after the Malmedy Massacre. An autopsy determined that Number 38 was killed by a pistol shot at close range.

Peiper struck from the northeast. The clash was brief and violent. With no weapon larger than a machine gun and with German tanks and infantry closing in, the battery commander surrendered. The US soldiers dropped their rifles, and Peiper's men herded them into a field at the crossroads.

### Crime Of War

Soldiers of Battery B huddled in the snow. A few US POWs that Peiper's men had captured earlier in the day and had forced to ride along on the German combat vehicles joined the soldiers of Battery B. Peiper and the armored spearhead then continued south towards Ligneuville.

Several armored vehicles and a group of German soldiers watched over the US soldiers. Accounts differ, but apparently within a few minutes of Peiper's departure, an unidentified German officer ordered a tank crew to fire on the US POWs. One shot rang out, then another, and then a fusillade of small arms and machine-gun fire scythed into the US ranks.

A few POWs bolted, but most fell where they stood – either killed or seriously wounded. German fire cut down almost all who tried to escape before they could run very far. The SS soldiers on the scene roamed among the fallen POWs, shooting or bludgeoning those who showed signs of life. Others

tracked Americans fleeing the site to buildings at the intersection. They set the structures on fire and shot the US soldiers who ran outside to escape the flames.

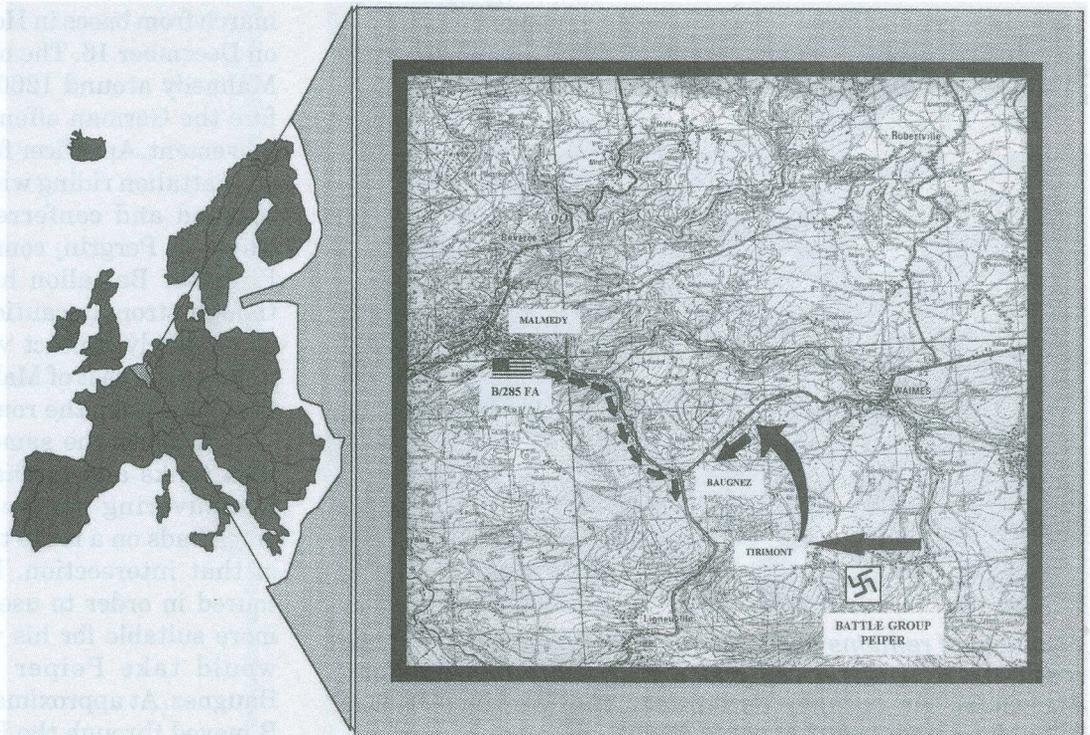
Nearly 80 US soldiers died at Baugnez after surrendering. Some, however, managed to elude the Germans. A couple hid and did not participate in the battery's surrender. Several ran and found cover during the shooting at the killing field. Incredibly, some in the killing field itself, most of them with serious wounds, managed to avoid detection by playing dead and escaping later. These survivors filtered into the 291st Engineer Battalion positions at Malmedy, giving the massacre its name.

### Collecting and Cataloging

By late afternoon, senior US leaders strongly suspected the murder of a large number of POWs near Malmedy. Recovery of the remains to confirm what had happened and also to gather and preserve evidence for a possible war crimes investigation became a primary goal.

However, it was not until January 13, 1945, that US units recaptured the area around Baugnez. The US First Army headquarters selected a unit for recovery operations and deployed an Inspector General (IG) team to exercise overall control of the remains collection operation.

Graphics  
by  
C. Bertoldi



The 3060th Quartermaster Graves Registration Service Company's 4th Platoon drew the assignment of recovering, processing and identifying the remains. The company had activated in October 1944 and started training its assigned soldiers in France. Company personnel began performing actual graves registration duties during the last week of December. Under the supervision of the platoon leader and first sergeant, the platoon element arrived in the Malmédy area and entered the massacre site on January 13, 1945, immediately after US units had recaptured the crossroads area.

### Remarkably Preserved

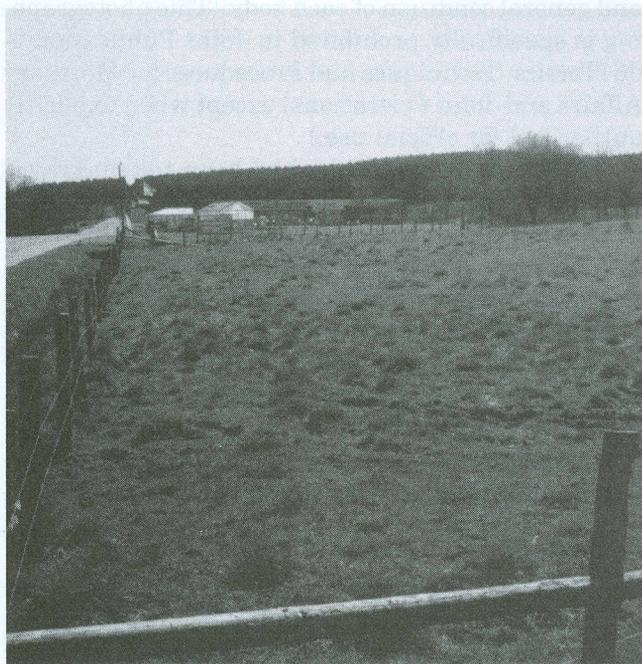
Snow had fallen several times since the massacre and a fresh snowfall covered the bodies. Temperatures had hovered below freezing, and the Germans had made no attempt to bury the bodies. These factors combined to keep the remains remarkably preserved.

The 3060th personnel conferred with the IG team, physicians and representatives of the 291st Engineer Battalion before establishing recovery operations procedures. Operations began at the massacre field on January 14, 1945, and ended late the next day.

Throughout the operation, the recovery field remained a frontline combat area. The US Infantry had dug foxholes across a corner of the field, and German artillery observers could see the activity around the crossroads area. On several occasions, incoming German artillery fire forced temporary suspension

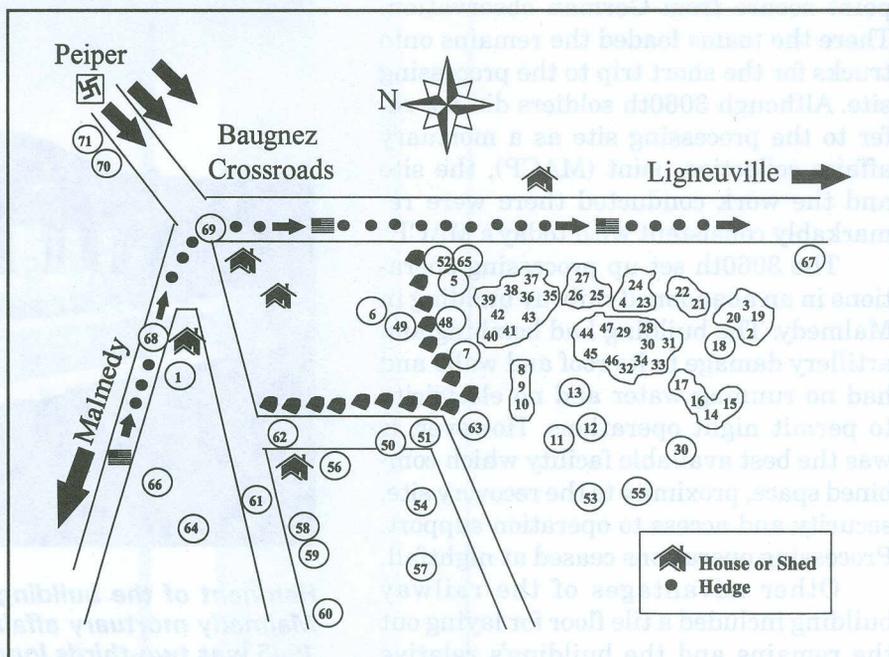
of work. In some cases, the shelling mangled some of the remains, complicating recovery and identification.

Heavy snowfall, enemy shelling and lack of available eyewitnesses to the atrocity prevented the Quartermaster soldiers from conducting thorough, systematic searches to locate all of the widely scattered remains. Still, over the next four months, the surrounding area yielded 12 sets of remains—all later identified.



### Distribution of Remains at Baugnez

A 1997 photograph (top) of the massacre field looking south. The largest concentration of remains lay in the right foreground.



Location of individual remains required assistance from a platoon of the 291st Engineer Battalion. The 291st Engineers used mine detectors to locate the bodies from the metal of gear or personal effects. When mine detectors located a set of remains, Quartermaster soldiers used brooms to sweep away the snow covering the bodies.

Graves registration personnel assigned each set of remains a two-digit number. Two Signal Corps combat cameramen photographed the initial location and general condition of each body. (This photographing is specifically prohibited in Joint Publication 4-06 (Tactics, Techniques and Procedures for Mortuary Affairs and Joint Operations) except when explicitly authorized for official use.)

After the photographs had been taken, graves registration personnel removed each body to a nearby road. In addition to being frozen, most bodies had also frozen firmly to the ground and, in some cases, to other remains. After separating remains from the ground and each other, a careful search under the bodies yielded personal effects. These effects, if any were found, accompanied the body as soldiers removed it from the field on an ordinary stretcher. Workers removed neither equipment nor personal effects from any remains during the recovery process.

### **Secure From Observation**

Litter teams from the 3200th Quartermaster Service Company and the 291st Engineer Battalion carried the remains several hundred meters on a road leading to Malmedy to a point secure from German observation. There the teams loaded the remains onto trucks for the short trip to the processing site. Although 3060th soldiers did not refer to the processing site as a mortuary affairs collection point (MACP), the site and the work conducted there were remarkably consistent with today's MACP.

The 3060th set up processing operations in an abandoned railway building in Malmedy. The building had bombing and artillery damage to its roof and walls and had no running water and no electricity to permit night operations. However, it was the best available facility which combined space, proximity to the recovery site, security and access to operation support. Processing operations ceased at nightfall.

Other advantages of the railway building included a tile floor for laying out the remains and the building's relative

obscurity, which sheltered it from public view. The temperature inside stayed little above freezing, and workers had to set up several coal-burning drums to provide some heat. Upon entering the railway station, 3060th Quartermaster Company workers placed the remains on the tile floor and then moved them to tables for processing. They then removed any bulky, outer, winter garments that would impede examination of body wounds. Processing included searching these garments for personal effects that might assist with identification. These personal items would prove valuable later.

The 3060th soldiers filled out emergency medical tags of the type then in use, collected and secured personal effects such as pens, letters, watches and wallets. Processing included a preliminary identification. Usually a single identification tag around the neck of a remains could establish identity sufficiently.

If processors did not find a tag around the neck of the victim and instead found a tag somewhere else such as a pocket, a search of other personal effects was required to establish identity. Common practice for laundry marking at that time required US soldiers to mark the last four numbers of their Army service number on their clothing. This provided another frequently used way to check the identity of Malmedy victims.

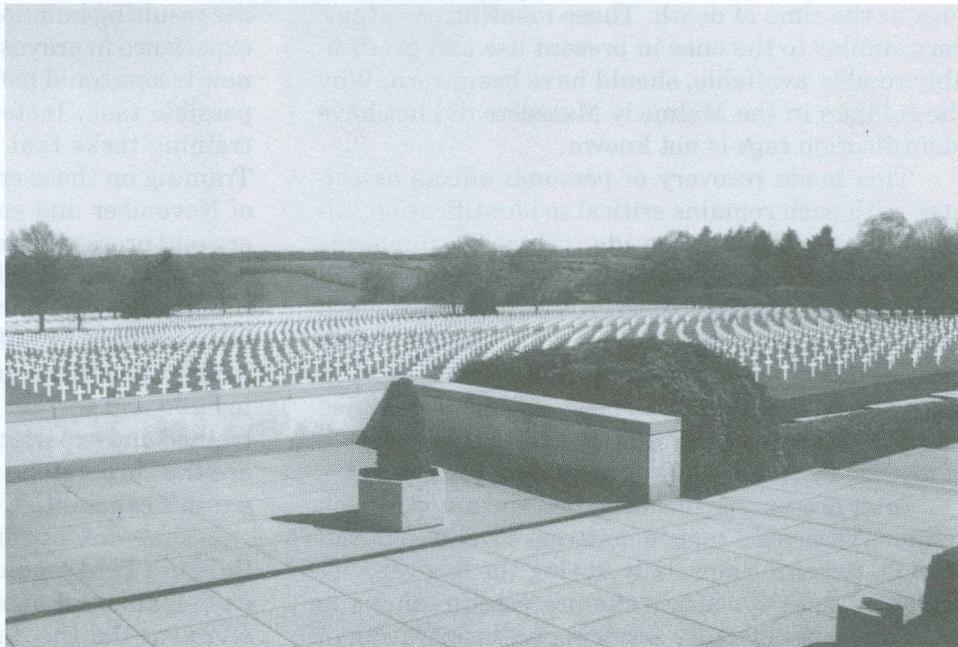
Fingerprints also helped establish identity. In some cases, soldiers used hypodermic needles to in-



**Remnant of the building near the rail line that housed the Malmedy mortuary affairs collection point. The structure in 1945 was two-thirds longer than in this 1997 photograph.**

## **Final Resting Place**

**Henri-Chappelle Cemetery in Belgium, resting place of 21 soldiers killed at Malmedy and nearly 8,000 other US World War II casualties (top photograph). Two Malmedy victims' final resting places at Henri-Chappelle (bottom photograph).**



ject water in the remains' digits to firm and fill out fingertips to allow a quality fingerprint. Almost none of the Quartermaster soldiers who were processing remains had received formal mortuary affairs training before deploying to Europe. This skill was one that had been specifically identified as critical and taught to new soldiers in the 3060th in France.

Shortly after initial processing, three Medical Corps physicians, under close observation by the First Army IG team, performed autopsies on each set of remains. The autopsy team in nearly every instance used the two-digit number assigned in the massacre field to track and record the procedures. It was still possible that the massacre survivors could have been mistaken, and the dead soldiers had died as a result of combat injuries. First Army headquarters meant to specifically determine if death had resulted from combat action or shooting after capture.

## **Serious Atrocity**

A survey of the 72 autopsies and photographs of remains on file indicate at least 20 had potentially fatal gunshot wounds to the head inflicted at very close range in addition to wounds from automatic weapons. Most head wounds showed powder burns on the remains' skin. An additional 20 showed evidence of small caliber gunshot wounds to the head without powder burn residue. Another 10 had fatal crushing or blunt trauma injuries, most likely from a German rifle butt. This eas-



ily confirmed US suspicions that a serious atrocity actually did occur.

Only a couple of the personal effects registers or autopsy records mention the remains having identification tags. As thorough as the effects search and autopsy records are, it can be assumed that the massacred soldiers were not wearing their identification

tags at the time of death. These identification tags, very similar to the ones in present use and presumably readily available, should have been worn. Why the soldiers in the Malmedy Massacre did not have identification tags is not known.

This made recovery of personal effects associated with each remains critical to identification. Effects most valuable for identification purposes included pay books, wallets, rank insignia, small Bibles and religious tracts, rings, watches and personal letters found on or under the remains. Despite the almost complete absence of identification tags worn on the remains, 3060th Quartermaster soldiers identified all the remains with certainty equal to that expected of modern mortuary affairs operations: 100 percent.

After processing, identification and autopsy, each remains received a tagged mattress cover as a burial shroud. Several times daily during the recovery operation, trucks evacuated the processed remains to a US military cemetery servicing units operating in the Malmedy area of Belgium. Freezing cold and quick evacuation made refrigeration facilities unnecessary.

### **Commemoration**

For US soldiers killed at Baugnez, their initial resting place after processing would be a temporary theater cemetery at Henri-Chappelle, Belgium, about 25 miles (40 kilometers) north of Malmedy. (The site eventually became a permanent US cemetery for nearly 8,000 war dead.) Once buried, they waited until the end of the war for next-of-kin decisions to either leave them in Europe or bring them back to the US for final burial. Many families chose to bring the soldiers home for interment, but 21 victims of the Malmedy Massacre still rest at Henri-Chappelle.

### **Lessons Learned**

The Malmedy Massacre happened 52 years ago. Although Quartermaster mortuary affairs doctrine has undergone many changes since then, lessons learned from the operation still apply to operations today. Covered in Joint Publication 4-06, these operations range from combat operations to disasters to humanitarian relief operations.

**Importance of Formal Training.** Just THREE soldiers in the 3060th Quartermaster Company had extensive service as morticians or funeral directors before World War II. The unit capitalized on this experience by having the skilled men teach the newly arrived soldiers. These new soldiers came straight from combat units. Almost without exception, they lacked any formal mortuary affairs experience, although a considerable number had seen combat and

the resulting human wreckage. The few soldiers with experience in graves registration recognized that the new troops could not be trained to standard on every possible task. Instead, they identified several key training tasks that the unit commander endorsed. Training on these critical tasks accounted for much of November and early December 1944. The recovery and processing of actual remains at the Baugnez crossroads exercised many of these tasks.

Today's commanders of units with mortuary affairs soldiers or sub-units should enthusiastically support peacetime training and exchange programs to build and sustain technical competence. Formally trained and experienced mortuary affairs specialists are the cornerstone of training programs to expand a unit's capabilities when required.

**Search Operations.** Search operations at the Baugnez field produced 72 remains in three days. A deep blanket of snow clearly hampered the search effort, as did the direct proximity to German positions. Mostly separated from the central massacre field, another 12 remains were located in the next four months after the snow melted. It is possible that these deaths resulted from the collision with Peiper's unit, causing a scattered distribution. The search conducted was probably the most thorough possible under the circumstances. Leaders coordinating searches today must use the methods and checklists in Joint Publication 4-06 to make searches as productive as possible.

**Work Site Selection.** Several factors prevented using large buildings near the recovery site as a primary workplace. First, the site remained under German aircraft overflights, observation and intermittent artillery fire. Second, a smaller railway building with some heat source would greatly ease the cold conditions for soldiers performing the processing operations. Third, the railway building in Malmedy was much closer to the barracks and mess facility supporting the workers. Fourth, the smaller building's location was easily protected from public view. Fifth, the road network of Malmedy could be easily accessed from the railway building. Although not a perfect site, the railway building offered the best combination of advantages and the fewest disadvantages. Using Joint Publication 4-06 checklists as a yardstick, the MACP building satisfied most of today's requirements.

**Noncommissioned Officer (NCO) Expertise.** The 3060th's first sergeant arrived with the advance party. This was a wise decision by the company leadership. Even though the platoon leader also traveled with the advance party, the first sergeant's presence ensured the availability of an NCO thoroughly experienced in remains handling. He had been one of the

three initial members of the company with previous training and job experience in mortuary affairs. Sending an experienced NCO with unit advance or quartering parties, no matter what the organization's primary support mission, will pay dividends. The mortuary affairs NCO can recommend facilities and sites that best support the mortuary affairs mission.

**Locally Contracted Labor.** The US Army did not use local labor to assist with the operation. Before World War I, the Malmedy area had been part of Germany. Local families had contributed sons to the German army in World War II. In fact, local residents had pointed out hiding places of some US soldiers attempting to escape the massacre to German troops. During the operation, leaders considered the use of local labor to conserve US manpower, but these factors ruled it out. Even so, today's leaders planning and organizing recovery operations should consider using local labor if allowed by higher authority and if the supporting civil affairs unit can coordinate the use.

**Emotional and Mental Health.** Mortuary affairs soldiers, as well as the soldiers who assist with recovery operations, will definitely experience some emotional or mental discomfort because of the extremely taxing nature of these duties. This discomfort may range from mild to severe. The discomfort and its effects might not manifest themselves immediately.

Commanders must recognize these facts and plan ways to offset them, ESPECIALLY if the unit will need augmentation from other units to accomplish its mortuary affairs missions. Ways to reduce mental stress include chain of command involvement and assistance from chaplains, psychologists and social workers. This should be an essential part of peacetime preparation.

By the time of the Malmedy operation, most of the 3060th soldiers had some experience in recovery and processing operations. The chain of command did not see mental stress as a threat to continued operations. However, in the next war or operation, large numbers of remains threaten not only to overwhelm mortuary affairs units physically, but also mentally. Commanders must plan to identify and deal with this threat. The ability to sustain stressful mortuary affairs operations for an extended time depends on effective countermeasures to mental and emotional stress.

**Coordination With Local Combat Units.** This should be one of the first elements of mortuary affairs unit standing operating procedures for occupying a new area of operations. The 3060th benefited in several distinct ways from conducting in-depth, face-to-face coordination with the local combat unit—

in this case the 291st Engineer Battalion. Coordination included intelligence, force protection and labor.

- Intelligence. Guides from the 291st led the 3060th advance party directly to the massacre field and advised of potential buildings for processing. This and other information enabled the 3060th to expeditiously begin on-site operations.
- Force Protection. The two forms of force protection at Malmedy were recovery site and work site. The Infantry unit occupying the massacre field provided 24-hour local security for the recovery operation and assisted with communications support. Soldiers from the 291st Engineer Battalion searched for booby traps on the remains because of rumors that retreating Germans practiced this tactic. The 3060th personnel provided guard security for the processing site after operations ceased at nightfall. During daylight hours, the Quartermasters worked secure in the knowledge that the 291st Engineer Battalion still maintained overall security of the Malmedy area. The 291st greatly eased the burden on the 3060th.
- Labor. The 3060th elements at Malmedy did not have a large supply of uncommitted labor. It is rare that a mortuary affairs unit will be able to accomplish all assigned missions without some forms of personnel and equipment augmentation. Fortunately, productive coordination with the 291st Engineer Battalion yielded labor and trucks to locate, recover and move the remains to the processing station.

**Supplies and Equipment.** The 3060th Quartermaster Company soldiers lacked rubber gloves, aprons, and other similar gear to insulate them from thawed ice, blood and bodily fluids. The standard issue, leather, cold weather gloves provided a poor substitute, becoming thoroughly soaked very quickly. To solve this problem, workers discarded pairs of gloves after one or two sets of remains, but this created a severe demand for a scarce supply item. No expedient item could be procured locally.

- If a mortuary affairs unit is planning to request augmentation during MACP operations, commanders must plan for sufficient items to equip the augmentee soldiers as well as organic mortuary affairs specialists. These should include additional gloves, aprons, footgear coverings and face masks, for example. The mortuary affairs specialists located in forward support battalions should include this equipment in their basic load plans.

**Training With Supported Units.** Military occupational specialty (MOS) 92M (Mortuary Affairs Specialist) is low-density MOS. Unforeseen circumstances in wartime, humanitarian assistance operations, disasters or other operations will rapidly outstrip mortuary affairs capabilities. This can be offset by preparing to augment mortuary affairs operations.

- Mortuary affairs NCOs at the support battalion level should aggressively offer training to the supported combat units' recovery teams. There will be little time to complete this critical training during preparation for a short-notice deployment.
- Mortuary affairs small unit leaders should prioritize some key skills and build training programs for quickly training mortuary operation augmentees. The programs should be oriented to personnel with no knowledge of mortuary affairs. Having these training task materials on hand and rehearsed allows a unit to rapidly train and integrate augmentees toward mission accomplishment. Particularly vital are training in personal health, sanitation and use of protective equipment to prevent the spread of disease.

**Public Affairs and the Media.** Leaders of large-scale mortuary affairs operations, whether in peace or war or somewhere in-between, must expect some form of media scrutiny. The simple fact is that these operations are especially newsworthy to host nation and US media.

- Leaders should have a media policy in place with designated team members for interfacing with the media. Rehearsing the designated team members on videotape with trained Army public affairs specialists is a useful technique.
- A key element of a mortuary affairs team's media policy should be to inform everyone on the team about the policy. Remember, at times it is impossible to choose the soldier that the media contacts.

The wide variety of missions assigned to the US Army present many unique challenges to mortuary affairs specialists. The Malmedy Massacre is but one example of a recovery mission challenging in terms of weather, combat conditions, resources and personnel.

### **Only A Matter of Time**

More missions, just as challenging if not more so, are in the future of Quartermaster mortuary affairs personnel. It is only a matter of time. Applying lessons learned from this operation will help ensure that mortuary affairs units and personnel are ready to execute a Malmedy-type mission on the FIRST DAY of the next war.

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### **Logistics Conference Rescheduled**

The second worldwide Directorate of Logistics (DOL) conference has been rescheduled for 21-23 Jan 98. The dates changed from the earlier 18-20 Nov 97 schedule because of conflicts with the Division Advanced Warfighting Experiment and the unavailability of several senior-level participants. The Commanding General, US Army Combined Arms Support Command will sponsor the conference, with the Army Logistics Management College (ALMC), Fort Lee, VA, acting as host. Open to all interested Department of Defense Personnel, the conference at Fort Lee will address the topics proposed by the attendees as well as update issues from the 1996 DOL Conference. Points of contact at ALMC are Frances C. DeRamus at DSN 539-4436 or (804) 765-4436 and Fritz Eley at DSN 539-4351 or (804) 765-4351.

# A Single Fuel for the Battlefield

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In World War II, the North African Campaign ended in the catastrophic defeat of a tactically superior force. The German *Afrika Korps*, led by Erwin Rommel who was the legendary "Desert Fox," suffered a total defeat at the hands of the British Eighth Army. Although soldiers in the *Afrika Korps* were superbly led, they were logistically handicapped. Although they were masters of desert maneuver, they could not capitalize on this advantage because of poor petroleum management, transportation and distribution.

The *Afrika Korps* consisted of German and Italian forces. Their equipment and vehicles required various types of fuel. They consistently failed to sustain their advances because they could not support their multiple fuel requirements. Their ability to maneuver was not hampered by their enemy, but was limited by fuel.

## Multiple Fuel Problems

Throughout the 20th Century, the US Army has experienced similar logistics problems created by the requirement for multiple fuels on the battlefield. The problem is further complicated in multinational operations. The concept of a single fuel on the battlefield is intended to solve the Army's separate fuel problems. Department of Defense (DOD) Directive 4140.25 states that Jet Propulsion 8 (JP8) will be the military's primary fuel. The North Atlantic Treaty Organization's Standard Agreement (NATO STANAG 4362) declares that JP8 will also be the single battlefield fuel for NATO forces.

These announcements, made in 1988, were met with mixed reactions from commanders. Nine years later, there is still concern over the single fuel concept and JP8's suitability as the designated single fuel. Field logisticians generally agree upon the logistical benefits of a single battlefield fuel. These benefits include one fuel for all air and ground equipment in a theater of operations, simplified logistics, increased efficiency and safer operations.

The greatest concern with the single fuel concept is conversion. This concern is warranted, but many logisticians fail to realize conversion to a single fuel is not scheduled for completion until 2010. By that time, motor gasoline (MOGAS) will be eliminated. Also, equipment powered by MOGAS will be phased out of the inventory. Diesel-powered equipment will be converted to JP8, and all new air and ground equipment will use JP8 as the primary fuel.

Before deciding to convert to a single fuel, the Army's multitude of unique fuel requirements had to be carefully analyzed. A single fuel must be useable in all air and ground equipment. A single fuel must also be a reliable product with superior performance capabilities. The fuel must be stable and perform under any condition, climate or temperature. Most of all, the single fuel must be commercially available worldwide. This is of vital importance to a force projection army.

JP8 is a kerosene-based turbine fuel, nearly identical to the commercially produced Jet A and Jet A-1 fuels used by commercial airlines worldwide. JP8 must contain three additives that distinguish it from the commercially refined jet fuels: a fuel system icing inhibitor, a static dissipater and a corrosion inhibitor.

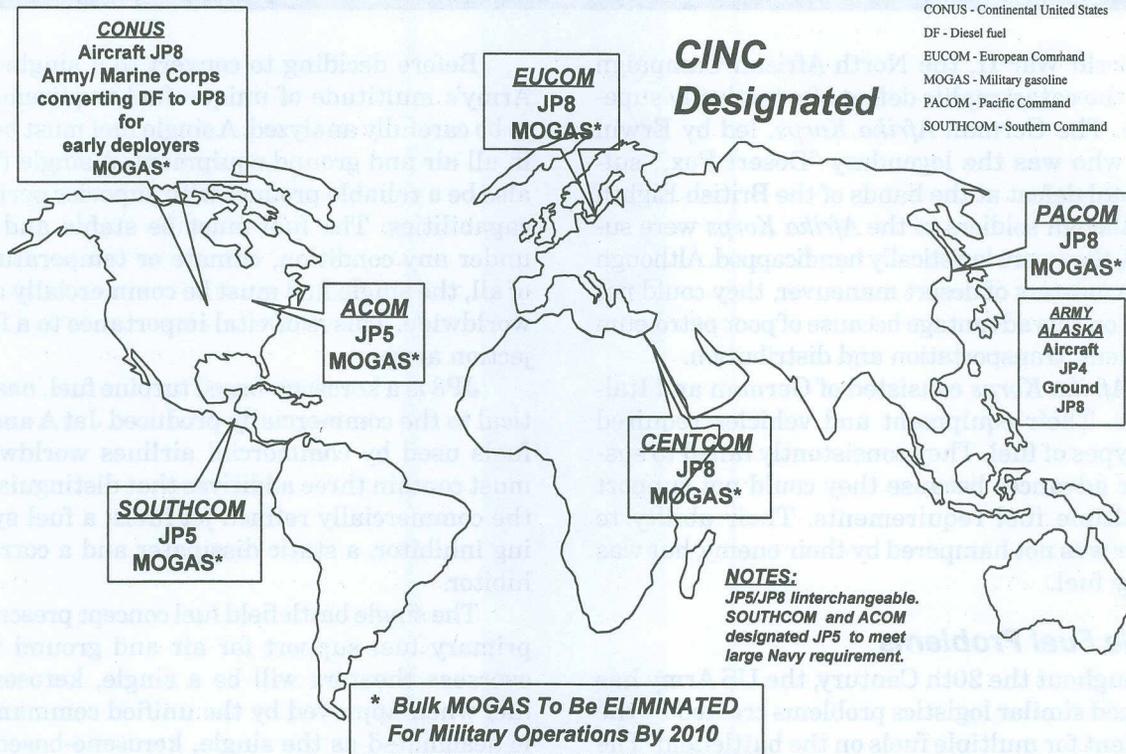
The single battlefield fuel concept prescribes that primary fuel support for air and ground forces in overseas theaters will be a single, kerosene-based fuel when approved by the unified commander. JP8 is designated as the single, kerosene-based fuel for the following commands: European Command, Pacific Command, Central Command and continental US (CONUS) based Army and Marine units. Southern Command and Atlantic Command designated JP5 as their single fuel because of their large Navy requirements. JP5 and JP8 are interchangeable, with the primary difference that JP5 has a higher flash point. Most CONUS installations have completed conversion. CONUS-based US Army Reserve and Army National Guard facilities are converting to a single fuel when practical, based on consumption and availability of JP8.

## Diesel Equipment Conversion

Converting diesel-powered equipment to JP8 has been a complicated process. Many issues with fuel properties and performance had to be considered. Only a few of the most important issues – combustion, fuel injection and lubricity impacts – will be addressed in this article. More complete information is available through the Army Fuels and Lubricants Division of the Army Petroleum Center, Warren, MI, and also the Petroleum and Water Department, US Army Quartermaster Center and School, Fort Lee, VA.

Combustion is a chemical change (especially oxidation) that allows fuel to ignite while under pressure when mixed with other chemical agents, such

## Single Fuel on the Battlefield



as oxygen. Diesel fuel engines are compression ignition engines, which means that the fuel ignites without the use of a spark plug. JP8 and diesel fuel have identical combustion characteristics. Therefore, basic engine characteristics did not require alteration to convert fuel sources from diesel to JP8. JP8 burns neither hotter nor slower than diesel fuel. In fact, because of the different chemical makeup of JP8, it breaks down into a finer spray when injected into the cylinder. This enables JP8 to create a better premixed combustion of fuel and oxygen while slightly improving the overall thermal efficiency of the engine.

### Fuel Density

The density or viscosity of fuel greatly influences the fuel injection process. A fuel injector supplies a precisely metered amount of fuel at very high pressure to the engine. JP8 has a lower viscosity than diesel, which altered the fuel injection process. As a result, JP8 is supplied at higher pressures than diesel fuel, which caused high-pressure leaks in fuel injectors. Also, the change in lubricity impacted the performance of rotary fuel-lubricated fuel injection pumps. There is also a slight decrease in equipment durability due to JP8's lower viscosity. This made installation of injector pump modification kits nec-

essary. The US Army has also established new equipment procurement requirements to prevent similar problems in the future.

JP8 was first considered as a replacement for diesel fuel in the early 1980s when the M-1 Abrams main battle tank was introduced. The M-1 experienced cold-starting problems because of waxing (the formation of wax crystals) in standard diesel fuel. An attempt was made to solve this problem by mixing diesel fuel with JP8 or JP5 to make a special "M-1 fuel mix." Other NATO countries were experiencing similar cold-starting problems. It was discovered that JP8 had a particularly low freezing point of -47 degrees Celsius (the temperature at which all wax crystals in the fuel disappear upon warming). JP8's low freezing point would prevent fuel "starvation" due to waxing. This makes JP8 an excellent single battlefield fuel for a force projection army that can be expected to undergo rapid changes in climate and temperature.

JP8 contains an additive, Fuel System Icing Inhibitor (FSII) that has a secondary benefit of providing protection against microbiological growth. This benefit makes JP8 an excellent fuel for use in prepositioned vehicles and equipment. JP8 stays useable for longer periods of time while in storage than diesel. JP8 has more stringent cleanliness requirements

than diesel. It has better water separation characteristics, which equate to less fuel system corrosion and longer intervals between replacing fuel filters.

JP8 has been extensively tested in hot weather operations also. In 1987, an automotive manufacturer conducted a 10,000-mile vehicle durability test. During the test by this corporation, engines were exposed to hot climates, with 145- to 163-degree Fahrenheit fuel inlet temperatures. The test revealed no significant adverse impacts on vehicle performance or fuel injection pump wear. In December 1990, JP8 was tested at Fort Bliss, TX. The results indicated that there were no measured differences in engine operating temperatures that supported any claims of overheating.

### **Significant Fuel Test**

One of the most significant single fuel tests involving JP8 was conducted at Fort Bliss from October 1988 through July 1991. The field demonstration involved about 2,800 diesel-powered vehicles and pieces of equipment. During the test, 4.7 million gallons of JP8 were consumed. The test proved successful, without any catastrophic failures attributed to JP8 usage. In fact, there were no major differences in procurement costs, fuel consumption, Army Oil Analysis Program (AOAP) directed oil changes, or component replacements.

Many other tests and studies have compared JP8 with diesel fuel. Some tests indicate minor performance problems with JP8, increased engine wear, and a net effect of partial rack performance with JP8 with an increase in vehicle fuel consumption relative to diesel. However, the test results indicate that JP8 is a viable alternative to diesel and is the best-suited single battlefield fuel. Some costs are associated with conversion to a single fuel, but the logistical benefits far outweigh the costs.

There are numerous benefits to logistics from a single battlefield fuel for all air and ground equipment. Since there are far too many to mention in this short article, only some of the most important aspects will be addressed.

**Logistics management is an extremely complex process.** Managing a single fuel instead of multiple fuels greatly reduces the complexity of planning for operations. For example, logistics planners will account for only a single bulk instead of multiple fuels. Analyzing demands and calculating future requirements will be simplified. Tracking on-hand quantities and consumption rates will also be simplified. Forces will arrive in theater with the same fuel that will be supplied. Most importantly, planning fuel requirements for joint operations will

be much more efficient if all participants require the same single fuel.

**The functions of fuel storage, transportation and distribution can be tailored for maximum efficiency with a single battlefield fuel.** Fewer assets are required to store, transport and distribute a single fuel. Stored stocks can be managed and rotated more efficiently. Transportation assets will not have to undergo conversion (a timely process) to transport multiple fuels. The same transportation assets can deliver fuel to all types of aviation and ground units. The capability to provide emergency resupply will be increased. Overall readiness will be improved. A single battlefield fuel will guarantee the Army's interoperability with other US military services and allied forces.

**Using a single battlefield fuel is safer than using multiple fuels.** The quality assurance process will be improved, and ensuring that stocks meet full specifications will be simplified. It will be easier to identify fuel stored in unmarked containers. Also, JP8's long-term storage stability makes JP8 a more reliable and a safer alternative fuel for prepositioned vehicles and equipment. The potential for dispensing the wrong fuel, such as filling a Bradley tank with MOGAS, will be eliminated.

JP8+100 is a new US Air Force fuel. It is JP8 with a thermal stability additive package that includes an antioxidant, a metal deactivator, a detergent and a dispersant. This additive package gives JP8+100 a 100-degree Fahrenheit increase in thermal stability. The new fuel is intended to reduce maintenance problems in Air Force aircraft. The Army has experienced similar problems with its aircraft and could also benefit by fielding this new fuel. Certain ground vehicles could also benefit. The Army, Navy and Air Force are working jointly on validating and fielding JP8+100.

The logistical benefits of a single battlefield fuel are tremendous. The concept of JP8 as the designated single fuel must be disseminated and understood. Benefits include worldwide use, long-term storage stability, improved cold weather operations, reduced engine combustion component wear, reduced potential for fuel system corrosion problems, increased readiness, and improved joint interoperability. These benefits make America's Army safer, more efficient, more flexible and ultimately more lethal.

*The authors are Quartermaster graduates of the Combined Logistics Officer Advanced Course 97-5/6 at Fort Lee, Virginia.*

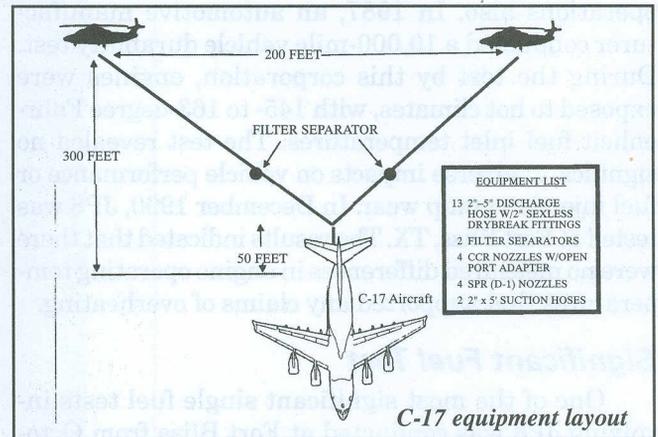
# C-17 Globemaster III Defueling Demonstration Enhances Quartermaster Refueling Mission

MAJ Tricia Newsome William D. Perdue

Providing fuel when and where needed has been an Army challenge since fuel-burning equipment first appeared on the battlefield. The size of the battlefield, the speed at which units move and increased fuel consumption require the Army to seek innovative methods to keep the forces fueled. One such method is using internal tanks on the C-17 Globemaster III as a retail fuel source. Fuel is transferred directly from the C-17 airplane into Army helicopters.

The US Army Combined Arms Support Command (USACASCOM) coordinated with the Air Force Special Operations Command to validate the ability to defuel into Army aircraft from the C-17 using standard Army refueling equipment as part of USACASCOM's ongoing C-17 System Safety Engineering Analysis (SSEA) and Follow-on Operational Test and Evaluation. In May 1997, the Army and Air Force demonstrated this capability as part of the SSEA for the C-17. Soldiers from the 101st Airborne Division, Aviation Brigade, successfully demonstrated the capability to refuel Army aircraft from the C-17, at Fort Campbell, KY, using components of the heavy expanded mobility tactical tanker (HEMTT) Aviation Refueling System (HTARS) and the Forward Area Refueling Equipment (FARE).

USACASCOM's Directorate of Combat Developments-Quartermaster, in coordination with the Air Force, developed written procedures and equipment requirements for conducting refueling operations with the C-17 as fuel source. For this operation, a modified HTARS setup was used to deploy two refueling points a distance of 300 feet from the C-17. A system was deployed using a wye configuration with a 100-gpm filter/separator located in each refueling



leg. The setup and layout were routine to the 77F (Petroleum Supply Specialist) soldiers who have the refueling mission for the Army and use the HTARS and FARE on a regular basis. During the demonstration, the C-17 was used to conduct cold and hot refueling of the CH-47 Chinook, UH-60 Black Hawk and AH-64 Apache helicopters.

This successful demonstration provides the Army with another valuable capability to support the maneuver units during deep operations. The C-17 - with its ability to carry large quantities of fuel and land on short, unimproved runways - provides the military with a unique fuel distribution capability. This fuel transport capability can also be used to establish forward operating bases by transporting large quantities of fuel and bulk-discharging into collapsible tanks.

Now that C-17 defueling into Army aircraft has been successfully demonstrated, this capability will be incorporated into Field Manual 10-67-1 (Concepts and Equipment of Petroleum Operations). On the future battlefield, logistics will be a proactive, warfighting enabler that gives commanders the fuel they need on time, every time.



Evacuating Hoses After Refueling

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# Enlisted Hero Memorialized

The Medal of Honor awarded posthumously to a Quartermaster for his gallantry during World War II is now on permanent exhibit at the Home of the Quartermaster Corps. PVT George Watson was one of seven African-Americans whose World War Distinguished Service Crosses were upgraded to the Medal of Honor and presented 13 Jan 97 at the White House. PVT Watson of Birmingham, AL, became the 33d Quartermaster awarded the Army's highest honor for "the bravest of the brave" since the U.S. Civil War.

On 21 Aug 97, the US Army Quartermaster Center and School conducted a ceremony honoring PVT Watson at Fort Lee, VA. Because no surviving next of kin of PVT Watson's were ever found, authority was granted for his Medal of Honor to be placed in the U.S. Army Quartermaster Museum. The story of PVT George Watson and his medal is to serve as fitting tribute to the courage of Quartermasters.

On 8 Mar 43, members of the 29th Quartermaster Battalion, including PVT Watson, were aboard a ship approaching Porlock Harbor, New Guinea, when attacked by Japanese planes. The ship was hit and began sinking. Soldiers abandoned ship but many could not swim. PVT Watson repeatedly left the safety of his life raft to rescue several fellow soldiers.



Photograph Courtesy of *Ebony Magazine*  
**PVT George Watson**

Tiring from his exertions, he himself drowned. PVT Watson's body was recovered, and he was buried at sea. For his heroism PVT Watson received the Distinguished Service Cross, the Army's second highest award. He became the first black American to receive this medal during World War II. On 4 Jul 44, Watson Field, Fort Benning, GA, was named in his honor.

One of those saved by PVT Watson, James Guilford, was a featured speaker at the Fort Lee ceremony. Guilford was a personal friend of PVT Watson, training with him while both were recruits at Camp Lee and embarking with him to the South Pacific as a member of the 29th Quartermaster Battalion. General Johnnie E. Wilson, Commander of the Army Materiel Command and the Army's highest ranking logistician, presented the keynote address. General (Retired) Richard H. Thompson, President of the Quartermaster Foundation, accepted the medal on behalf of the Quartermaster Museum.

The month before the Quartermaster ceremony, Secretary of the Army Togo D. West Jr. was the main speaker 26 Jul 97 when a Navy Large Medium-Speed Roll-on/Roll-off (LMSR) ship was christened the USNS Watson in San Diego, CA. The LMSR is a key element in the Army's strategic mobility capability.

## Regimental Hall of Fame for 1997

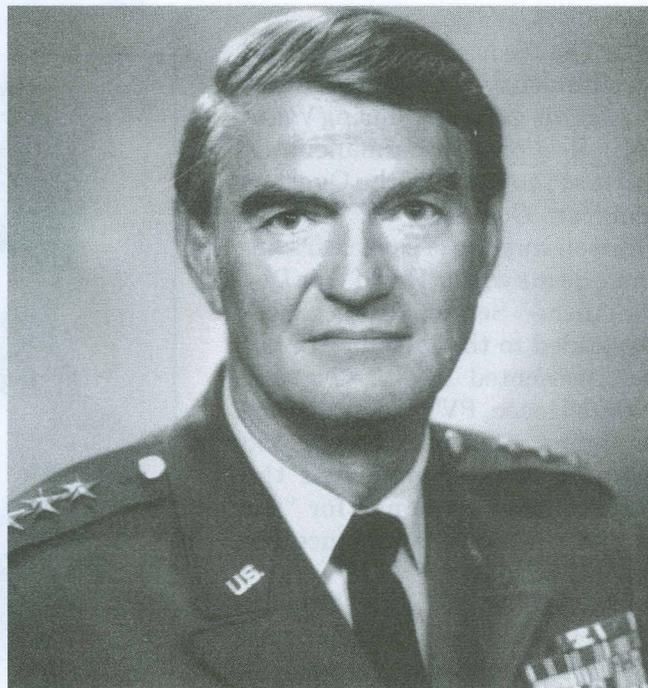
The 1997 induction of three Quartermaster generals, one chief warrant officer and one command sergeant major into the Regimental Hall of Fame brings the total number of members to 54. The newest five members in the Hall of Fame at the US Army Quartermaster Center and School, Fort Lee, Virginia, are LTG Walter J. Woolwine, MG Henry G. Skeen, MG Emmett W. Bowers, CW4 Michael Z. Smith and CSM Charles Getreu.

The Hall of Fame annually recognizes military personnel of all ranks who are not on active duty and also recognizes retired civilians who have made lasting, significant contributions to the Quartermaster Corps. The five new Hall of Fame members, as well as 17 Distinguished Members of the Regiment and four new Distinguished Units of the Regiment, were inducted during Regimental Week, 17-21 Jun 97, at Fort Lee, Virginia, home of the Quartermaster Corps.

**Lieutenant General Walter J. Woolwine** was born January 26, 1919, in Bluefield, West Virginia, and was commissioned second lieutenant in the Quartermaster Corps after graduation from the United States Military Academy at West Point, NY, in 1941.

General Woolwine served in The Office of the Quartermaster General in Washington, the Deputy Chief of Staff for Logistics, and the Assistant Secretary of the Army for Installations and Logistics. He was a company commander in the 84th Infantry Division during World War II, and at the end of the war became Chief of the Procurement Division in the European Theater Headquarters. In 1965 he went to Thailand as Commanding Officer of the 9th Logistical Command. After a tour of duty with the Army Materiel Command in Washington, he returned to the Far East in 1970. Initially assigned as commanding general of the 1st Logistical Command – the largest single unit in Vietnam – he was later designated Assistant Deputy Commanding General, United States Army, Vietnam. After his promotion to Lieutenant General in August 1971, he was named Director of Logistics (J4), Joint Chiefs of Staff. In his last assignment before retirement in 1975 he was Commandant of the Industrial College of the Armed Forces in Washington, DC.

During his 34-year career which included participation in three wars – World War II, Korea, and Viet-



**LTG Walter J. Woolwine**

nam – General Woolwine served in every phase of Quartermaster activities at every level and achieved lasting results throughout the realm of military logistics.

**Major General Henry G. Skeen** was born in Dale County, Alabama, on May 26, 1933. He entered the Air Force in 1949, transferred to the US Army in 1953, and upon completion of Officer Candidate School that year was commissioned a second lieutenant in the Infantry. After serving as platoon leader in various Infantry and airborne companies, he was awarded a Regular Army commission as a Quartermaster first lieutenant in 1958.

During most of his career, General Skeen held important Quartermaster mission-related command and staff positions. Key staff assignments included Director, Supply and Maintenance in the Office of the Deputy Chief of Staff for Logistics; Secretary of General Staff, US Army Computer Systems Command; and Assistant Deputy Chief of Staff for Logistics, US Army Europe and Seventh Army; and Secretary to the General Staff, US Army Computer Systems Command, Fort Belvoir, VA. Important commands included Commander, US Army Troop Support Command, St. Louis, MO; Commander Defense Industrial Support Center, Philadelphia, PA; Commander, Defense Reutilization and



**MG Henry G. Skeen**

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Marketing Service, Battle Creek, MI; Commander, 88th Supply and Service Battalion, Vietnam; Commander, Regional Support Activity, Military Region II, Vietnam; Commander, US Army Logistics Evaluation Agency at New Cumberland Army Depot; and Commander, Burtonwood Army Depot, England.

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**Major General Emmett W. Bowers** was born on July 19, 1926, in Fulton County, Georgia. He graduated as an Reserve Officers' Training Corps honor graduate from Mercer University in 1951 and was commissioned a second lieutenant in the Quartermaster Corps. During the early years in his career, he was detailed to the Artillery Corps. Serving in Korea with the 2d Division Artillery, he was wounded in action in 1952 during the Second Korean Winter Campaign.

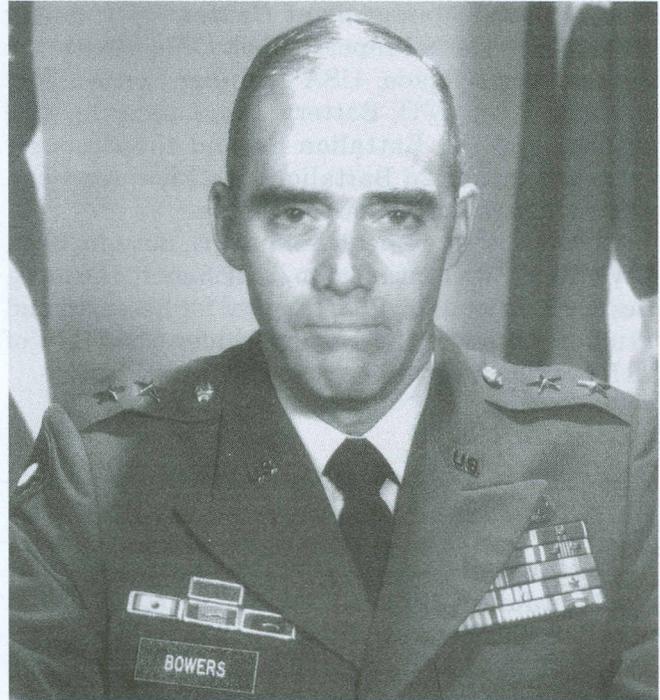
General Bowers taught financial management at the Quartermaster School, both in Germany and at Fort Lee, VA. Important staff assignments during his distinguished career included Chief of the Budget and Accounting Branch in the Quartermaster Market Center System, US Army, Europe; Chief, Analysis and Statistics Branch, Management Division, Southern Area Command, US Army, Europe; Coordinator of the Stock Fund, Army Supply and Maintenance Agency, US Army, Europe; Chief of the Procedures and Performance Branch, Deputy Chief of Staff for Logistics; Executive Officer to the Comptroller, Defense Logistics Agency; and Staff Officer in the Logistics Directorate, Joint Chiefs of Staff. Some of his principal commands included Commander, 9th Supply and Transportation Battalion, 9th Infantry Division, Vietnam; Commander, 593d Support Group, Fort Lewis, WA; Commander, US Army Troop Support Agency, Fort Lee, VA; and Commander, Defense Personnel Support Center, Philadelphia, PA.

Among his many lasting contributions, General Bowers expedited movement of the communications

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**Chief Warrant Officer Four Michael Z. Smith** – the current Honorary Warrant Officer of the Quartermaster Regiment – was born October 22, 1948, in Canton, North Carolina. He began his military career as an enlisted Infantry soldier at Fort Bragg, NC, in November 1966. He transferred to the Quartermaster Corps in 1971 and was commissioned a warrant officer in 1976.

General Skeen played a pivotal role in launching the Quartermaster Corps into the automation era in the 1960s and 1970s, and later lent major support to the establishment of the Army Supply Excellence Award and the Army Supply Master Plan.



**MG Emmett W. Bowers**

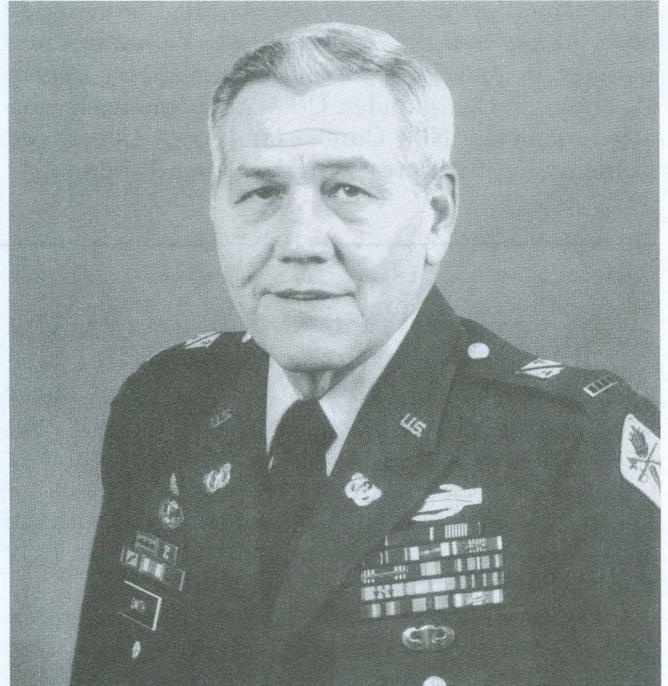
zone from France to Germany, Belgium and Luxembourg, that was key to North Atlantic Treaty Organization success over the last two decades. Plus, he conducted a thorough study of Department of Defense commissary operations that led to many reforms.

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CW4 Smith has held a variety of significant staff positions in his career, including Chief Quartermaster School representative on the US Army Strategic Logistics Agency to define functional logistics requirements; Chief, Materiel Control Training Division, Supply Department, Fort Lee, VA; Subject Matter Expert with the Department of State, Washington, DC, on the automated and

manual supply systems; and Assistant Branch Chief and Instructor/Writer, Direct Support Unit Standard Supply System (DS4) with the Material Control Training Division, Fort Lee, VA. He also served as Advisor to The Quartermaster General; designed and implemented the Supply Excellence Award Program, Supply Management Division, Fort Lee, VA; served as course coordinator and Direct Support Unit/DS4 instructor; Class IX (repair parts) Supply Management Officer, 3d Division Materiel Management Center, 3d Infantry Division; Brigade Property Book Officer with the 2d Training Brigade, USA Training Center, Fort Leonard Wood, MO; Battery Commander for five months and the Battalion S4 and the Property Book Officer for 2d Battalion, 5th Field Artillery, 42d Field Artillery Group, V Corps.

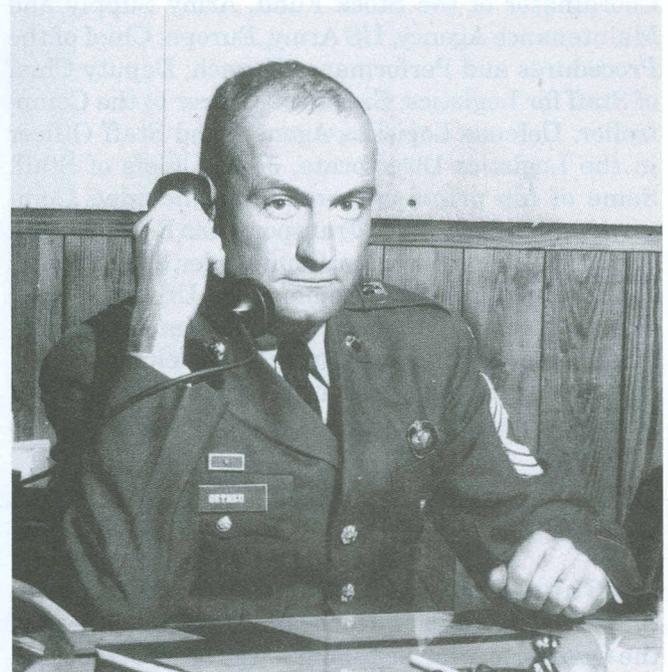
Since his retirement from active duty in 1991, CW4 Smith has continued to contribute to the logistics community as civilian Director for Research and Studies, Office of the Deputy Under Secretary of Defense (Logistics).



**CW4 Michael Z. Smith**

**Command Sergeant Major Charles Getreu** was born June 9, 1924, in Washington, DC. He graduated from Gaithersburg High School in Gaithersburg, MD, in 1942, and was drafted into the Army in 1943. He took basic training and advanced infantry training at Fort Benning, GA, where he also graduated from the Airborne Jump School. He served on active duty from 1943 to 1969 – through World War II, Korea and Vietnam – and was permanently retired in 1974.

During his distinguished career, CSM Getreu held a wide variety of logistics administrative, command and staff positions that included Noncommissioned Officer in Charge, Central Issue Facility, 82d Replacement Company; Regimental Supply Sergeant, 187th Regimental Combat Team; Chief Clerk, G4 Section, 101st Airborne Division; Sergeant Major, Command and Control Battalion, 101st Airborne Division; Chief Supply Sergeant, G4 Section, 8th Infantry Division, Airborne Brigade; Chief Clerk, G4 Section, 8th Infantry Division, Airborne Brigade; Brigade Sergeant Major, 8th Infantry Division, Airborne Brigade; Chief Clerk, G4 Section, Fort Ord, CA; Sergeant Major, 503d Supply and Transportation Battalion, 3rd Armored Division, Germany; and Sergeant Major,



**CSM Charles Getreu**

1st Supply and Transportation Battalion, 1st Infantry Division, Vietnam.



# TOTAL FORCE

## Reserve Mobilization – Dispelling the Weekend Warrior Myth

**MAJ Amir Shawara**  
**CPT Jimmy Mills**

**CPT David K. Allen**  
**LT Adonis A. Basto**

**CPT Meredith R. Arocho**  
**LT Derrick T. Spears**

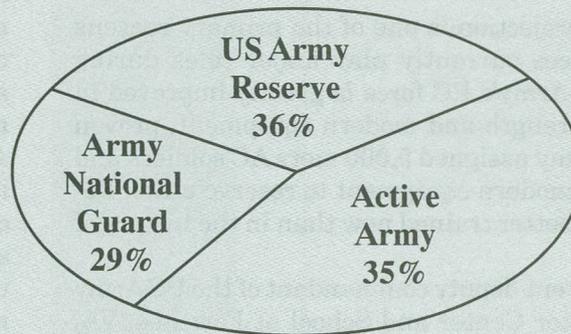
Until recently, soldiers serving on active duty usually had little or no interaction with other soldiers in the Reserve Component (RC). The general consensus throughout the barracks, motor pools and conference rooms of the “real” Army was that most “weekend warriors” played cards during drills, needed haircuts and generally did not meet the standards of the professional soldier on active duty.

Nothing could be further from the truth. As the Berlin wall fell in Germany in 1989 and signaled the end of the Cold War, the US Army began reshaping itself for the challenges of the 21st Century. These changes placed US Army Reserve (USAR) and Army National Guard (ARNG) forces directly in the line of fire. Reserve Component (RC) soldiers responded with pride, professionalism and tons of success. Buzz words such as “Power Projection,” “Operations Other Than War” (OOTW) and “Force XXI” all have critical links to the increasing role that reservists play on today’s battlefield. Operations such as *Desert Storm*, *Just Cause*, and *Joint Endeavor* prove that Active and Reserve Component forces will not be successful without one another. This article looks at how reserve forces train, mobilize and integrate with active forces to successfully execute the complex missions that the US Army faces worldwide.

### Power-Projection Benefits

After the Cold War, the US Army developed a plan to restructure its force composition of active duty, ARNG and USAR soldiers, along with Department of the Army (DA) civilians. This plan ensures that today’s Army remains fully trained and ready to deploy. Also, Army soldiers and civilians will be-

### Total Army Combat Service Support Structure



come a strategic force fully capable of decisive victories in the 21st Century.

The Army will reduce significantly in personnel strength, active units, and installations. Since implementing this plan, the Active Component (AC) has reduced from 725,000 personnel in fiscal year (FY) 1991 to 525,000 in FY96, a loss of 200,000 in six years. During that time, major commands including VII Corps, 3d Armored Division (AD), 8th Infantry Division (ID), and the 11th Armored Cavalry Regiment all inactivated overseas. Also, the Army deactivated 341 nondivisional units and accelerated the troop withdrawals that have affected more than 145 battalion equivalents since 1990. Furthermore, the Army turned over 414 installations – 397 in Europe and 17 in Korea – to host nations.

Fortunately, the power-projection plan proved beneficial for the RC forces in today’s Army. Currently, 7,000 RC soldiers are part of three division

contingency corps ready to deploy anywhere within 30 days. Also, more than 108,000 RC soldiers are part of the five-division forces ready to deploy within 75 days. There are 5,000 AC soldiers assigned to the RC to assist with new training assignments and mission preparations. The purpose of Army restructuring is to allow the AC and RC to work seamlessly together in a partnership. This plan also gives RC units and individual specialists the opportunity to excel by assigning them to AC units as a backfill to meet mission requirements. For personnel, the Army plans to maintain an RC end strength of 575,000 (367,000 ARNG and 208,000 USAR) through FY99.

For equipment strength, the Army provided \$2.8 billion in modern equipment in FY94 through transfers from deactivating AC units and new acquisitions. This initiative and others represented significant advances in building a new AC/RC partnership.

### **Operations Other Than War**

Power-projection is one of the primary reasons that RC forces currently play major roles during OOTW. The Army's RC force is greatly improved in personnel strength and modern equipment, proven when the Army assigned 5,000 more AC soldiers and transferred modern equipment to reserve units. Reservists are better trained now than in the history of the Army.

The current deputy commandant of the US Army Quartermaster Center and School at Fort Lee, VA, said: "The reserves are playing a larger role in today's Army, and we (AC) are depending on them more and more. The RC forces are the way of our Army's future."

During *Operation Peaceful Eagle* in Albania, for example, a Civil Affairs reserve detachment of three personnel was assigned to the Southern European Task Force (SETAF). The detachment's sole purpose was to keep SETAF informed on laws, rules and regulations of the host country. There were no international incidents.

During *Operation Joint Endeavor*, another reserve unit—the 55th Materiel Management Center (MMC)—oversaw the supply requisitions and distributions for the entire theater. Also, reservists from the 310th Corps Support Command (COSCOM) and a Civil Affairs team was augmented to the 7th Corps Support Group (CSG) to fill primary staff positions. The 213th Area Support Group (ASG) assumed command of Taszar Airfield in Hungary to continue the reception, staging and onward movement of the covering and sustainment forces.

After Hurricane Andrew in 1992, more than 17,000 AC soldiers and nearly 7,000 USAR and

ARNG soldiers supported federal, state and local authorities in disaster relief operations. Lastly, a US Army Civil Affairs unit in the African Republic of Cameroon provided humanitarian relief to a nation devastated by disease. The RC deserves recognition for their outstanding mission accomplishment of recent years.

### **Overseas Deployment Training**

Today's power-projection Army can attribute much of its success during OOTW missions to the readiness of the RC. Their ability to mobilize, deploy and execute critical missions worldwide begins, for many units, with involvement in the Overseas Deployment Training (ODT) program. Units are selected to deploy overseas to conduct their annual training (AT) by augmenting existing units or by providing mission support in areas that identify particular support requirements. Requests for ODT support are initiated by units or communities outside the continental US (OCONUS), processed through a major command selected to manage the program in theater (for example, the 21st Theater Army Area Command in US Army Europe), and forwarded to the US Army Reserve Command (USARC). Once units are identified, they are assigned a sponsor unit—in some cases up to 12 months before the deployment. The sponsor unit then coordinates directly with the RC unit throughout the planning phase, deployment, mission execution, and unit redeployment to home station.

Mutual opportunities built into the ODT program benefit everyone involved with these deployments. Units requesting ODT support can exercise power-projection plans through the extensive planning and coordination process, receive additional support that is not otherwise available, and strengthen the relationship between AC/RC units during the process. RC commanders use ODT missions to verify the unit's mission essential task list (METL), conduct common task training as a unit, and accomplish real-world missions under conditions that might have been simulated at home station.

An example of this process occurred with the deployment of the 348th Engineer Detachment from home station in Waco, TX, to Germany. The 221st Base Support Battalion (BSB) in Wiesbaden, Germany, needed engineer support for construction projects backlogged in the community Directorate of Engineering and Housing (DEH). During the RC unit's short stay, the plumbers, electricians and other construction professionals of the 348th were able to validate critical tasks of their METL through an ex-

ternal evaluation by the BSB, complete projects throughout the community, and work with local soldiers/civilians as a team. That certainly would not have happened in Waco, and the soldiers even found time for some sightseeing in Germany. However, the 348th realized the greatest training value by actually conducting all of the related tasks involved with the mobilization of the unit. By conducting predeployment checks, ensuring that all soldiers were deployable through the Soldier Readiness Program process, verifying load plans, and executing critical predeployment training at home station, the 348th Engineer Detachment exemplified the power-projection platform of today's Army.

## Mobilization

**Identification - Filling the Slots.** America's Army is rebuilding into a 21st Century force: a power-

the Director of the Army National Guard and other Army general officers participate on general officer steering committees at DA, FORSCOM, and the US Army Training and Doctrine Command to establish programs and standards for all components of the Army.

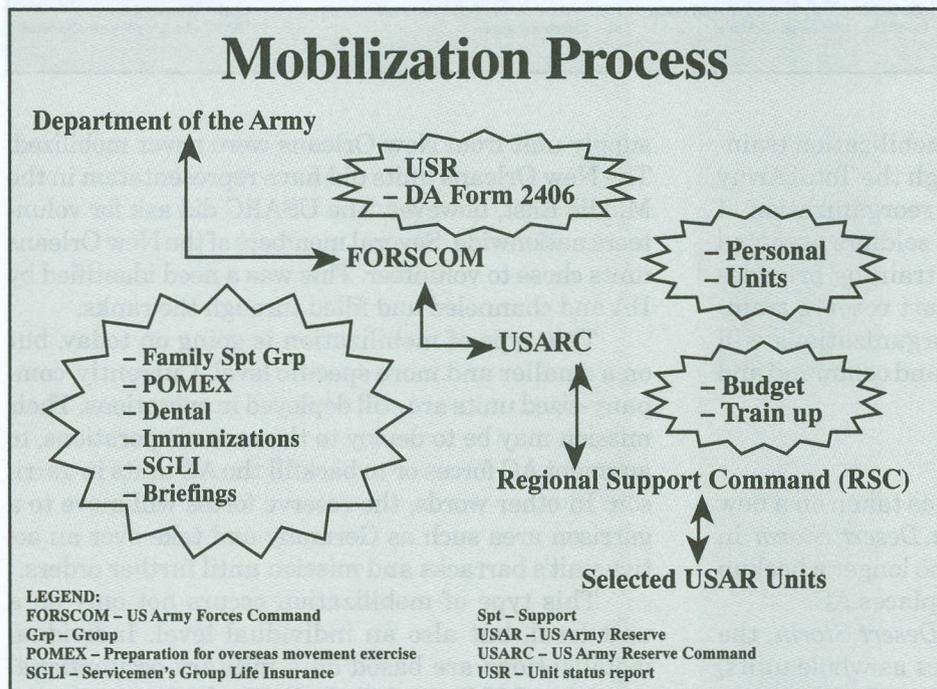
Voting members of the Army Reserve Forces Policy Committee that includes USAR general officer commanders, state adjutants general, and leaders from the field provide input on major policy issues affecting the RC. They identify the critical military occupational skills needed to fill some AC slots. Once these AC slots are identified, selected units or individuals are notified.

**Soldier Readiness Program.** Deploying units must allocate resources wisely, take immediate actions to ensure that soldiers are deployable, and maintain the highest levels of readiness. By priority,

these include the contingency force package units (many of whom are ARNG and USAR soldiers), the ARNG's readiness brigades and almost all of the rest of the USAR. Operations that support international and domestic crises in Panama, the Persian Gulf, Somalia, Rwanda, Haiti and also earthquake relief missions were generally executed with little notice. The Army and the other services had little time to prepare for mobilization and deployment. Operational security and rapid deployment of combat power into an operational area require the Army to be capable of rapidly tapping into the RC, and to employ those RC units and individuals possessing specialized

skills essential to mobilizing, deploying and sustaining the force.

**Activation/Mobilization.** When selective units or individuals are notified for mobilization, they receive specific information about the arrival time, date and location. Individuals who are being mobilized immediately notify their employers about the President's selective call-up before reporting to home station to begin the mobilization (MOB) process. Each individual receives a MOB package with a checklist to carry to every station. Stations verify that all per-



projection Army primarily based in the continental US. Missions for the RC are compiled and identified through several sources. These sources are DA, the United States Army Forces Command (FORSCOM), and USARC. Within USARC, mission taskings filter down to various Regional Support Commands (RSCs), Major Subordinate Commands (MSCs), and selective units and individuals.

The AC/RC relationship in a power-projection Army is fundamentally different from requirements during the Cold War. The Chief of the Army Reserve,

tinient information is correct and carefully screen dental records and family care plans. Once the MOB process at home station has been completed, RC soldiers wait for further guidance from higher headquarters.

**Mission-Specific Training.** Mobilizing and training an AC/RC peacekeeping battalion is the central focus of this article. The first implementation of this AC/RC concept was the multinational force in the Sinai Desert in 1995. This experiment represented a major breakthrough for the Army in employing the RC and set the stage for demonstrating how the Army will employ all components in this post-Cold War period.

Improving pre- through post-mobilization training for units and individuals through the Total Army training study is vital during the reorganization of today's military forces. AC and RC soldiers assigned to exercise divisions and regional training brigades will coordinate, monitor and support reserve training at mobilization sites. These organizations will employ lane training, simulations, and command and staff exercises to train all units.

### Integration

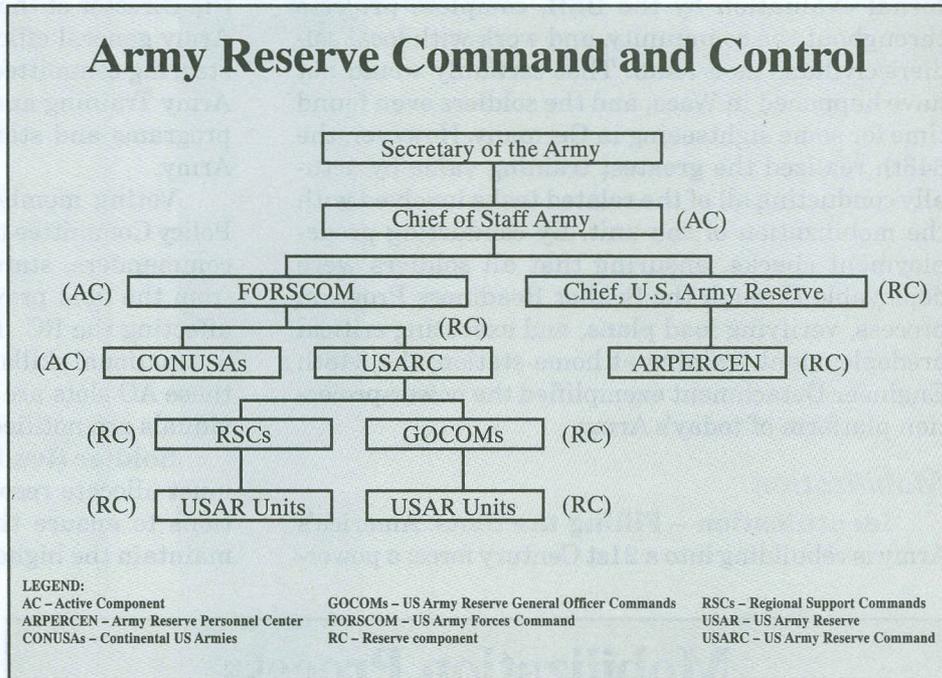
The importance of the USAR has taken on a new image during and after *Operation Desert Storm* in the Persian Gulf. The reserves are no longer a backup force. The RC now augments or replaces AC.

In every operation, including *Desert Storm*, the reserve forces have played key roles as whole units, portions of units, or individual soldiers. In a few situations, larger-than-company-sized units have been mobilized, but not during recent operations. Most call-ups have been either total companies or individuals. Even during the large mobilization of *Desert Storm*, most reserve mobilizations were on the company level. An example of this was the 692d Maintenance Battalion of New Orleans, LA, that consisted of a headquarters and headquarters company (HHC) and two general supply units, one based in New Orleans and the other based in Bougalusa, LA. The Bougalusa general supply unit was mobilized and deployed to Saudi Arabia, and the HHC and the general

supply unit from New Orleans were never mobilized. The New Orleans units did have representation in the Middle East, however. The USARC did ask for volunteers nationwide. Several members of the New Orleans units chose to volunteer. This was a need identified by DA and channeled and filled through the ranks.

This type of mobilization is going on today, but on a smaller and more specific level. Currently, company-sized units are still deployed in operations. Their mission may be to deploy to the area of operations, to augment AC forces or to backfill the AC units in garrison. In other words, the reserve forces will move to a garrison area such as Germany and take over an active unit's barracks and mission until further orders.

This type of mobilization occurs not only on a unit level, but also an individual level. Individual mobilizations are based on a military occupational specialty (MOS) or skill. Individual jobs may be required in the area of operations or to backfill the AC in garrison. The DA identifies specific MOS needs which then pass through the chain of command mentioned earlier. An example of an individual mobilization occurred in the 1st Brigade, 84th Division based in Livonia, MI. The division identified a need for a food service warrant officer in Germany. Six warrants were eligible to fill the slot, so a volunteer was sought. None of the six volunteered. Experienced proved to be the deciding factor, and the food service warrant officer from 1st Brigade was selected to deploy for nine months.



Often, the best and most experienced soldiers are selected for mobilization. All cases of reserve mobilization require understanding from the soldier's employer and the soldier's confidence that the system will take care of him. If mobilization occurs on an individual basis, units have to adjust workloads during the soldier's absence. During deployments, rear detachment commanders must establish strong family support groups.

**Egyptian Reserves.** The US is not the only country where soldiers and families have experienced significant change. Compared with US force reductions, downsizing in the Egyptian army was moderate. However, the Egyptian mobilization and integration of reserve forces are similar to US concepts. The Egyptian reserve system activates two reserve divisions on land during any conflicts that take away the active force. Reserve divisions take over the same duties the active force leaves behind. Egypt also calls on civilians and military retirees as a backup if the reserves are in short supply.

However, there are also several differences between the Egyptian reserve forces and US reserve forces. Reservists in the Egyptian army include three categories by education level. The first category includes male and female college graduates. These college graduates must stay in the reserves to serve for five years and train every year for two weeks. The second category is men and women who are high school graduates. High school graduates serve in the military for nine years and also train once a year for a month. The third category is citizens with no formal education. They serve in the military for 12 years and train every year for six weeks.

### **Weekend Warrior Myth**

Today's Active Army finds itself getting smaller and smaller, and now heavily relies on the support

of the reserves. Future missions of the Active Army must take into account the reserve forces to ensure mission accomplishment. The USAR and ARNG soldiers know they share a key role in successful OOTW and other missions. The reserve soldiers know that they must be able to do in a weekend what the active force does daily, 365 days a year.

The reserve forces are continuously being updated with all necessary hardware and software to train and sustain as does the active force. The USAR and ARNG units continuously update their training, skills, alert rosters and family support plans. They must be able to mobilize upon notice and get into the theater of operations with no wasted time.

The reserve forces are civilians first and soldiers next. However, when the time comes to serve their country, USAR and ARNG soldiers respond willingly. Credit also goes to employers who support civilian soldiers for one weekend each month and two weeks out of the year. Such employers understand the importance of numerous temporary duties, meetings and courses that RC soldiers must attend to remain competitive with their peers in the AC. No doubt, today's Active Army finds itself combining efforts with the RC for those missions done solely by the AC before. The Army's current force structure, changes in the way soldiers mobilize to execute missions, and the indisputable professionalism and readiness of the USAR and ARNG have certainly dispelled the "weekend warrior" myth. The reserve forces are here and ready to assist in any way, shape or form. The reserve forces are now key players and should be recognized as such.

*The authors are Quartermaster graduates of the Combined Logistics Officer Advanced Course 97-7/8 at Fort Lee, Virginia. Authors of this article include three officers currently in the Active Guard Reserve program, two active duty officers, and one allied officer from Egypt.*

### **Total Force Integration Officer**

The Quartermaster Total Force Integration Officer (TFIO) provides a link between the US Army Quartermaster Center and School (USAQMC&S), Fort Lee, VA, and RC Quartermaster units and soldiers. The TFIO is an Active Guard-Reserve soldier whose mission is to support the integration of the US Army Reserve and Army National Guard as vital components of the Quartermaster Corps and the Total Army. Working in coordination with each directorate, the TFIO provides the RC perspective on issues that cross the spectrum of the USAQMC&S mission. The TFIO also provides the field with a channel of communication to address questions and concerns of interest to RC Quartermasters. RC Quartermasters are encouraged to contact the TFIO on any matter of interest regarding the Quartermaster Corps and the Total Army.

TFIO: LTC Robert W. Vaughan, US Army Quartermaster Center and School, ATTN: ATSM-ACR, Mifflin Hall, Bldg. 5000, Room 210, 1201 22d Street, Fort Lee, VA 23801-1601. Telephone: DSN 687-3574 or commercial (804) 734-3574. E-mail: vaughanr@lee-dns1.army.mil.

# Safety and the M-2 Burner Unit, Not Enough Cooks in the Kitchen

Michael L. Davis

## NOT ENOUGH TIME

Early one morning at zero-dark-thirty an Army specialist dragged himself out of the sack. It was his responsibility to refuel, light and preheat the M-2 burner units for the morning meal at the field feeding site. Because he had to do all the work himself, he felt he had to save time to complete the mission. The specialist decided neither to take the burner unit to the refueling site nor to preheat it at the approved area, away from the mobile kitchen trailer (MKT). Then the specialist refueled the M-2 burner unit and tried to light it. Not very careful about filling the unit, he had spilled fuel onto both the ground and the MKT's camouflage netting. This spilled fuel ignited and engulfed the MKT and the camouflage netting. About this time, the specialist's noncommissioned officer (NCO) came up, grabbed a fire extinguisher and tried to put out the fire. When that extinguisher did not work, the NCO quickly got the only other fire extinguisher at the site. This one also did not work. Before any other help could arrive, the MKT was completely consumed by fire. The soldiers were not fed any prepared hot meals for a long time. In addition to the loss of the equipment, the NCO received second- and third-degree burns to his lower legs and feet.

## FATIGUE

Late one evening, a food service soldier did not pay proper attention to the amount of fuel in an M-2 burner unit before lighting it. When she lit the burner, excess fuel flashed and burned her face and hands. Lack of supervision, fatigue, not paying attention to detail, and not turning down the fuel flow to the burner before lighting it were the main causes of this accident.

## NOT FOLLOWING STANDARDS

The sergeant went over to the preheating site when an M-2 burner began making an audible hissing sound. Then the sergeant attempted to stop a leak. While adjusting the M-2 burner, the fuel fumes were ignited and the soldier was burned. The source of ignition was another M-2 that was preheating nearby. It was reported that no one was present during the preheating of M-2 burner units.

These are three classic cases of M-2 burner unit accidents that have occurred in the Army. Not many accidents with M-2 burner units occur every year, but they cause losses of equipment, personnel injuries and incompleting missions. The current gasoline-burning M-2 can create dangerous amounts of chemical fumes in a confined area, can quickly become an ignition source for fuel fumes, and can present fire/explosive hazards to operators and other equipment. A risk assessment of this device's operation shows the M-2 must be labeled as a Catastrophic IC risk, which means that an accident will occur sporadically in the service life of the M-2 and that personnel have a good chance of serious injury or even death sometime during the burner's service life. Also, an accident with this device can cause major property or equipment damage.

A historical review of accident data from 1984 to 1997 (only 65 reportable M-2 burner accidents) shows that the burners mainly cause flesh burns to personnel and fire damage to other equipment. Causes of these accidents were refueling too close to another source of ignition, refueling and preheating at the same site, failure to monitor the M2 during preheating, refueling a hot burner, improper relief of the pressure buildup in the fuel tank, and lack of fire extinguishers or misuse of fire extinguishers. Equipment failure was not identified as a major problem in most accidents. However, a lack of supervision at critical points of operation, not controlling the hazards of the operation, and not following standards were the main reasons for most of these accidents.

The M-2 burner unit is a labor-intensive, unforgiving device that requires close supervision, strict standards of operation, and attention to detail to prevent accidents. In one disturbing accident finding that keeps occurring, personnel are willing to try to cut corners to save time while performing an operation without attempting to control the hazards.

The main reason for so few M-2 accidents is that the vast majority of Quartermasters with the military occupational specialty 92G (Food Service Specialist) are well-trained professionals who have superior NCO leadership. However, fatigue factors, reduction of personnel to perform an operation, long hours of operations, and a breakdown in leadership at critical moments allow accidents to occur. When standards are not followed and risks are taken, a major catastrophe is just waiting to happen – as in the following accidents:

#### **NO ONE PRESENT AND NO CONTROLS**

**The NCO saw smoke coming from the preheating site of the M-2 burner units for his operation. The NCO and another soldier tried to extinguish the fire but were not able to stop it. The NCO quickly ordered all personnel out of the area. Seconds later, the burner exploded – sending parts in all directions, some parts landing over 30 feet away. No personnel were present during preheating. Personnel received slight burns from trying to fight the fire, and no one was injured from the explosion. Since the M-2 was not near the other equipment, no additional damage occurred to equipment.**

#### **MAINTENANCE, WHO NEEDS IT?**

**The M-2 was preheating in a confined food storage area. The burner suddenly caught fire, and the fuel within the burner began to ignite. The operator noticed that his foot was on fire and dropped the unit as he was placing the M-2 in the stove. When the burner was dropped, the fire began to spread. A soldier trying to move the unit to a safe location burned his hands and arms. Personnel then tried to fight the fire with CO2 extinguishers, inappropriate for the type of fire. The post fire department arrived in a timely manner to put out the fire with minimal damage to the facility. Incorrect maintenance of the burner unit probably led to the failure of its preheater valve.**

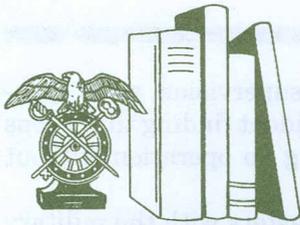
#### **LACK OF A RISK ASSESSMENT**

**The M-2 burners were being preheated next to a structure that housed the field feeding operation. Unattended during preheating, one of the devices flared up. By the time personnel reached the site, flames reached as high as 12 feet above the unit. Personnel attempted to control the fire with extinguishers. At this point, the fuel tanks began to explode. There were multiple explosions and the fire began to spread. The structure for the field feeding operations was completely destroyed, along with all equipment. One individual was killed and a second was seriously injured.**

Remember that 92G personnel have one of the most hazardous occupational areas because of the type of work, equipment used and hazards faced during an operation. Also, personnel must remember that loss of soldiers and equipment degrades the unit's ability to perform its assigned mission. Personnel need to follow all standards and guidance provided in TM 10-7360-204-13 and unit standing operating procedures. If these standards cannot be followed, a risk assessment must be done to identify and control hazards to personnel and equipment. Special attention must be paid to the possibility of a fire, fire-fighting methods, and the explosion probability if a fire occurs. The leader has the main responsibility to ensure that this is done for every operation.

Relief is coming – the Modern Burner Unit (MBU) will replace the existing burner. The MBU will burn JP8 fuel instead of gasoline and will use DC electrical power. The MBU will feature precise heat control and push-button ignition and refueling. It is less labor intensive and significantly reduces toxic fumes. The MBU will avoid most hazards associated with the M-2 burner unit.

*Michael L. Davis is the Quartermaster Branch Safety Specialist assigned to the US Army Quartermaster Center and School, Fort Lee, Virginia.*



# PROFESSIONAL READINGS

The Professional Readings section of the *Quartermaster Professional Bulletin* encourages the professional development of all Quartermasters. Titles are selected from the Quartermaster School Professional Reading List and the current Department of the Army Contemporary Military Reading List, as well as other notable sources. Short reviews from the field are always welcome. The following book reviews are excerpts from reports by recent graduates of the Quartermaster Officer Basic Course at Fort Lee, VA.

## **Military Lessons of the Gulf War**

*Bruce W. Watson, Presidio Press: Novato, CA, 1993.*

A team of military experts and researchers contributed to this book. The author believes that the significance of the Persian Gulf war lies not in its size or casualties, but in the large political, scientific, technical and military effects it continues to have on the world. *Military Lessons of the Gulf War* compares the coalition's logistical capabilities and operations with those of Iraq. Coalition forces had an unlimited supply of all needed items, from prepositioned stockpiles of ammunition to host nation support of Class I (subsistence). Transportation assets were a vital element in assuring this logistical readiness and sustainability. In direct contrast, the Iraqi logistical capabilities were hindered by the United Nations embargo. Also, the coalition's air supremacy quickly devastated Iraq's supply routes, putting even greater stress on an already weakened operation. Two factors are credited with the coalition's success: technology and complete freedom of movement.

This book is valuable reading because this war proved that a unified command can be successful at a multinational level. Logistically, the war demonstrated that unified control and support are the most efficient and sufficient means of supply operations. This means that one nation controls logistics and supports all other participants. The Persian Gulf conflict also confirmed the importance of protecting lines of communication and attacking an opponent's supply structure. As downsizing continues, it is clear that a strong logistical structure will be the key to future operations.—*LT Trenton N. Thompson*

## **Leaders: The Strategies for Taking Charge**

*Warren Bennis and Burt Nanus, Harper & Row: New York, NY, 1985.*

Warren Bennis is known for his unique combination of experience, insight and innovation in management process and leadership theory. He is the author of *The Artform of Leadership* and *The Executive Mind*. This book compares and contrasts past and present leadership theories. First, the author explains how leadership was conceived in the past as something born and not something learned. Second, he discusses the three major contexts in which management difficulties, due to lack of leadership, need analysis. These three are the lack of commitment, the complexity of today's organizations, and the lack of credibility of modern leaders. Bennis concludes that the leaders he used for his research had four "human handling skills" or strategies in common: (1) attention through vision, (2) meaning through communication, (3) trust through positioning, and (4) the deployment of self. Contrary to the past point of view, the author believes that leadership "can be learned by anyone, taught to everyone, denied to no one."

Making this book required reading will supplement the leadership and motivation block of instruction for the Quartermaster Officer Basic Course. Officers will have the opportunity to understand thoroughly the importance of true leadership skills in military and civilian life. Officers who retire from the Quartermaster Branch tend to pursue management jobs. This book will provide these officers with basic, up-to-date tools to succeed in any given situation. In today's Army, success depends on the ability of a Quartermaster to support the force at all times. This can only be accomplished through excellent management. If we insist upon using the past point of view about leadership in our modern Army, we are bound to fail. Today's Army is a zero-defect Army. Therefore, an officer must be prepared to accomplish his mission in this new organization. The Army is an organization with many things in common with civilian organizations. It should not come as a surprise that the civilian techniques will be very useful to soldiers.—*LT Yesenia Rosa*



# CAREER NEWS

## OPMS to OPMS XXI: Then, Now and the Future – What does it mean to the Quartermaster officer?

LTC Donna L. Coffman

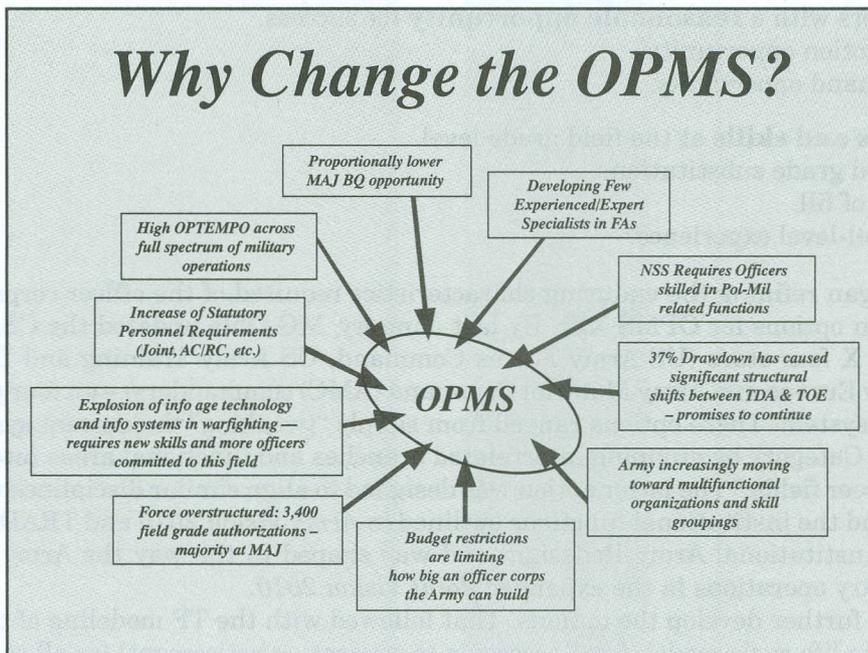
It has been almost 14 years since the Army reviewed its Officer Personnel Management System (OPMS). Many changes have occurred since then. The nation's operational and political environments have changed dramatically, and the Army has gone through a turbulent period of base closures, considerable downsizing, increased statutory requirements, and a significant increase in missions around the world. Today, the Army faces the explosion of Information Age technology with the potential to change the conduct of warfare, national security and defense in the 21st Century.

The Army is preparing to assimilate 21st Century technologies using high-end equipment and processes to allow the Army to deploy faster; better detect the movement, size and capabilities of enemy forces; and outmaneuver and overpower any adversary. Leadership must ask if the Army's current officer corps is structured, managed and developed to lead soldiers in high-technology organizations into the coming millennium. What type of officer does the Army need to sustain the force, manage resources, procure the best possible supplies and equipment, and represent the field on Department of the Army and Joint Staffs? What type of officers do we need for a Total Quality Force?

To answer these questions, General Dennis J. Reimer, Chief of Staff of the Army (CSA), chartered the OPMS XXI Task Force (TF) to review the Army's OPMS thoroughly and determine whether it adequately supports needs of an officer corps today and tomorrow.

The CSA chose Major General David H. Ohle to direct this yearlong effort. The result was a decision briefing to the CSA for a new Officer Development System (ODS) in July 1997. With the concept approved, the initial implementation begins 1 Oct 97 and will take place over the next five years.

OPMS XXI is the third major study since the first OPMS study in 1971. OPMS I recommended the centralized command selection process, designated command tours, primary and secondary specialties for officers, and abolished the Chemical Corps. The changes were fully implemented by July 1974. OPMS II was conducted in 1983. It established single branch development, functional areas not related to any branch, multiple career tracks, and a revised officer classification system. The results of this study were approved in 1984, and implementation began in 1985.



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## Starting Point

The starting point for the OPMS XXI study was the Deputy Chief of Staff for Personnel's Precursor Study Group (PSG), a small cell that examined the current officer personnel system and all the changes since 1984. The nearly 60 issue papers that resulted from the PSG's preliminary study indicated a system in dynamic tension struggling to handle many new requirements in the middle of a major restructure of the force.

The PSG papers covered a wide spectrum of issues from structure and inventory to assignment management, leader development, major personnel concerns of the day and their potential ramifications for the future. The issues were organized into three general groupings – structure and distribution, leader development and training, and career management – even though many issues were interrelated and overlapping.

The OPMS XXI director organized his TF from these three groupings of PSG issues and augmented them with an Operational Research and System Analysis cell, an Operations and Plans (G-3) cell, and an administrative support team. A more flexible matrix organization was needed to comprehensively cover the overlapping and interrelated subjects the TF was researching. This proved more effective, but more complex to manage.

Throughout the study, the CSA received quarterly in-progress reviews (IPRs). From mission analysis, problem identification and assumption-based planning, the TF concluded that there was a case for change to meet the needs of the future force and that the current system was not designed for the flexibility and specialization required in the future.

The TF immediately recognized the need for regular feedback from the field and used two main ways to get this input. The first was a quarterly Council of Colonels representing more than 75 commands, agencies and activities across the Army. The second was an Internet home page on computer to solicit comments and concerns from the officers at large.

## Warfighting Capability, Opportunity for Success, Balanced Grades and Skills

The TF benefited continually from these two sources of information. They influenced all products presented during the IPRs to the CSA. A briefing last October readdressed the CSA's guidance, presented the argument for change, identified the overarching characteristics (outcomes) for a new system and established the following three-part design criteria:

- ★ Enhance **warfighting capability** of the Army.
  - ★ Increase major branch qualification time.
  - ★ Reduce turbulence for operations career field.
- ★ Provide all officers with a **reasonable opportunity** for success.
  - ★ Increase promotion opportunity.
  - ★ Increase command opportunity.
- ★ **Balance grades and skills** at the field grade level.
  - ★ Reduce upward grade substitution.
  - ★ Increase level of fill.
  - ★ Improve colonel-level experience.

Next, the TF began refining the enduring characteristics required of the officer corps in the future and began refining design options for OPMS XXI. By last January, MG Ohle updated the CSA and the board of directors – the Title X four-stars (US Army Forces Command, US Army Training and Doctrine Command (TRADOC), US Army Europe and Army Materiel Command (AMC) commanders) – on four possible options for revising the current system. These options ranged from simply “tweaking” the current system to restructuring the Army Career Category by grouping interrelated branches and functional areas into four occupational categories called “career fields.” The latter option was designed to align similar disciplines with the battlefield operating systems and the institutional functions outlined in *Army Vision 2010* and TRADOC's DA Pamphlet 100-XX (Force XXI Institutional Army Redesign) and was shaped in the way the Army plans, thinks and trains for joint military operations in the expanded *Joint Vision 2010*.

The CSA said to further develop the options. That followed with the TF modeling of the options and the design of the complete life-cycle model (from accession to separation/retirement) for all career fields.

In early April 1997, MG Ohle informally briefed the CSA on the continuing option development. The final, formal decision briefing was last July 9. The CSA chose the option that is now the basis for the management system based on four career fields. A brief description of the four career fields follows:

★ The **Operations Career Field (OP CF)** supports organizational units with officers qualified by training, education and experience in Army operations. It is composed of officers in the Army's current 16 branches and two functional areas (FAs), FA 39 (Psychological Operations and Civil Affairs) and FA 90 (Multifunctional Logisticians). Officers in this CF will retain a functional area for the remainder of their careers, even if they never serve in it. The functional area will identify special aptitudes and skills that may provide flexibility for future duty assignments at the field-grade level.

★ The **Information Operations (IO) CF** responds to the requirements of the 21st Century's Information Age. The IO CF brings together related disciplines with associated functional areas and creates several new ones. The officers within this CF, as with the other specialty career fields of Institutional Support and Operational Support, continue with table of organization and equipment (TOE) and table of distribution and allowance (TDA) assignments across the Army performing a wide variety of IO missions and tasks.

The functional areas in this CF are FA 30 (Information Operations), FA 34 (Strategic Intelligence), FA 40 (Space Operations), FA 46 (Public Affairs), FA 53 A and B (Systems Automation Officer), and FA 57 (Simulations). Functional areas 30, 34, 40, and 57 are proposed new FAs.

★ The **Institutional Support (IS) CF** focuses on the increasingly technical and complex nature of running the Army as an organization. The emphasis in this CF is management, planning and programming of Army resources, both near-term and into the future by projecting requirements and developing capabilities in the mid- and long-term.

The functional areas in this CF are FA 43 (Human Resource Management); FA 45 (Comptroller); FA 47 (US Military Academy Permanent Associate Professor); FA 49 (Operations Research/Systems Analysis (ORSA)); FA 50 (Strategy and Force Development); and FA 52 (Nuclear Research and Operations). Functional Areas 43 and 50 are proposed new FAs.

★ The **Operational Support (OS) CF** strengthens current readiness while building the future force through its liaison, procurement, programming and development specialties. This CF contains FA 48 (Foreign Area Officer) and the Army Acquisition Corps, which includes FA 51 (Research, Development and Acquisition); FA 53 B/C (Systems Automation Acquisition); and FA 97 (Contracting and Industrial Management).

**So, what does this study mean to you as a Quartermaster officer and logistician? How will OPMS XXI work?** Changes in the officer personnel management system will affect all officers in varying degrees. Officer accessions, company grade education and development, functional area designation, and initial functional area training upon branch qualification as a captain will continue as today.

As officers approach promotion to major, they will submit a career-field preference statement indicating which CF and FA/branch (BR) they wish to serve in and compete for promotion during their field-grade years. This process, known as career-field designation (CFD), will also consider the officer's preference statement, performance, rater and senior rater input from the new Officer Evaluation Report, and the needs of the Army.

A separate board of officers, meeting after the major promotion board, will designate where each officer can best serve the Army. Because the Quartermaster Branch and FA 90 (Multifunctional Logistician) both remain in the Operations CF, Quartermaster officers will continue to serve in both basic branch and multifunctional logistics positions. The new system helps to relieve some of the officer shortages currently experienced by Quartermaster Branch and FA 90 today. About 12.4 percent of the Quartermasters will redesignate into other career fields after promotion to major. This number also includes those who will serve in the Army Acquisition Corps. This redesignation quantity is less than today's functional area designation or selection to Army Acquisition Corps.

Officers selected to serve in functional areas of career fields other than OP CF will not work in Quartermaster or FA 90 coded positions again. They will become world-class specialists serving in sequential assignments within their designated functional area. Since warfighting experience is critical to the professional development of all officers, these officers will serve in operationally related "functional integrator" assignments (formerly called branch-immaterial) periodically throughout the remainder of their careers.

As for advancement, while the total number of promotions across the Army Career Category will not increase, promotion opportunity to lieutenant colonel and colonel for officers serving in the IO, IS, and OS CF will increase significantly over that available to specialists today. Promotion rates to lieutenant colonel across all career fields should meet Defense Officer Personnel Management Act objectives. The TF expects that promotion opportunity to colonel will vary from 40 to 55 percent, depending on the cohort and the career field. Officers in all career fields will compete for promotion against other officers their CF, much as Army Acquisition Corps officers do today. However, non-OP CF officers will count against functional area floors at each grade. "Dual counting" on promotion board results will not exist, as it does today.

### **Resident Military Education Level 4 To Prepare Majors**

As for educational development of Quartermasters, the OPMS TF is recommending that all officers selected for promotion to major receive some form of resident Military Education Level (MEL)-4 education. This decision reflects the philosophy that MEL-4 ought to prepare majors for major and lieutenant colonel assignments and ought not serve as an actual screening mechanism for lieutenant colonel or battalion command. Details of this recommendation will be worked by TRADOC. As envisioned, officers would have the opportunity to attend a course similar to the current course or one shorter course with some component of branch- or functional-area-specific instruction. Officers from all branches and functional areas will be eligible to attend either course, and each career field will have its own distinct developmental track throughout the field-grade years. Likewise, all Quartermasters selected for promotion to colonel will receive resident MEL-4 education because it prepares them to assume operational and strategic-level responsibilities associated with colonel and general officer assignments.

As OPMS XXI transitions into implementation, several parallel initiatives are ongoing to align the structure to the inventory. Along with these initiatives, OPMS XXI is recoding positions to ensure that the resulting job structure is aligned with the officer inventory. This effort will provide the Army with a measure of assignment flexibility, significantly decrease assignment turbulence resulting in three years in an operational unit, increase branch-qualifying time at the grade of major to about 24 months in key unit positions, and increase skill experience and expertise through repetitive assignments in designated career fields.

Quartermaster officers will develop and be assigned much as they are today. Some Quartermaster officers still will work predominantly in their area of concentration/functional Quartermaster assignments, such as 92Fs (petroleum and water officers) working petroleum/water assignments at various levels, while other Quartermaster officers would work other Quartermaster-specific or multifunctional logistician (FA 90) jobs. Both will work in branch-immaterial positions.

| <b>Officer Development System<br/>Characteristics</b>   |                            |
|---|----------------------------|
| <b>Demonstrates responsible stewardship of national resources</b><br><b>Represents the diverse society it serves</b><br><b>Returns to the nation quality citizens</b>   | <b>For the<br/>Nation</b>  |
| <b>Develops motivated, competent and experienced officers within and across all functions (2)*</b><br><b>Integrates the leader development system and the Officer Personal Management System</b><br><b>Fosters sustained unit excellence (3)*</b><br><b>Matches operating inventory to authorizations</b><br><b>Promotes Active Component and Reserve Component interoperability</b><br><b>Develops Army officers who perform effectively in a joint environment</b><br><b>Develops Army officers who personify enduring Army values (1)*</b> | <b>For the<br/>Army</b>    |
| <b>Establishes credible officer career opportunities</b><br><b>Helps officers form realistic expectations of career outcomes</b>  | <b>For the<br/>Officer</b> |
| <small>*Characteristics number (1), (2) and (3) were weighted most important by Council of Colonels</small>   |                            |

## **Competition for Battalion and Brigade Commands**

Quartermaster officers will compete for the battalion and brigade commands for which they are best qualified, either in branch or in multifunctional logistics. Quartermaster officers who qualify for FA 90-coded commands will compete against Transportation Corps, Ordnance Corps, Aviation Logistics, and Medical Service Corps officers for those commands. Unless there are significant changes in the future, Quartermaster command opportunities will come from about 20 functional battalions and 7 functional brigade commands worldwide with an appropriate percentage of multifunctional FA 90 commands at both levels. Quartermaster officers who migrate to one of the other three career fields will not compete for command because their developmental requirements will be different in their FA and CF. The lone exception to this general policy will be Army Acquisition Corps officers selected as TRADOC program managers or system managers.

## **Five-Year Transition Plan in Effect 1 Oct 97**

On 1 Oct 97, the five-year implementation plan for transitioning officers into the new system goes into effect. To assist in this effort and to inform the officers corps on OPMS XXI, the TF will publish a "Frequently Asked Questions" pamphlet and distribute it to all officers worldwide. Also, an informational chain-teaching kit (comprised of a VHS, CD-ROM, floppy disk and viewgraphs) is being prepared so commanders can ensure their officers are "read on" before OPMS XXI is fully implemented.

To implement the new system will take five years. Not every piece will be accomplished in the coming year. Some key pieces will take place almost immediately (such as recoding), while other facets (such as promotion boards and career field designation boards) will take longer, either because the time required will be lengthy or the exact direction of the future Army is unresolved.

To account for longer-range objectives and required decisions over the coming years, the TF is building an adaptable master plan. The key pieces of this plan will be its officer development action plans (ODAPs). Each career field will have an ODAP. These four ODAPs will group sets of related issues for further development, decision or implementation in a logical sequence synchronized with other affected ODAPs and affected Army Life Cycle functions.

Also, each ODAP will have a proponent charged with executing it and monitoring its progress. Further, ODAPs will include a long-range component that identifies potential events or actions that could trigger the Army to change implementation of the ODAPs or completely alter the nature of the ODAPs themselves. Underpinning all these plans will be an annual process to review the progress of each ODAP and address whether the ODAP needs to be adjusted or changed. A transition team of current TF members will remain to oversee the implementation of the new system and ensure a smooth "hand off" to US Army Total Personnel Command, the Deputy Chief of Staff for Personnel and the proponents.

To keep officers abreast of the implementation of OPMS, the implementation team will continue to update the OPMS XXI homepage (<http://www.army.mil/opms>) over the next year and solicit feedback. The team feels that this computer resource provides the continuity needed by the officers and leaders in the field.

The goal of OPMS XXI is to create a "win-win" system for both the Army and its officer corps. Such a system will balance the Army's diverse personnel requirements while providing technically and tactically competent "Leaders for the 21st Century Army" – leaders who can create learning organizations focused on excellence in all they do. One thing is certain, the ODS approved by the CSA will be a flexible and adaptable system, one best suited for the officer corps, the Army and the nation.

*LTC Donna L. Coffman, Quartermaster, is assigned to the Officer Personnel Management System XXI Task Force and follow-on Implementation Team, Alexandria, Virginia. She commanded the Wuerzburg Commissary District, Germany; performed a utilization tour as the Chief, Defense Subsistence Office, Seattle, Washington, subsequent to Training With Industry; and has held a variety of divisional logistics positions, both stateside and Europe. She holds a master's degree in business administration from C.W. Post, Long Island University, New York, and is a graduate of the Command and General Staff College, Fort Leavenworth, Kansas.*

## **Formula of a Successful TWI Program for the Past 22 Years**

*MAJ Reginald W. McCaw*

**Editor's Note: Training With Industry (TWI) is a program that assigns an officer to work in a civilian firm for one year, followed by a three-year utilization assignment. TWI provides experience in industrial procedures and management practices not normally available through military or civilian schools. TWI trains officers for specific, predesignated, three-year tours of duty that require practical, first-hand knowledge of current industrial advances. The TWI program is highly competitive. Quartermaster officer selection is based upon performance records, branch qualifications and professional development needs. Most positions require a senior captain or major. Participating firms include Sun Company, Inc., Marriott Corporation, Exxon Corporation, Wal-Mart Corporation, Ippolitti Incorporated, and Super Value Incorporated.**

Sun Company, Inc. is one of the largest independent US refiners/marketers. Headquartered in Philadelphia, PA, the company operates five domestic refineries and markets gasoline under the SUNOCO brand through about 3,800 service stations in 17 states. Sun sells lubricants and petrochemicals worldwide, operates domestic pipelines and terminals, and conducts coal-mining and coke-making operations in Virginia and Kentucky.

Sun Company's seven distinct business units function almost as independent businesses, with the expectations such a mission implies. Each unit is accountable for its own performance and growth. The seven business units are SUN Northeast Refining, SUNOCO Northeast Marketing, SUNOCO Chemicals, SUN Lubricants, SUNOCO Mid-America Marketing and Refining, SUNOCO Logistics, and SUN Coal and Coke.

The TWI Program at Sun Company, Inc. is as viable and as real-world as you can get. During the past 10.5 months, my training and experiences with SUNOCO have been immeasurable. In short, the program expands a Quartermaster's petroleum knowledge and technical expertise, as well as providing a thorough understanding of how the civilian world conducts business.

Each TWI job during my tenure with Sun was very challenging and very productive for the company. I was learning the marine chartering business while simultaneously scheduling and coordinating movements of Sun lubricants to international customers through freight forwarders. Most importantly, I developed and wrote the initial lubrication oils movement procedures for Sun's acquisition of the Kendall-Amalie Lubricants Division.

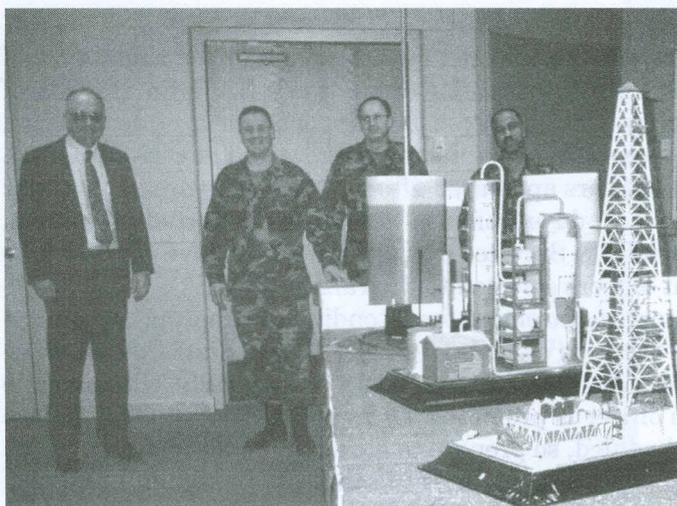
### **Serious Management**

At Sun Company, every manager involved in the TWI Program takes it seriously, and that is exactly what management has done for the past 22 years. Where else could a US Army petroleum officer get the opportunity to be the sole person working on a feasibility study for the consolidation of refinery scale houses and selecting the equipment to support two refineries? Hands-on training included familiarization with tug and barge deliveries of JP8 for Defense Fuel Office-Fort Dix, NJ, on the Delaware River in the middle of a snowy winter.

Sun Company's TWI coordinator visited the US Army Quartermaster Center and School, Fort Lee, VA, and toured each training facility in the Petroleum and Water Department. As an example of the company's level of commitment, Sun's TWI coordinator spoke to Quartermasters with petroleum and water military occupational specialties about the future of the petroleum business.



**The author received hands-on training in tanker operations and cargo inspections on a sea voyage to Puerto Rico Sun Oil Company.**



**Sun Company's TWI coordinator toured each Quartermaster training facility in the Petroleum and Water Department at Fort Lee, Virginia.**

I consider the TWI Program a "win-win" situation for both the Quartermaster Corps and Sun Company, Inc. During my training period, the chief, Office of the Quartermaster General, and the director of the Petroleum and Water Department came from Fort Lee to Sun Company during June 1997. They met with the TWI coordinator and all managers involved in the program and also received an overview briefing on the corporation.

Sun Company, Inc. is looking forward to the next 22 years of continued support and participation in the Quartermaster Corps TWI Program. As a petroleum officer, I have learned additional petroleum skills and gained experience that will be passed on to soldiers. My training will also benefit the Army as a whole – another asset to the Quartermaster Corps.

*MAJ Reginald W. McCaw is Chief, Supply and Services, 24th Corps Support Group, Fort Stewart, Georgia. He has a bachelor's degree in business management and a master's degree in business organization management from the University of LaVerne, Pomona, California. He also is a military graduate of Officer Candidate School, Field Artillery Officer Basic Course, Petroleum Officer Course, Quartermaster Officer Advanced Course, and Combined Arms and Services Staff School. His previous assignments include Service Battery Executive Officer and Battalion Ammunition Officer, Platoon Leader and Battery Executive Officer, 3-82 Field Artillery Battalion, 1st Cavalry Division, Fort Hood, Texas; Assistant S2/3, Petroleum Operations Officer for Operation Desert Shield/Storm, and Commander, 109th Quartermaster Company, 240th Quartermaster Battalion, Fort Lee, Virginia; Project Officer-Petroleum, Combat Developments, Fort Lee; and Petroleum Logistics Operations Officer, Defense Fuel Office Alaska, Elmendorf Air Force Base.*

## **Professional Development**

As the Army continues to draw down, we at the Quartermaster branch, US Army Total Personnel Command (PERSCOM), would like to update Quartermasters about some new changes, developments and trends in the assignment and professional development areas.

### **Airborne Volunteers**

The Army has shortages in airborne-qualified Skill Level 10 soldiers in Quartermaster military occupational specialties (MOSs). To volunteer for airborne training with follow-on assignment to Fort Bragg, NC, submit a volunteer packet to the Quartermaster Branch through your chain of command. Packets must include an up-to-date airborne physical, a copy of the record APFT taken within 30 days of date of application, volunteer statement, commander's statement and DA Form 4187.

Another positive action by the TWI coordinator was a visit to the Defense Fuel Supply Center (DFSC) for a thorough understanding of how DFSC purchases, distributes and manages fuel for its military and federal customers worldwide.

This company with the utmost confidence in its TWI Program participants allowed me to write operations manuals for the Woodbury-Harbor Pipeline and Pumpstation: an 87-mile, 16-inch-diameter pipeline with a maximum hourly rate of 7,800 barrels per hour that stretches from Woodbury to Linden, NJ, with tie-ins to the Buckeye Pipeline network. Also, I wrote an operations manual for the Paulsboro Jet-A Terminal that supplies most of the Jet-A fuel to the Philadelphia International Airport.

A sea voyage aboard Sun's tanker *Philadelphia Sun* to Puerto Rico Sun Oil Company provided hands-on training and experience in tanker operations, waterborne navigational skills, cargo compartment inspections and cleaning.

## **CW3 Promotion Actions**

A very important action is required for all warrant officers selected for promotion to the rank of Chief Warrant Officer Three (CW3): Regular Army integration. Before promotion day, either a DA Form 71 (Oath of Office), with the PERSCOM Regular Army order number written across the top, or a letter of declination, dated and signed by the officer, must be completed. The appropriate form must be received at PERSCOM not later than 30 days after the promotion date. All warrant officers appointed after 1 Oct 87 who decline Regular Army or fail to execute the oath will be separated within 90 days from the date of the projected promotion, date of declination, or after all previously existing Active Duty Service Obligation (ADSO) have expired. The Regular Army order has been published for all warrant officers selected to the rank of CW3.

Along with selection for promotion comes a mandatory requirement for attending the appropriate professional development course (Warrant Officer Advanced Course (WOAC), Warrant Officer Staff Course, Warrant Officer Senior Staff Course). Warrant Officer Leadership Development requires that PERSCOM schedule officers for attendance in the same fiscal year that the officer is promoted. Officers selected for CW3, please keep in mind this fiscal year that only one WOAC is scheduled, so prepare to attend upon notification. There will be no other class date available. For any questions about course dates, contact CW4 Stephen L. Lengel, Quartermaster career manager at PERSCOM, DSN 221-7839 or (703) 325-7839.

## **Warrant Officer ORB**

Completion of the 1997 Promotion Board review showed PERSCOM that a large percentage of Quartermaster warrant officers do not give their Officer Record Briefs (ORBs) the attention to detail that the ORB rightfully deserves. The ORB displays some of the most critical personnel management data on each warrant officer, such as personnel actions, an officer's history, schools, training and utilization during a career. Changes to the ORB are not hard to achieve through the personnel centers at Army installations. Changes such as marital status, number of dependents, education and awards should be processed as they take place. Anniversary or birth dates are an excellent reminder to update the ORB if a warrant officer otherwise forgets. Neither career managers nor DA PERSCOM is responsible for keeping ORBs current. Each warrant officer must ensure that the ORB displays accurate information. You are your own best manager and only you are accountable for the success of your career. ORBs should be kept current at all times, not just a month before a promotion board.

## **BNCOC Substitutions**

Many Quartermasters are asking PERSCOM about the policy on Basic Noncommissioned Officer Course (BNCOC) substitutions. In the past, commanders could substitute a soldier selected to attend BNCOC without approval from the Noncommissioned Officer Education System (NCOES) Branch at PERSCOM. Commanders are no longer able to do this because of the BNCOC Automatic Reservation System (BARS) that schedules soldiers by most-qualified data. When a soldier is no longer qualified, the soldier's command must cancel that soldier. Commanders may submit an Army Training Requirements and Resource System (ATRRS) Automated Training Application System (AATAS) request at any time on qualified soldiers. These AATAS requests are used by NCOES to substitute soldiers and to update the Order of Merit List. The exclusion list of the BARS provides a list of soldiers who are ineligible and the reasons. Commanders must report any soldier who erroneously appears on the exclusion list to NCOES with documentation to update the soldier's record. For more information, contact SFC Walker, BNCOC Manager, NCOES Branch, PERSCOM, at DSN 221-5362.

## **Priorities: Enlisted Personnel Management Branch**

*LTC C. S. Vakas, Chief, Quartermaster Enlisted Branch*

My first priority is taking care of Quartermaster soldiers and their families. Service to you is the most important thing that we do in the Quartermaster Enlisted Personnel Management Branch at PERSCOM. Each and every Quartermaster soldier deserves the best.

The 27 senior NCOs and Department of the Army civilians in your branch also must ensure the proper worldwide distribution of Quartermaster soldiers. This leads to some inevitable challenges as we balance soldier wants with Army needs. Your PERSCOM Quartermaster Enlisted Personnel Management Branch makes about 1,250 assignments every month. Your input is a vital part of the assignment process. Let us know what you want and we will always consider your preferences. Occasionally our telephone lines can be very busy, but we will always make the time to discuss your assignment and your professional development needs.

Our PERSCOM Online newsletter is a good source of information. We have newly established direct web linkages to and from the Quartermaster Home Page for your convenience. The following article provides details about PERSCOM Online access and gives you the latest telephone numbers for your specific assignment managers and professional development NCOs.

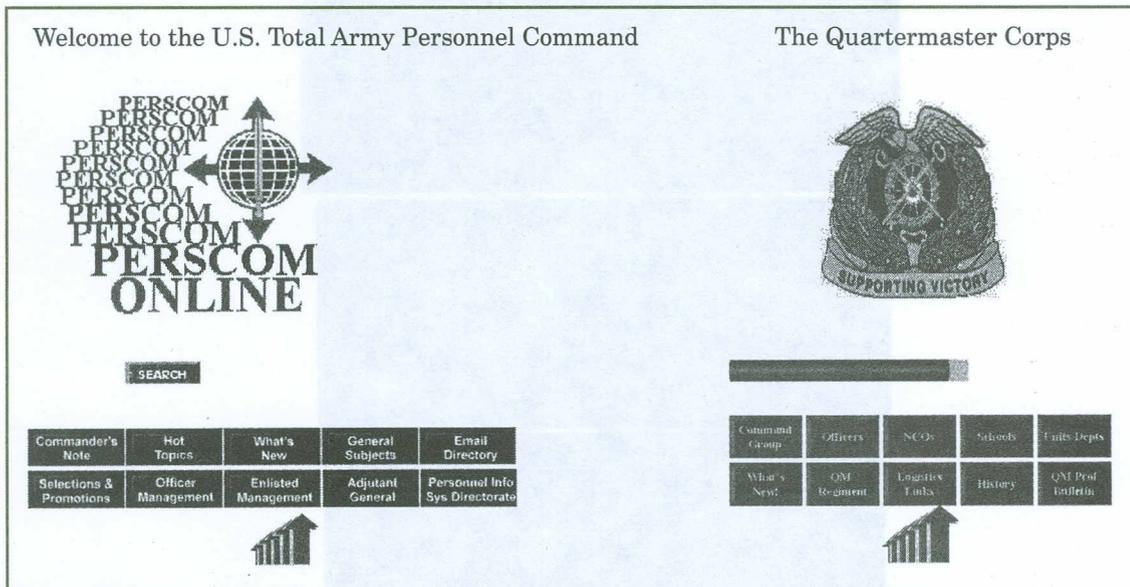
Also, note that you are now able to send E-mail directly to these individuals by clicking on their underlined names once you enter PERSCOM Online. E-mail is a great alternative to the phone. You should receive an E-mail reply within 48 hours. Please make sure you include your complete name and social security number. Also, provide your complete E-mail address in the body of your note and a telephone number at your duty station in case we need to call you.

We take our work very seriously. Our true measure of success is the daily contribution that we make to your career satisfaction. Always feel free to call me directly at DSN 221-2778 or (703) 325-2778.

### **The Internet and the Quartermaster Enlisted Personnel Management Branch**

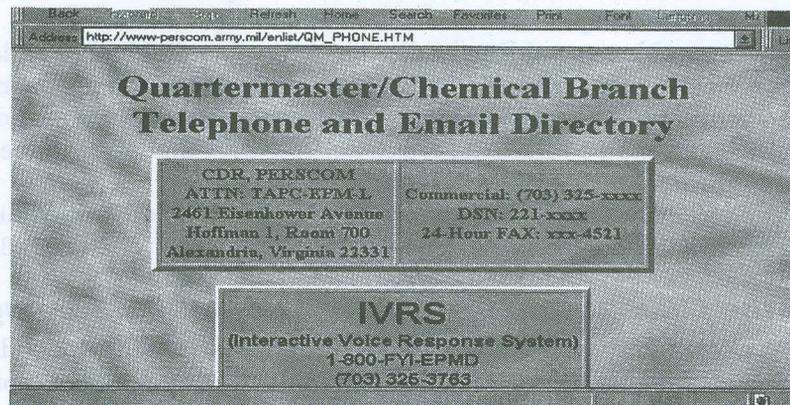
The Quartermaster Enlisted Personnel Management Branch at PERSCOM has developed an Internet online newsletter to inform all Quartermaster soldiers about enlisted management topics and enhance communication. For those who have found the newsletter, thank you for your support. For those who are still learning how to use the Internet, we look forward to hearing from you.

The address is <http://www-perscom.army.mil>. Also, the Quartermaster School Home Page (<http://www.lee-dsn1.army.mil>) is now linked to PERSCOM Online. Here's the way your computer screen will look:



Quartermasters are part of Enlisted Management, and you can reach us by "clicking" on the Enlisted Management button. Once you enter the Enlisted Personnel Management Directorate, you should select the Career Branch Newsletters. This will lead you to all branch newsletters. Of course you will select "Quartermaster/Chemical Branch." If attempting to link to us through the Quartermaster Home Page, you will find us at a link at the bottom of the page, after you "click" on the NCO button. When you enter our newsletter, you will find that we offer immediate linkage to multiple resources such as enlistment and reenlistment incentives, current promotion trends and senior promotion analysis, to mention a few. We have also built into our newsletter an immediate linkage to the Quartermaster school's home page.

As an added benefit, our current telephone and electronic mail roster is provided online. To provide "one-stop shopping," we have designed our telephone roster to link to electronic mail addresses. If you do not have the time, or if you are assigned in an area where the time difference is significant, then simply click on either the assignment manager's or professional development NCO's name for the electronic mail address. This will make sending electronic mail easier. We believe that this is a great way to handle routine questions and concerns. The underlined name represents an electronic mail linkage.



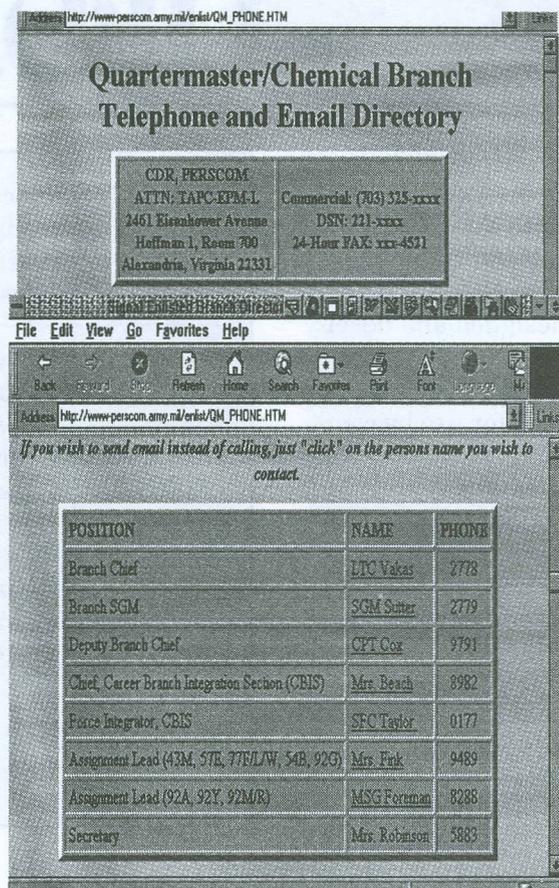
We offer an interactive voice response system. Simply call the 800 number and follow the instructions. Of course, you are better able to use this system if you are calling on a touch-tone telephone.

| POSITION  | NAME          | PHONE |
|---|---------------|-------|
| Branch Chief                                    | LTC Vadas     | 2778  |
| Branch SGM                                      | SGM Sutter    | 2779  |
| Deputy Branch Chief                             | CPT Cox       | 5791  |
| Chief, Career Branch Integration Section (CBIS) | Mrs. Branch   | 8952  |
| Force Integrator, CBIS                          | SEC Taylor    | 0177  |
| Assignment Lead (43M, 37E, 77E/L/W, 54P, 92G)   | Mrs. Eide     | 9489  |
| Assignment Lead (92A, 92Y, 92MF)                | MSG Foreman   | 9289  |
| Secretary                                       | Mrs. Robinson | 5883  |

| MOS                             | FDNCO          | PHONE | ASGMT MGR      | PHONE |
|---------------------------------|----------------|-------|----------------|-------|
| 54B (MSG)                       | MSG Alton      | 2789  | MSG Alton      | 2789  |
| 54B (SSG/SFC/ANCO)              | MSG Alton      | 2789  | SEC Jelen      | 9758  |
| 54B (PVT-SGT/BNCO)              | MSG Alton      | 3709  | ML Janat       | 9677  |
| 92G (MSG)                       | SEC Anderson   | 2705  | SEC Anderson   | 2705  |
| 92G (SSG/SFC/ANCO)              | SEC Anderson   | 2705  | ML Johnson     | 9764  |
| 92G (SGT/BNCO)                  | SEC Anderson   | 3703  | Ms. Grant      | 9707  |
| 92G (PVT-SFC)                   | SEC Anderson   | 2705  | Mc Messinger   | 9681  |
| 77E (SSG/SFC/MSG) 77E (PVT-SFC) | SEC Moore      | 7794  | SEC Moore      | 7794  |
| 77W (PVT-SFC) 77E (PVT-SGT)     | SEC Moore      | 7794  | ML Patten      | 2789  |
| 92A (MSG)                       | SEC Washington | 9709  | SEC Washington | 9709  |
| 92A (SSG/SFC)                   | SEC Washington | 9709  | Ms. Gaudin     | 8407  |
| 92A (SGT)                       | SEC Washington | 9709  | Ms. Williams   | 8290  |
| 92A (PVT-SFC)                   | SEC Washington | 9709  | ML Snow        | 2705  |
| 92Y (MSG)                       | SEC Taylor     | 5294  | SEC Taylor     | 8294  |
| 92Y (SGT)                       | SEC Taylor     | 5294  | ML Orshvaki    | 6101  |
| 92Y (SG and CONUS SGT)          | SEC Taylor     | 8294  | Mr. Smith      | 8403  |
| 92Y (PVT-SFC and CONUS SGT)     | SEC Taylor     | 5294  | Ms. Brown      | 9783  |
| 92Y (SG and CONUS SGT)          | SEC Taylor     | 8294  | Mr. Eide       | 8403  |
| 92Y (PVT-SFC and CONUS SGT)     | SEC Taylor     | 8294  | Ms. Brown      | 9783  |
| 92M/92R (MSG)                   | SEC Bailey     | 8292  | SEC Bailey     | 8292  |
| 92M/92R (PVT-SFC)               | SEC Bailey     | 8292  | Ms. Ottava     | 9707  |

Visit us frequently. There is a tremendous amount of information available to you, and we hope that your Internet travels include us. Send any comments or questions to manigroa@hoffman-emh1.army.mil.



## NCO Education System (NCOES)

Select, Train and Promote. You must put a high priority on attending all NCOES courses. Failure to attend will have a negative impact on your ability to perform, to get promoted. With the release of the SFC Promotion List, there will be a need to coordinate your attendance to the Advanced Noncommissioned Officer Course (ANCOC). As a reminder, attending the ANCOC is now linked to promotion selection to SFC. There is no alternate list. The only way to attend ANCOC is to be selected for promotion.

Each Basic Noncommissioned Officer Course (BNCOC) Reservation List is released for use at installation/command level. You will either be TDY and return or TDY enroute with an upcoming permanent change of station. You must contact the branch with any questions about your status. The priorities for attending BNCOC are considered, however, when you obtain a promotable status as a sergeant to staff sergeant. We would like for you to call your branch to work quickly and far enough forward so that all SGT(P) are scheduled.

Nonpromotable sergeants are not allowed to be scheduled for BNCOC, except those holding primary MOS 54B (Chemical Operations). Chemical Operations Specialist sergeants are allowed to attend the BNCOC course because of the technical skills needed by the field at the grade of sergeant.

### **Active Component/Reserve Component (AC/RC) Duty**

Many have been selected for duty as an AC/RC noncommissioned officer. Selection for this duty is considered one of the "tough jobs" in the Active Army. All "tough jobs" have certain drawbacks. However, each and every proponent briefing at centralized promotion boards is highlighting this duty as critical. This means promotion potential is increased by this responsibility. Because most RC units are some distance from active military facilities as the post exchange, the dispensary and military hospitals will not be immediately available. If selected for this duty, please feel free to contact the Quartermaster Branch at PERSCOM with any questions. If you have not been selected but would like to be considered, also feel free to contact the branch.

## **Force Provider Overview on CD-ROM**

The *Force Provider Overview* on CD-ROM will be available for distribution in the 4th Quarter, FY97. For a copy, contact the Joint Visual Information Activity, Tobyhanna Army Depot, PA, at DSN 795-7283. The Force Provider system was designed and developed to provide a series of services to the frontline soldier for a brief respite from the rigors of war. The *Force Provider Overview* is intended for use by commanders and staff planners expected to employ the system. It provides an overview of the Force Provider system, its mission, modular design, capabilities, site and personnel requirements, assignment, and a synopsis of the Quartermaster Force Provider Company organization and personnel. Points of contact with phone numbers are included for the Force Provider Project Manager, as well as personnel to contact for more information on acquisition and cost of the system, available training products and technical support.

## **Automated Logistical Specialist Course**

The Automated Logistical Specialist Course is being increased from an 11-week course to a 12-week course, effective 1 Oct 97. The additional week will add more hands-on training in areas dealing with Unit Level Logistics System-Ground (ULLS-G) and Standard Army Retail Supply System-1 (SARSS-1) procedures.

This additional hands-on training will help build the students' confidence in dealing with processes that these two systems provide to Prescribed Load List/The Army Maintenance Management System (PLL/TAMMS) operations and supply support operations at the direct support level. Also, time is being allocated to update training by replacing the outdated Logistics Marking and Reading System (LOGMARS) used in Quartermaster warehouse training with the new Material Release Order Control System/Automated Manifest System (MROCS/AMS). Quartermaster leadership feels that this additional week will better prepare the 92A10 graduates to assume their duties upon arrival at their new units.

## **SARSS Mobile Training Team**

The Standard Army Retail Supply System Mobile Training Team (SARSS MTT) continues to be a success. From the beginning of June 1997 through 24 October, training has been or will be in three different locations: US Army Europe, US Army Forces Command and Korea.

|         |  |  |
|---------|--|--|
| USAREUR | 8 locations to include Hungary, Kitzingen, Wiesbaden                 | 14 iterations (10 of SARSS Level 1 and 4 of SARSS-2A)                                    |
| FORSCOM | 13 locations to include Forts Stewart, Riley, Campbell, Bragg, Bliss | 26 iterations (14 of SARSS Level 1 and 12 of SARSS-2A)                                   |
| Korea   | 3 locations to include Taegu, Humphries, and Casey                   | 10 iterations (5 of SARSS Level 1, 3 of SARSS-2A and 2 iterations of warehouse training) |

Plans are being finalized for FY98 training in these three locations. For more information about the SARSS MTT, access the Quartermaster Home Page at <http://lee-dns1.army.mil.80/quartermaster/sarss1.html>. Telephone Ann Womack, Deputy Chief, Logistics Training Department, USAQMC&S, at (804) 734-3195 or DSN 687-3195 or E-mail her at [womacka@lee-dns1.army.mil](mailto:womacka@lee-dns1.army.mil) for answers to specific questions.

## **SSMO Course Changes**

Students in the Supply and Services Management Officer (SSMO) course now get more Standard Army Retail Supply System – Level 1 (SARSS-1) training. The training increased last July to a total of 31 hours that include 8 hours of SARSS-1 laboratory time.

## **Warrant Officer Automation Training**

Over the past two years, the Logistics Training Department, Warrant Officer Division, USAQMC&S, has taken on the responsibility of automation training for all commissioned officers in the Combined Logistics Officer Advanced Course (CLOAC), Reserve Component Officer Advanced Course (RCOAC), Officer Basic Course (OBC) and Supply and Services

Management Officer (SSMO) Course within the Quartermaster school. The Standard Army Management Information Systems (STAMIS) trained are the Standard Army Retail Supply System-Objective (SARSS-O), Standard Property Book System-Redesigned (SPBS-R), Unit Level Logistics System-S4 (ULLS-S4), and Integrated Logistics Analysis Program (ILAP).

In addition, the Warrant Officer Division also provides executive overview classes to the Pre-Command Course and the Logistics Assistance Officer's (LAO) Course at the US Army Logistics Management College, Fort Lee, VA, for SARSS-O. The division also provides subject matter expertise to the SARSS-O Mobile Training Team that travels throughout the Army for management training to the field units. That visibility and exposure to units in the field provides division personnel the opportunity to see first-hand what additional training is needed, and Quartermaster warrant officers can give hands-on assistance at the supply support activity or materiel management center.

### **FORSCOM Water Packaging System**

The Water Packaging System (WPS), which packages one-liter bags of potable water in the theater of operations, is now available for use anywhere in the world in support of deployments, contingency operations and natural disaster relief operations. The packaging system is just one of several programs initiated by FORSCOM's Materiel Management Center (FMMC) to operate more efficiently and save money. The Secretary of the Army designated FORSCOM as the Army's first reinvention center in December 1994. The FMMC is the foundation for FORSCOM's logistics reengineering.

The WPS can produce 30,000 liters of potable water in 24 hours. The water is packaged in one-liter pouches that measure nearly 6 inches wide by 9 1/2 inches high. The pouches will fit into the front cargo pocket of standard BDU pants. Packaged water was designed for a canteen refill or for a soldier to drink directly from the pouch through a screw-on cap.

The WPS was first used in Hungary during *Operation Joint Endeavor* in March 1996. Soldiers produced more than 1 million pouches during a 10-month deployment at the intermediate support base (ISB). The Army saved more than \$221,000 in water costs by using packaged water instead of buying commercial water. For more information or to coordinate WPS use, telephone the FORSCOM FMMC at DSN 367-7637 or (404) 464-7637. Infor-

mation is also available on the Internet at <http://www.forscom.army.mil/fmmc>.

### **Packaged A-Rations To Field Kitchens**

The Unitized Group Ration-A (UGR-A) is now authorized for peacetime use and will be fielded in FY98. The UGR-A is in final development as the first group operational ration with all commercial items. The basic requirements are not fully set but will be close to the following description:

Menus will meet nutritional requirements. Shelf life, still to be determined, will probably not be more than 12 months and could be as little as 3 months. Shelf life will be based on customer ability to consume within the time period and the availability of adequate commercial items at the longer shelf life. All items will require minimal preparation. Each menu will consist of the following items that are ordered separately: a 50-meal module, the perishable component, bread (fresh or pouch), milk (fresh or UHT), and eggs (shell or pasteurized) for breakfast.

The 50-meal module will contain everything required, such as flatware, trays, trash bags and semiperishable food, to serve that meal except for the perishable component, bread and milk. The perishable component will generally be one item but **if required** may be more items **packaged as a unit and requisitioned as a single line item**. An option exists for breakfast eggs which may be shell eggs or pasteurized frozen eggs in a one-quart container. Modules will be built to order with 30- to 60-day notice to the assembler. Menus are flexible, off-the-shelf items and build-to-order delivery, making rapid response to field-recommended changes quite easy. There are 5 breakfast and 10 lunch/dinner menus. Menus are subject to change without notice, but menu changes will be of the same type, such as beef for beef. In the initial phases, some items may have more noncommercial requirements until fully suitable commercial items are found.

### **Brand-Name Food Service Equipment**

State-of-the-art, brand-name food service equipment (FSE) belongs in a unit's a la carte serving line and kitchen. State-of-the-art food service equipment is currently available and may be requisitioned using selected manufacturers' specific national stock numbers (NSNs). Currently, each installation food advisor makes the decision to use a specific (brand name) manufacturer's equipment for standardization and repair parts reduction.

Food advisors are encouraged to use equipment from vendors when economical and when the equip-

ment is approved for use by the preventive medicine officer and the legal advisor. Installation food advisors can make the system work more effectively by being familiar with current trends and market concepts. Food advisors and their staffs should attend food service equipment trade shows to observe displays and demonstrations of state-of-the-art equipment. The Army Center of Excellence, Subsistence recommends using space in the dining area or an unused carry out area to set up a kiosk that can be operated by one person. This approach has been successful at some installations.

### **'Branding' in Army Dining Facilities**

With Subsistence Prime Vendor, Army installations can order nationally known, consumer-recognized, name-brand products at costs that are compatible with the old depot-supplied, no-name brand items. Also, the Army capitalizes on the benefits provided by the large manufacturers (such as point-of-sale materials and manufacturer training) and lets soldier-diners know what they are eating.

This "branding" program has been a success. Fort Hood, TX, took the brand-name concept to another level when they opened the Army's first a la carte dining facility under the branding concept. In this 4th Infantry Division facility, there are standard A-Ration serving lines and short order serving lines. A new food court has kiosks including such menu items as Minh Chinese, Little Charlie's Pizza, Jimmy Dean Breakfast Sandwiches, Dannon Frozen Yogurt, Sara Lee Deli Sandwiches and Sara Lee Pastries. Combined with extended serving hours, these menu options have resulted in significantly increased participation.

Fort Drum, NY, has followed with a slightly different version of the branding concept. Fort Drum uses existing serving lines to present brand-name products. The concept there includes Healthy Choice, Old El Paso Nachos and Taco Bar, and Little Charlie's Pizza.

Army policy on branding requires that any installation seeking to implement a branded dining facility work through the Army Center of Excellence, Subsistence, USAQMC&S, to ensure all legal requirements are met and to ensure the installation receives the best prices and best service. There are basically four levels of branding, three of which do not require any physical changes to an Army dining facility.

### **Flameless Ration Heater**

So that soldiers can consume a hot ration at any time, a Flameless Ration Heater (FRH), has been

packaged directly inside the Meal, Ready-to-Eat (MRE). The FRHs are not new. The FRHs have been associated with the MRE since 1992, when shipped in case lot quantities and then issued individually with each MRE. The FRH allows a soldier to heat a meal with only a few ounces of water. The chemical make-up of the FRH reacts with water and generates 100 degrees Fahrenheit in about 12 minutes.

Soldiers are selective on their FRH use, depending on factors ranging from entrée to climate. Therefore, FRHs have been found in refuge collections, accumulating improperly. Based on concerns of the waste disposal community and improper handling found in Serious Incident Reports, the Army Center of Excellence, Subsistence (ACES), proponent for the device as used by the Army, has issued proper handling and environmental-friendly guidelines. The ACES Environmental Science Officer (ESO) and Quality Assurance Division (QUAD) staff provided an FRH program in ACES Food Flasher Message Number 11. Soldiers who use FRH for actions other than the intended use or who violate this guidance risk injury and damage to other property. Commanders are encouraged to include this guidance in all safety briefings. The ACES is developing a salvage program for organizations that still have case lot quantities of FRH.

### **Automated Fuel Accountability**

Having problems ensuring your petroleum accountability documents are error free? Get your copy of the Automated Fuel Accounting Program (AFAP), and your problems will likely be solved.

Based on input from the field, the Petroleum and Water Department (PWD) recognized a need for a fuel accounting program that could automatically calculate fuel issues and receipts and print out required reports. In 1996, Quartermasters in a Combined Logistics Officer Advanced Course class developed the AFAP that automates the basic forms used when accounting for fuel. They include the DA Forms 3643 (Daily Issues of Petroleum Products), 3644 (Monthly Abstract of Issues of Petroleum Products and Operating Supplies), and 4702-R (Monthly Bulk Petroleum Accounting Summary). To use the AFAP, operators must have a computer operating in Windows version 3.11 or newer and have Excel software version 5.0 or newer. Completed forms and reports can be printed using a laser printer.

To receive your copy of the AFAP, send a 3.5-inch unformatted disk to COMMANDER, US ARMY QUARTERMASTER CENTER AND SCHOOL, PETROLEUM AND WATER DEPARTMENT, ATTN:

CHIEF APWD, 1241 GRANT AVENUE, FORT LEE, VA 23801-1801. For quicker results, request your copy by E-mail to [turgeonj@lee-dns1.army.mil](mailto:turgeonj@lee-dns1.army.mil).

### ***Petroleum and Water Old Timers***

The Petroleum and Water Department (PWD), USAQMC&S, is planning an Old Timers reunion at Fort Lee, VA, in Summer 1998. Open to anyone who serves or has served in any US military service's petroleum or water community, the Old Timers meet every two years.

Although PWD has more than 300 people on its mailing list, many current members have changed addresses. To update your information or become an Old Timer, send a postcard to US ARMY QUARTERMASTER CENTER AND SCHOOL, PETROLEUM AND WATER DEPARTMENT, ATTN: APWD (MS. WILLIAMS), 1241 GRANT AVENUE, FORT LEE, VA 23801-1801. Include your full name, military or civilian rank (present or retired), home and work addresses and phone numbers, and E-mail address. POC is Linda Williams by E-mail at [williams@lee-dns1.army.mil](mailto:williams@lee-dns1.army.mil) or phone DSN 687-1329 or (804) 734-1329.

### ***Petroleum Advisory Group Meeting***

The Petroleum Advisory Group (PAG) met in San Antonio, TX, 9-11 Jul 97. This semiannual meeting provides a forum for working Army petroleum-related issues and problems.

The PAG was held with the annual Air Force petroleum conference and a trade show of petroleum vendors. A military exhibit demonstrated Army and Air Force petroleum equipment at Kelly Air Force Base. These events made the PAG more productive by allowing participants to work with Air Force counterparts and view the demonstrations and trade show. Team members from the Petroleum and Wa-

ter Department (PWD), USAQMC&S, set up and staffed a Quartermaster booth at the trade show. The Petroleum Officer Course raised interest from Air Force officers who plan to send more students. This will support the "The Joint Staff Course" initiative being worked by PWD.

The many topics at the PAG meeting included repositioning of Inland Petroleum Distribution System pipeline from depot stock in California to Japan; formation of an Integrated Training Concept for petroleum and water training to study creating a "world class" petroleum and water center at Fort Pickett, VA; and creating a Fuel Integrated Concept Team (ICT) to develop petroleum doctrine, tactics, force structure and equipment to support Force XXI and the Army After Next.

Also, PAG members discussed the Fuel Accounting System (FAS) and Automated Tank Gauging systems being installed at Army installations worldwide. Data from the FAS will be electronically transmitted to Defense Fuel Supply Center for central accounting of fuels. The FAS computer software has application to the tactical Army and is being considered as the cornerstone for a fuel STAMIS that would tie fuel inventories to the existing combat service support management information systems.

The PAG is seeking input from field units on problems needing solutions in petroleum equipment and operations. If you have a topic for the next PAG, contact the PWD at COMMANDER, US ARMY QUARTERMASTER CENTER AND SCHOOL, PETROLEUM AND WATER DEPARTMENT, 1241 GRANT AVENUE, FORT LEE, VA 23801-1801, or E-mail to [atsmpwd@lee-dns1.army.mil](mailto:atsmpwd@lee-dns1.army.mil). Telephone CPT McKernan at DSN 687-1318, (804) 734-1318 or E-mail to [mckernat@lee-dns1.army.mil](mailto:mckernat@lee-dns1.army.mil) for more information.

## ***Quartermaster Museum Revises Web Page***

The Quartermaster Museum has totally revised its page located on the Quartermaster Home Page under History (<http://lee-dns1.army.mil/quartermaster>). The page provides new information and photographs on exhibits, collections, programs and services of the museum. It also contains a section on Quartermaster History and Traditions which provides interesting information on everything from the Quartermaster Branch insignia to the Order of Saint Martin.

# Directory – Points of Contact

## US Army Quartermaster Center and School

Fort Lee DSN prefixes: 687-xxxx or 539-xxxx  
Commercial prefixes: (804) 734-xxxx or (804) 765-xxxx

|  |  |   |                          |
|--|--|---|--------------------------|
| <b>The Quartermaster General</b><br>MG James M. Wright<br>wrightj@lee-dns1.army.mil                    | (ATSM-CG)<br>734-3458  | <b>Operations and Training Management Office</b><br>Nancy Briggs<br>briggsn@lee-dns1.army.mil       | (ATSM-AC-O)<br>734-4402  |
| <b>Assistant Commandant</b><br>COL Gary L. Juskowiak<br>juskowig@lee-dns1.army.mil                     | (ATSM-AC)<br>734-3759  | <b>Aerial Delivery and Field Services</b><br>Theodore J. Dlugos<br>dlugost@lee-dns1.army.mil        | (ATSM-ADFSD)<br>734-5370 |
| <b>Command Sergeant Major</b><br>CSM Larry W. Gammon<br>gammonl@lee-dns1.army.mil                      | (ATSM-CSM)<br>734-3248   | <b>Army Center of Excellence, Subsistence</b><br>LTC Douglas B. Byther<br>bytherd@lee-dns1.army.mil | (ATSM-CES)<br>734-3007   |
| <b>23d Quartermaster Brigade</b><br>COL Wayne D. Taylor, Jr.<br>taylorw@lee-emh2.army.mil              | (ATSM-TPC)<br>734-4644   | <b>Logistics Training Department</b><br>LTC Christopher M. Schiefer<br>schiefec@lee-dns1.army.mil   | (ATSM-LTD)<br>734-3195   |
| <b>49th Quartermaster Group (Petroleum and Water)</b><br>COL Donald G. Weir<br>weird@lee-dns1.army.mil | (AFFL-GC)<br>734-6026  | <b>Mortuary Affairs Center</b><br>Tom D. Bourlier<br>bourliet@lee-dns1.army.mil                     | (ATSM-MA)<br>734-3831    |
| <b>Chief, Office of the Quartermaster General</b><br>LTC Michael J. Stine<br>stinem@lee-dns1.army.mil  | (ATSM-QMG)<br>734-4237   | <b>Petroleum and Water Department</b><br>James F. Barros<br>barrosj@lee-dns1.army.mil               | (ATSM-PWD)<br>734-2820   |
| <b>Command Planning Group</b><br>CPT Wendel Quon<br>quonw@lee-dns1.army.mil                            | (ATSM-CPG)<br>734-3215   | <b>Noncommissioned Officer Academy</b><br>CSM Mark A. Rudd, Sr.<br>ruddm@lee-dns1.army.mil          | (ATSM-SGA)<br>765-2066   |
|  | <b>Quartermaster Total Force Integration Office</b><br>LTC Robert W. Vaughan<br>vaughanr@lee-dns1.army.mil | (ATSM-ACR)<br>734-3574  |                          |

### MAILING ADDRESS:

QUARTERMASTER PROFESSIONAL BULLETIN  
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*A convoy from A Company, 266<sup>th</sup> Quartermaster Battalion (Direct Support), rolls down the highway outside Saigon, South Vietnam, December 1965.*



## ***266th Quartermaster Battalion***

*Constituted 18 July 1942 in the Army of the United States as 266th Quartermaster Service Battalion*

*Activated 28 August 1942 at Camp Claiborne, Louisiana*

*Battalion reorganized and redesignated 6 February 1944 as follows:*

*Headquarters and Headquarters Detachment as Headquarters and Headquarters Detachment, 266th Quartermaster Battalion*

*(Companies A–D as 4066th–4069th Quartermaster Service Companies, respectively; separate lineages)*

*Headquarters and Headquarters Detachment, 266th Quartermaster Battalion inactivated 18 May 1946 in Germany*

*Redesignated 1 March 1963 as 266th Quartermaster Battalion (Direct Support) and allotted to the Regular Army (Concurrently, organic units constituted)*

*Activated 25 March 1963 at Fort Lewis, Washington*

*Battalion reorganized 20 July 1966, and elements reorganized and redesignated or inactivated as follows:*

*Headquarters and Headquarters Detachment, 266th Quartermaster Battalion reorganized and redesignated as Headquarters and Headquarters Company, 266th Supply and Service Battalion*

*(Companies A and B, 266th Quartermaster Battalion inactivated in Vietnam)*

*Inactivated 14 March 1973 at Oakland, California*

*On 12 February 1987 the 1st Battalion, United States Army Quartermaster School was redesignated as the 266th Quartermaster Battalion*

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