

Quartermaster

PROFESSIONAL BULLETIN

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LOGISTICS WARRIORS





FROM THE EDITOR

Our professional journals - designed to reach the broadest sweep of audience across the widest range of issues - will be especially important in the years ahead. Each of us must assume a greater and more personal role in the reading of and writing for our journals, and in the exchange of ideas and thought.

General Carl E. Vuono, USA (Ret.)

As I leave the staff of the *Quartermaster Professional Bulletin*, that statement by General Vuono sums up my thoughts. In the recent past we made some improvements to our branch professional journal and more will come, but no improvements will be sustaining without the active support of our readership. The first results of our readership survey in the Winter 1991 edition have begun to trickle in, and already one fact is clear: active support from the field makes us a worthwhile product. Several of you have mentioned a lack of articles from NCOs. Several have mentioned that most articles in the *QMPB* are written by company grade officers, or combat arms branch transfers. Some have asked for a "Letters to the Editor" section. In response, all I can offer is that we can only print what we receive. If NCOs, or senior officers, won't write and send us manuscripts, we can't print them. If there are no letters to the editor, we can't have a "Letters to the Editor" section. There are good ideas out there that we would like to see also. To those of you who contributed to the *QMPB* during my watch, thanks. You have done a service to the Corps far beyond your normal duties. To those of you who are toying with the idea of writing, please do. To those of you who think you have nothing worthwhile to offer or that your experience is simply common knowledge, let us be the judge. We need your input. Only through the exchange of different ideas can we try to find creative solutions to the challenges a smaller Army will bring.

This issue of the *QMPB* focuses on *Operation Desert Shield/Storm*. In **The Aftermath of War: Cleaning Up the Contracting Battlefield**, the XVIII Airborne Corps Acquisition Section has submitted an excellent review of their experiences during *Operation Desert Shield/Storm*. Some innovative short-term solutions to contracting headaches as well as some suggestions on improving the system serve as food for thought for other contract-

ing officers in the field. **Supporting XVIII Airborne Corps Artillery** by CPT Todd A. Falk is an interesting account of how to improve support of nondivisional units. CPT Falk details some challenges during his *Operation Desert Shield/Storm* assignment to the XVIII Airborne Corps Artillery G4 section. Then he offers some possible solutions. LTC Larry W. Matthews and CPT Michael Norman offer a mental guide for planning large-scale petroleum supply operations in **Fueling the Storm**. In **Who's Accountable? Property Accountability During Deployment**, CPT Sheila A. Flowers provides a reminder of what goes and what stays during a unit deployment. While this may seem self-evident, her article shows that in the rush to "get out the door" there is some ignorance (or selective amnesia) of basic accountability principles. In **NBC Protective Covers**, CPT James P. Sabisch gives us a look at a simple fix to the logistician's dilemma of protecting supplies and equipment from the elements, natural and otherwise. A simple idea can save a lot of money. Finally, in keeping with our cover theme, Dr. Steven E. Anders, the Quartermaster Corps Historian, traces our success with limiting foodborne illness during *Operation Desert Shield/Storm*.

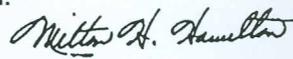
Instead of offering infantry-type examples to highlight the troop-leading principles, CPT Gregory Wyly puts a logistics "spin" on this basic staple of small unit leadership in **Planning for Logistics Operations at Platoon Level**. And for our NCOs, the future is almost here. Consolidation of the 76 Career Management Field should occur during 1993. MAJ Janelle L. Monnier of the Enlisted Proponency Division, Office of the Quartermaster General, provides an update of an initiative with some heavy career impact. It's worthwhile reading. There is much more to this issue. Keep reading and keep the ideas coming.

-MPG

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PROFESSIONAL BULLETIN

THE QUARtermaster GENERAL

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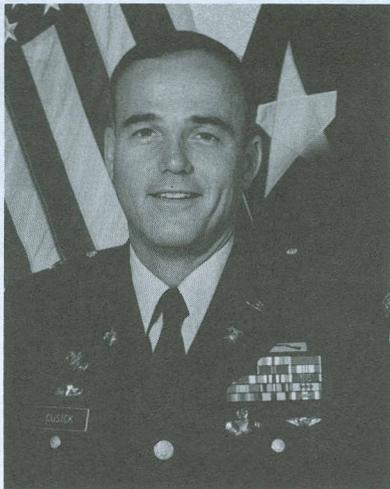
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FRONT COVER: LTC Keith K. Fukumitsu, Quartermaster, depicted a supply base in Saudi Arabia during *Operation Desert Shield/Storm*. The artist is Chief of the Course Development Division, Directorate of Training and Doctrine, U.S. Army Quartermaster Center and School, Fort Lee, Virginia.

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From The Quartermaster General

Brigadier General John J. Cusick

The focus of this edition of the *Quartermaster Professional Bulletin* is on *Operation Desert Shield/Storm*. The Quartermaster contribution to the effort that made our great victories possible on the sands of the Middle East was unique in many ways. This edition is a compilation of combat service support (CSS) observations, war stories, innovative fixes to logistics shortfalls and a view of the extraordinary hard work, courage and dedication of Quartermaster Logistics Warriors across the U.S. Army. Quartermasters can be especially proud of their personal and the Corps' contributions to this monumental logistics effort in support of such a spectacular victory. The most impressive aspect of *Operation Desert Shield/Storm* was its sheer *magnitude*. The vast amount of people, supplies and equipment, as well as their rapid insertion, placed high demands on our deployment and logistics systems. Mobilization of the industrial base, rapid response by our contingency corps forces and the movement of a European-based heavy corps that had no contingency plans to deploy showed not only the importance of good logistics but that good logisticians can and did make it happen.

In Vietnam it took over a year to put 200,000 soldiers and their equipment on the ground. During *Operation Desert Shield/Storm* it took us only six weeks to put 200,000 soldiers and their gear in Southwest Asia. And the force kept growing, eventually to over 541,000 ground troops. This equates to moving a city the size of Gary, Indiana, lock, stock and barrel halfway across the globe - a huge undertaking, made possible by Quartermasters and other logistics professionals across the Army. Since the war ended, we have all been focused on analyzing observations and defining the true lessons learned from the vast array of data that has been collected. It is an important step in setting the course for our near term and future Army. We have CSS shortfalls that must be fixed. We have doctrine to modify and training to refocus. We also have TOEs/MTOEs (tables of organization and equipment/modification tables of organization and equipment) to update while conducting a major reduction of forces as well as a shift from a forward-deployed Army to a rapid-deployed and power projection Army.

The Quartermaster Corps is reshaping doctrine to emphasize the upgrade of quality of life support to soldiers across the battlefield as well as enhancing mission sustainment capabilities in all our areas of responsibility. We must provide a range of rapid, responsive capabilities to the tactical commander. For example--

- The use of mobile containerized kitchens, showers and laundries that can be pushed far forward at the call of the battalion/brigade commander and just as rapidly moved out to an alternate site.
- In the area of field feeding, a family of meal options based on METT-T (mission, enemy, terrain, troops and time available), with a greater capability for A-Rations and B-Rations.
- Improvements in shelters for the individual soldier from the FLOT (forward line of own troops) rearward.
- Enhanced capabilities to perform unit distribution of water during combat as opposed to supply point distribution.

We have many initiatives at work and I will try to keep you updated on their progress. Your thoughts, ideas and concepts are always welcome. Pace of change is rapid in our current environment so we must be committed to keep up and to maximize our contributions. Your task as a Logistics Warrior is to be innovative and to look beyond tomorrow. So we have a twofold task: first to learn and then to apply those lessons in a constantly changing environment. Not easy, this task demands focus to ensure that we provide the finest support to our soldiers now and in the future.



Brigadier General John J. Cusick, the U.S. Army Quartermaster General, has held a wide variety of command and staff positions before his current assignment. Other key assignments include duty as Commander, Defense Personnel Support Center, Philadelphia, Pennsylvania; Commander, First Corps Support Command, XVIII Airborne Corps, Fort Bragg, North Carolina; Commander, 82d Airborne Division Support Command, Fort Bragg, North Carolina; and Commander, 407th Supply and Service Battalion, 82d Airborne Division, Fort Bragg, North Carolina.

KEEP UP THE FIRE



Command Sergeant Major Milton B. Hazzard

During visits to the field, I have noticed that many soldiers focus on career progression. This is an excellent indicator that reinforces a reason for the Quartermaster Corps to be justly proud: the ranks of the Logistics Warriors are filled with intelligent, motivated and dedicated warfighters. Intentionally zeroing in on sergeant (SGT) and staff sergeant (SSG) promotions, these are the questions that noncommissioned officers (NCOs) most often ask me in the field:

- *What influences cutoff points, and who controls them?*
- *When are the cutoff points for my military occupational specialty (MOS) and grade going to decrease to a level that would mean higher numbers for promotions?*
- *What actions can an NCO take to become more competitive?*

Two Department of the Army agencies, the Deputy Chief of Staff for Personnel (DCSPER) and the U.S. Total Army Personnel Command (PERSCOM), determine the cutoff points. Numerous staff agencies within these organizations work together to conduct a monthly force alignment review to evaluate several cutoff factors. Key factors include current personnel operating strength of an MOS by grade, target personnel fills, projected personnel losses and budgetary constraints.

When a particular grade in an MOS has 100 percent of its authorized strength, the cutoff score for that grade will be high. If a particular grade in an MOS is below 100 percent or if there are significant projected losses for that MOS and grade due to retirement, expiration term of service (ETS) or historical attrition projections, the cutoff score will be lowered to allow promotions into that rank. When you see the factors that influence the cutoff scores, principally retirement or ETS, it is apparent that promotions become very contingent on these factors from SGT through master sergeant (MSG).

Fewer personnel ETS or retire between their 6th and 19th year of service. Therefore, the smaller the total number of authorizations in an MOS, the more apparent that direct correlation becomes between retirement and ETS factors.

The Department of the Army determines the total number of authorizations for an MOS. The actual authorizations are determined by monetary constraints, the total mission of the Army, and then what "slice of the pie" that particular MOS receives.

The minimum promotion point score for reaching recommended list status is 550 points for SSG and 450 points for SGT.

The following represents the scale on which points are based. These figures are the maximum score a soldier can receive in each area:

	SSG	SGT
Duty Performance (Chain of command assessment)	200	200
Skill Qualification Test/ Self-Development Test (SQT/SDT)	200	—
Awards/Decorations	50	50
Military Education	150	150
Civilian Education	100	100
Military Training (Army Physical Fitness Test/ Weapons Qualification)	100	100
Promotion Board Appearance	200	200
TOTAL	1,000	800

The most critical phase in the march towards promotion is the starting point. There must be significant personal commitment from individual soldiers. Responsibility should then progress through the squad/section leader, platoon sergeant, platoon leader, first sergeant and company commander for a recommendation to the battalion level.

Earlier, I discussed factors that influence the promotion process. In my opinion, a very important factor is integrity. For example, on occasion a soldier may be denied an opportunity to either be recommended for promotion or receive the appropriate training for a successful board appearance. If this soldier has demonstrated the ability to serve at the next highest rank, the system has failed. There are other times when the appropriate leader is either unwilling or unable to look a soldier in the eye and tell him: "you have not demonstrated the potential to serve at the next highest rank." Often soldiers in this situation are recommended for promotion so that someone higher in the chain can be the "bad" person. Then, there are the good occasions when the right soldier is recommended and ultimately promoted. The footprints in these situations normally can be traced to an excellent soldier and a superb leader.

On the question of becoming more competitive, we can never assume that we have accomplished enough. Continued self-improvement--exceeding the standard--leads to success. Meeting the standard, in some ways, is accepting a low standard. Logistics Warriors, lean forward in the foxhole and keep up the fire.



CSM Milton B. Hazzard is the Command Sergeant Major, U.S. Army Quartermaster Center and School, Fort Lee, Virginia.

Coming In The QMPB ...

The next edition of the *QMPB* will focus on Subsistence Support. The Army Center of Excellence, Subsistence will provide an update on the Army Field Feeding System

(AFFS). Whether you like the AFFS concept or whether you think it needs improvement, you'll want to see this status report. We'll also have an article highlight-

ing the space subsistence mission - an area for Quartermaster involvement. As always, we'll bring you the "news you can use" to stay current. Don't miss the next issue.

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FUELING THE STORM

LTC Larry W. Matthews CPT Michael Norman

The logistical successes during *Operation Desert Shield/Storm* have been justly noted by commanders at practically every level. As in all mechanized combat, fuel provided the means for the combat forces to quickly and efficiently execute their mission. The correct *orchestration* of fuel support provides the flexibility and maneuverability required on the battlefield. During *Operation Desert Storm* this flexibility ultimately resulted in the liberation of occupied Kuwait. The 240th Quartermaster Battalion, operating under the 475th Quartermaster Group, supplied over 150 million gallons of fuel to the forward forces throughout *Operation Desert Shield/Storm*. To meet this demand, the battalion used a five-step process that created a foundation for managing the "fueling of the force." This foundation allowed simplified planning to ensure fuel in the right place, at the right time. This article details our experiences throughout the planning process and also lessons learned during the conflict.

PLANNING FUEL SUPPORT

Planning fuel support is an extensive task which requires a simple procedure for mission accomplishment. The 240th developed and followed a set of basic steps to provide fuel to the customer. The system is a logical process for leaders at each level to plan and execute the mission. This five-step process for fueling the force is (1) knowing the customer and the enemy, (2) determining when and where to support as well as the type, quality and quantity of the support, (3) communicating the plan, (4) executing the plan and ultimately (5) delivering fuel.

Step 1: Knowing

The responsibilities of combat service support (CSS) units are varied and complex. Two responsibilities are essential: (1) knowing and defeating the enemy and (2) knowing and supporting the customer.

The logistician must receive and make accurate assessments of the enemy's capabilities, weaknesses, and strengths and intent in order to plan the attack or defense. The CSS units must know the enemy and the enemy's capability over the entire battlefield. In turn, the supplier must also know the customer. The logistician needs information about what, when, where and why friendly forces are executing their mission.

Support units must provide the right product at the right place, at

the right time and in the right quality and quantity. Deviations from requested product impede the combat commander's ability to execute the battle. The supported units need supplies, which in our case was fuel, in the proper quantity and quality. Deficiencies that hinder the combat commander could develop. Obviously, this was not the case during *Operation Desert Storm* because the air and ground campaigns were executed rapidly. What led to this success?

Step 2: Determining

Supply and delivery are the prerequisites to successful CSS. Several requirements are critical in determining methods of supplying forward forces. Before a CSS commander can assign subordinate units to complete the mission, he must answer several questions. When and where is the *support* required? Answering the "when" allows the CSS commander to determine what unit is prepared and available to provide the support. The "where" gives the commander information to determine if units are currently located nearby and, if not, what has to happen to locate there. What *type* of product is required? This keys the commander to ensure fuel and transportation equipment are available to deliver the product. The three types of fuel used throughout the conflict were diesel fuel (DF2), jet fuel (JA1) and motor gasoline (MOGAS). Tankers were

designated for each of these products. Mixing of the product, such as delivering diesel in a jet fuel tanker, could contaminate the fuel and make it unfit for use. Additionally, the *quality and quantity* of fuel was assessed. The battalion petroleum operations and transportation section labored to ensure the appropriate transporters delivered the required product to the forward forces.

Step 3: Communicating

The commander must clearly communicate the concept to the staff and subordinate commanders in determining the appropriate support systems. A lack of sound guidance can stifle the planning process and delay delivery of the fuel product. The commander must execute this step to relay all he has evaluated in the previous two steps. In addition, he must now include the who, what and how of providing the support. The commander's staff must work with each subordinate commander to put together a support package with the customers. The subordinate commander must keep his finger on the pulse of the fighter, constantly evaluating battlefield needs through consistent communication. In turn, the subordinate commander must update the battalion commander so he knows what is happening for the customer.

Step 4: Executing

Following the communication

of the concept, we determined the method of fuel support. The major fuel systems used by the 240th Quartermaster Battalion to support the forward forces throughout *Operation Desert Shield/Storm* included practically every type of delivery and storage system in the battalion's inventory. The portable tank farm facility (PTFF), refuel on the move (ROM) system, fuel system supply point (FSSP), tactical petroleum terminal (TPT) and forward area refueling equipment (FARE) all played a part.

Step 5: Delivering

We used two main systems to deliver the product to the user. These systems were truck delivery and pipeline. The transportation units assigned to the battalion delivered fuel to the customer with 5,000-gallon tankers. The

Quartermaster petroleum units operated the pipelines ensuring fuel delivery. A host nation commercial pipeline fed the military pipeline system. The battalion's pipeline was coupled to the coalition force's systems for expanded fuel support. In some instances, supported units used the "pull" concept to travel to the bulk fuel supply facilities to receive product. The battalion maintained the capability to support the "push-pull" concept throughout the crisis.

LESSONS LEARNED

The following are a few of the basic lessons we learned throughout the conflict. We feel these lessons are applicable to any support organization.

Get Close to the Customer

It is imperative to get close to the customer or supported units.

Battlefield victory has always been and will continue to be contingent on the quality of the support. Understanding the significance of fuel, logistics commanders must know exactly what the enemy and the customer are doing (Step 1) and what the customer needs. CSS also stands for "customer service and satisfaction." The battalion "borrowed" a concept from the Field Artillery branch and implemented a "forward coordination team" This team's purpose was to get close to the customer, know and see what the customer needed and relay this information immediately to the headquarters operations element. During the ground war this element deployed with the Marine Corps units in northern Saudi Arabia and southern Kuwait. This system proved to fortify the unit's ability to sustain peak



'Support units must provide the right product at the right place, at the right time and in the right quality and quantity.'



The three types of fuel used throughout the conflict were diesel fuel, jet fuel and motor gasoline.

"customer service and satisfaction." We gained several benefits by getting close to the customer. A relationship of providing for each other grew as supported units realized that if they provided us with certain assets we could render better support. Being close to the customer not only gave us needed supplies, but also intelligence information which kept us updated on frontline activities. Leaders at each level got close to evaluate the support we provided. Getting close also allowed the leaders to manage by walking around (MBWA), always an effective tool. The process of our service dictated interaction between our soldiers and soldiers of the supported units. Getting close to the customer meant getting close to our own soldiers. This allowed our leaders to monitor our systems and personnel and implement necessary improvements. Not only did we provide better service, but also we evaluated and improved the work environment for our soldiers.

Produce Through Personnel

The Army's most valuable resource is not the M-1, Apache or the Patriot. It is the soldier. Unit personnel perform numerous jobs in an extremely stressful environment. Regardless of the sophistication of the equipment, we needed personnel to plan, coordinate, implement and complete the action (Step 2). Personnel were responsible for determining fuel support; designing, constructing and sustaining systems; analyzing and correcting malfunctions; and delivering the final product. Just as important, personnel were responsible for maintaining allied relations and focusing our efforts on the objective of providing support for victory.

Communicate the Concept

Communicating the concept (Step 3) was the main ingredient in executing the mission. Distorted intents cause delays, which can be costly in the support industry. Fortunately, we emphasized and

practiced open and distinct communications which ensured mission accomplishment. We used "back-briefs" extensively to ensure intentions were understood. Sensitivity to the mission increased in this type of environment; the war hinged upon our prompt and accurate support.

Design and Support Simple Systems

Make plans that are understandable to the most inexperienced soldier in the unit. We had to ensure that everyone knew exactly how the battalion was supporting our customers (Step 4). We didn't need complex systems that would complicate our ability to perform. Failure to develop and maintain simple plans could result in a loss of life. We received numerous replacements with limited military experience. We had to place these soldiers in the process quickly. A complex game book delays the adaptation time. The simpler the system, the easier it is to provide support. Additionally, we worked with not only the different services of our army, but several other armies. Simple systems facilitated our ability to communicate and work together.

Use Autonomy

Power down! Military leadership manuals preach the importance of pushing the power down the chain of command. We lived the concept. The battalion had major subordinate units dispersed over a 250-mile radius and detachments twice as far away. In many instances companies had their units located in eight distinct geographical areas. Delegation was essential. The commander cannot solely rely on communication to direct operations. He must have informed and competent leaders in all areas who can make decisions that affect the lives of others. The wartime decision-making process was driven home for many junior leaders, who experienced the ultimate in the "power down" process. Company commanders must know

the support plan and be continually updated on changes to mission requirements. Our experiences *emphasize* the fact that the informed soldier is the key to success on the support battlefield.

Maximize Lateral Relationships

Lateral support such as engineer, transportation, personnel, legal, signal and medical, is mandatory to accomplish the mission and properly support the soldiers. It was important for us to discover supporting units in our areas. While we provided Class III (petroleum, oils and lubricants), we depended on other elements for most of our support. Not only did we depend on other branches of the Army, but we also developed a relationship with units of other services. As an example, some of the battalion's units received Class IV (construction and barrier materiel), Class VI (personal demand items), Class VII (major end items), Class VIII (medical supplies) and Class IX (repair parts) from the U.S. Navy, Marine Corps and Air Force.

Enhance Community Relationships

The 240th did not have the luxury of occupying desert space whenever and wherever needed. Why was occupation more complex for us? We dealt with an extremely volatile product stored in nonpermanent facilities. It was difficult for the local community to accept storage of fuel in something less durable than a steel-reinforced tank. Placement on the battlefield usually required host nation interaction. Unlike combat arms soldiers, our battlefield mobility was often limited by this approval and interaction with the Saudi Arabian government. The Saudi Royal Commission served as the interface to the allied forces, coordinating real estate requirements. A lieutenant colonel served as the United States liaison officer to the Saudi government. Fortunately, we cultivated a good working relationship with the liaison officer as well as the Royal Commission. In addition, the magni-

tude of our mission was so great that we often depended on the host nation to complement our support requirements. For example, emplacing pump stations on the pipeline required 50-ton cranes that were provided by a Saudi commercial firm. The local nationals were also integral in delivering the product. The host nation supplemented the allied forces through strong truck transport and fuel handling personnel. This contribution provided the links to a comprehensive support chain. The battalion showed an obvious appreciation for these personnel who delivered petroleum.

Stay With the Basics

Production through our personnel meant caring for personnel. Our leaders found that they were more involved with the basics. What were the basics? Food, water, shelter and morale. It was that simple, and yet it was a challenge to meet this demand. Soldiers were separated from their parent organization for days at a time ensuring fuel delivery (Step 5). Determining systems and routes for delivery proved elementary compared to developing personnel schedules. Pumping and transporting fuel to the forward forces required intensive planning. Leaders were challenged to direct sleeping cycles, ensure health and hygiene and maintain morale. Our leverage for maintaining morale was information. The battlefield soldier can handle bad news, but it is very difficult for him to handle no news. We worked to ensure the soldier knew what was going on at home and on the battlefield. We also worked to ensure the soldier knew our mission. This common thread tied our soldiers together, ensuring each soldier knew exactly the battalion's job. We stuck to the basics in providing fuel support although we enthusiastically performed any mission which saved the lives of allies and paved the road to victory.

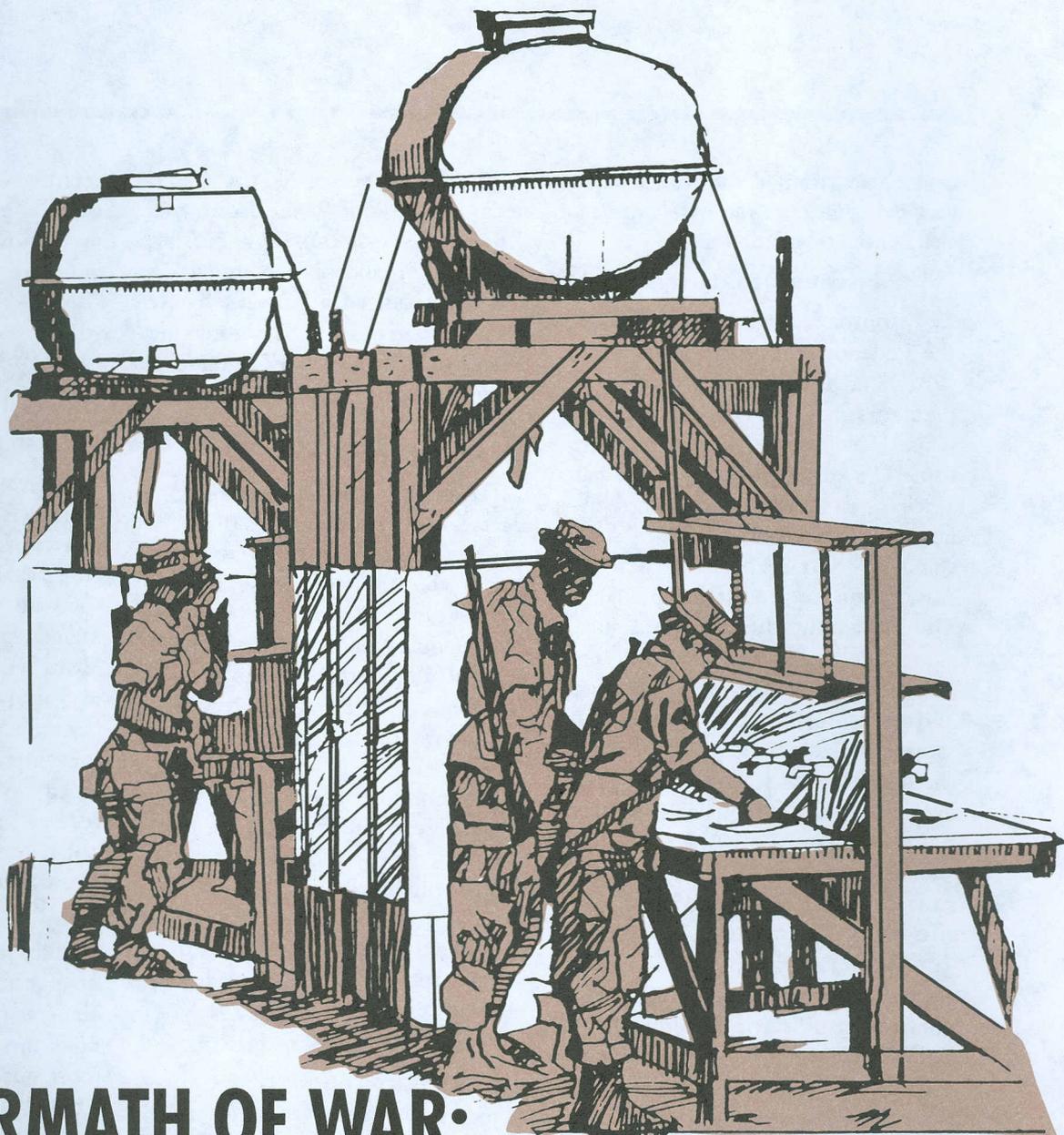
Our planning process was an excellent tool for mission accom-

plishment. The tool was only a skeleton for leaders to use in the execution process. Many other questions and concerns were addressed by leaders at all levels. Our planning process was not a unique scheme or grand discovery. Instead, our planning process used simple ideas or lessons learned from other professional soldiers. Hopefully, sharing our experiences and lessons learned will benefit individuals and units.



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THE AFTERMATH OF WAR: CLEANING UP THE CONTRACTING BATTLEFIELD

XVIII Corps Acquisition Section

Operation Desert Shield/Storm is history. The line in the sand has been erased. The troops are back home, and the cheers and parades are fading memories. For many, the job is done, but others still have work to do. Contracting played a vital role in the support and sustainment of the deployed force. Thousands of contractual documents were written. In

fact, the XVIII Corps Acquisition Section (CAS) alone wrote over 9,500 contracts and purchase orders exceeding \$161 million. Most were completed without problems. However, some contract termination settlement proposals and damage claims still litter the battlefield.

This article offers insight into the problems contracting officers

faced as they tried to negotiate fair and reasonable settlement of the claims and termination proposals. These problems resulted from local business and contingency environments. This is not a "how-to" article. We believe our problems in Southwest Asia are generally applicable to contracting situations outside the United States. In writing this

article, we assumed the reader has a very basic understanding of contracts and contracting functions.

Government Contracts

Contracts written according to the Federal Acquisition Regulation (FAR) and the various military supplements did not cause any problems. However, we are not sure if using U.S. government contracts was a help or a hindrance. Law and regulations dictate the form and substance of contracts between the U.S. government and other parties. Unfortunately, the form and substance were designed for contracts between parties during peacetime and operating, more or less, by the same business practices. In wartime, the parties, or at least the U.S. government, conduct business with a heightened sense of urgency and shortened time frames. It is not reasonable or practicable to work "by the book," especially when the "book" was written without ever considering the predicament of the contracting officer in a contingency. Yet, to deviate from the book, according to the rules established by the book, requires time. One thing a contracting officer does not have in a contingency is time. The following are examples of situations that detract from the contracting officer's time:

- Determining which provisions and clauses apply and do not apply outside the continental United States (OCONUS).
- Explaining to prospective contractors why they must make certain certifications and then trying to get them.
- Creating documents according to the FAR.

Sound like groundless complaining? Consider this. We were turning out contracts in about 48 hours from the time we received a purchase request. We are speaking of

documents that exceeded the simplified purchase limit. These documents did not always, out of necessity, allow for full and open competition and the required approvals. These documents required the contracting officer to write the work statement. Even at end of the year "closeout," we doubt if most contracting officers face this type of time crunch.

Another problem with the contracts written by the FAR is that they are meaningless paper to a businessman in the desert who bases negotiations on oral communications. Most people with whom we did business had a limited command of written English. They signed contracts because we told them they must. The majority never read what they signed or did not fully comprehend what they had read if they did sign. One of the elements of a binding contract is competent parties. If a competent party must be capable of comprehending the written contract, then we are not sure we had any legally binding contracts.

Legal Recommendations

In future contingency operations, we recommend that the service secretaries for the armed forces use the authority granted under the Extraordinary Contractual Actions Act (Public Law 85-804) and Executive Order 10789. As we understand the authority granted in these two documents, contracting officers would be authorized to "enter into, amend, and modify contracts, without regard to other provisions of law related to making, performing, amending, or modifying contracts..." up to \$50,000 without secretarial approval. We have taken this to mean that contracting officers could write contracts to fit the situation and in a text understandable to both parties. We also know that this does not give full approval authority to contracting officers. However, the list of "dos and don'ts" is more con-

tracting officer "friendly" than the current guidance. We also recommend raising the \$50,000 approval limit to at least \$250,000.

Local Business

The local business customs and organizations of Saudi Arabia made settling claims and termination proposals very challenging.

The Walsh-Healy Public Contracts Act normally restricts the contracting officer from awarding contracts over \$10,000 to a contractor who is not a regular dealer or manufacturer of a product or service. However, the Walsh-Healy act does not apply OCONUS, and general traders were an excellent source for locating supplies and services in Saudi Arabia. General traders received a large percentage of the contracts awarded throughout *Operation Desert Shield/Storm*.

A "general trader" is a business establishment that sells or provides no particular product or service. General traders, normally small- to medium-size companies, make up most businesses operating in Saudi Arabia. Their business procedures and internal administration ranged from good to poor. The general trading establishments' lack of specialization required them to rely heavily on subcontractors to satisfy the terms of the U.S. government contracts. Their dependence on subcontractors complicated the settlement process. The subcontractors were mostly Bedouin businessmen who were not accustomed to conducting business in an organized manner. Their lack of organization and knowledge of Western business practices made it difficult for prime contractors to get documentation and other information necessary to submit with their claims. The following are examples of local business problems during the contract closeout process. These problems were common among general traders but also

found when dealing with the larger businesses.

• Saudi contractors rarely, if ever, document agreements among themselves. A verbal agreement and a handshake is still a standard practice for entering a contractual arrangement in Saudi Arabia. Documented contracts range from one to three pages in length and are general in nature. The lack of documentation was a problem for us when attempting to verify a contractor's costs. For example, contractors would submit

value of an asset, such as vehicles. There was not a "Blue Book" of vehicle depreciation costs, for example, to reference when attempting to settle replacement cost for lost or destroyed vehicles. This was a real problem because the contractors would claim the replacement cost of a new vehicle for a used vehicle. To obtain market pricing, we had to conduct several market surveys, a time-consuming process. Many dealers were unwilling to provide the U.S. government the information

Division of Motor Vehicles, in some cases, added an additional two to three weeks to the claim review process.

• Computing labor wage rates was difficult. Saudi Arabia's labor laws are very lax compared to U.S. standards. Wage rates paid to individuals of the same profession vary from employer to employer. Employers have total control over an employee's earnings because there is no minimum wage rate. To solve this problem, we requested assistance

Law and regulations dictate the form and substance of contracts. Unfortunately, the form and substance were designed for contracts between parties during peacetime. In wartime, the parties conduct business with a heightened sense of urgency and shortened time frames. It is not reasonable or practicable to work 'by the book.'

settlement claims for an adjustment for loss but would not have any documentation to back up their claims.

• The war's short duration caused ending many of the contracts for the convenience of the U.S. government. Many contractors were totally surprised by termination of their contracts. Though the clause was clearly written in the solicitations and the contracts, many contractors felt that terminating the contracts for the convenience of the U.S. government and not paying the unused portion of the contract was an act of dishonesty. It is allegedly standard practice in Saudi Arabia to pay for an entire contract period whether the term is completed or not. This alleged practice complicated negotiations. The contractors believed that they were being deprived of what was previously agreed upon as theirs. They took the position that they were being treated unjustly and were reluctant to negotiate.

• The Saudis do not have a standardized system for estimating the

requested. When it was provided, the individuals normally requested anonymity.

• The Saudi Arabian Division of Motor Vehicles also caused delays in processing claims and settlement proposals. Many license plates were lost from leased vehicles during the war. When returned, these vehicles could not be properly identified because most vehicles belonged to subcontractors. The contractors would attempt to trace the vehicle plate numbers through the Division of Motor Vehicles to acquire the chassis number. The Division of Motor Vehicles, for whatever the reason, would not provide the needed information to the contractors unless they were influential or knew someone influential to ask them. This put the contractors in the difficult position of accepting vehicles that they could not confirm as theirs. The contractors hesitated because once they accepted the vehicles the U.S. government was relieved of all responsibility for lost vehicles. The lack of cooperation from the Saudi Arabian

from the U.S. consulate. Consulate personnel conducted surveys of the market and developed an average wage rate.

• Islamic holidays halted most of the claims settlement procedures for nine days. Generally, all businesses shut down to celebrate the annual pilgrimage to Mecca in the spring. A similar situation also occurred in March and April during the Islamic holy period of Ramadan. During this holy period, the work day in Saudi Arabia is only three to four hours long for most businesses. Ramadan occurred in the middle of the turn-in process, causing delays in getting equipment turned in and inspected.

Reliability of Repair Costs

Processing contractor claims for damages to leased vehicles was a real challenge for us, mainly due to the technical reliability of the contractor's costs. Our areas of concern were the cost of parts, the labor costs associated with the repairs (both for labor hours claimed and the labor

rate used to determine the costs) and the lack of technical expertise available to assist us because of the different types of vehicles.

The contractors would usually provide three estimates for the repair parts to show that they had competition in developing their claim proposals. However, the validity of their claims was questionable as the contractors would have three estimates that were often exactly the same or very close to each other. Reviewing each claim on the numerous damaged vehicles showed a great disparity in the cost of individual repair parts. For an example, a windshield could cost \$200 for a 1985 pickup truck on one claim and \$600 for the exact type of truck on another claim, and usually from the same parts supplier. Some contractors even requested that we inform them of what we needed, and then they would put it in writing for our review. Based on these ambiguities, we had to review each claim very carefully to avoid paying different costs for the same repair part and to ensure that these costs were fair and reasonable. We could usually rely on our own expertise or that of the two Army wheeled vehicle operators assigned to the section for guidance on fair and reasonable parts costs on the commercial-type vehicles such as sedans. This task was more difficult dealing with the parts costs for major end items, such as tractors, trailers and engineering equipment, since these were often foreign makes and models that were not comparable to our military equivalent. To help with some problems on major equipment items, the two Army wheeled vehicle operators contacted numerous vendors to develop parts costs for various vehicles and then produced a summary sheet listing the lowest cost for a specific part for a specific make of vehicle found in the area. Many parts suppliers were willing to give costs

verbally but were reluctant to provide any cost data in writing as they felt this would hurt their business opportunities. This effort significantly aided us in determining fair and reasonable costs of repair parts based upon an independent estimate. In some cases, the repair parts costs were extremely high even with the competitive quotes from the vendor and the independent estimates. In these instances, we would discuss among ourselves and arrive at a standard cost that we considered fair and reasonable. When quotations for repair parts for similar items on one claim were often significantly different for the same type of vehicle and part on another claim, we generally used the lowest cost available for a specific item and applied it across the board. Most of the time, the contractor accepted this decision readily.

Labor Costs

The labor costs were also quite difficult to determine for many of the same reasons discussed for the repair parts. The contractor would have varying estimates for the repair of a vehicle with differing hours estimated for the same type of repair on the same type of vehicle. In many instances, the contractor did not provide the labor hours required to perform a specific function but just a total cost for the repair. We would request a breakdown detailing the number of hours per repair item, causing delays in processing the claim, and usually did not receive the information requested. The contractors who responded usually had inflated labor hours for both simple and complex operations. For example, replacing a tail light could take anywhere from 30 minutes to 15 hours. Because of inconsistent and unreliable labor hours, we had to rely on either the technical expertise of the two Army wheeled vehicle operators in our section or estimate the amount of time we thought was fair

and reasonable. This procedure again was fairly simple when dealing with small vehicles, but the real challenge came with the larger vehicles. After obtaining a standard repair guide for the various equipment, we used this as an authoritative source.

We considered some estimates fair and reasonable as far as time submitted to perform a repair. However, the labor rates would be extremely high compared to information supplied to us by the U.S. consulate for the standard labor rates within the country. After lengthy discussions, we agreed among ourselves to a maximum rate, established from the U.S. consulate's information, to allow for labor rates in processing repair claims. We considered this a reasonable approach to the problem on rates, but the estimates on actual hours to perform a specific task, where no guidance was available, resulted in using hours from the same type of vehicle without regard to the model.

Another controversial area in the claims submitted for damages was the inclusion of fair wear and tear items and other normal turn-in operations charges in the claim. Examples of these were the replacement of worn tires and brakes and the cleaning and waxing of vehicles after turn-in to the contractor. Replacing tires, burned-out light bulbs and brakes was usually denied as fair wear and tear. Expenses such as cleaning and waxing vehicles were considered part of the contractors' normal course of business covered as cost incorporated into the monthly lease rate. These charges also were denied.

In future operations, we recommend that contracting officers obtain repair and parts manuals to assist in processing claims after leasing vehicles. We also recommend assignment of a maintenance warrant officer to the contracting office during rede-

ployment to provide assistance and recommendations when no manuals or documentation exist to support the contracting officer. The contracting officers should also obtain from the contractor an agreed-upon listing of fair wear and tear items not allowed on a claim for damages when the contract ends.

Property Accountability

Accountability for equipment is tied to payments, responsive performance, replacements, claims and settlements. If done right, all parties are served well by property accountability. If not, all parties suffer. The urgent deployment of forces to Southwest Asia and the immediate need to provide necessary equipment created major difficulties in the accountability of leased equipment. We placed numerous contracts for all-terrain vehicles, medium and heavy transportation assets, and engineering equipment. Our major problems were the apparent lack of command emphasis on proper accountability for leased property and the poor functioning of contracting officer's representatives (CORs).

The unit commanders did not seem to be held accountable for the equipment as they would have been if the equipment had been placed on their property books as accountable items. The lack of equipment accountability while in the hands of U.S. forces was a major contributor to the claims we received for damaged or missing vehicles. This lack of accountability began with initial receipt and followed through the use and eventual turn-in of equipment. Command inattention to accountability of vehicles was never more evident than when the using units returned vehicles to the contractors before redeployment. All vehicles being returned were required to have a turn-in document signed by the contractor and the vehicle's user. Any vehicle with any damage was to have

the signature of the initiating authority on the report of survey or higher. A statement on the turn-in document requested this initiating authority to determine whether or not to continue investigating for a formal report of survey. A conservative estimate is that less than 1 percent of the hundreds of damaged vehicles required any investigations. The statements on the form usually stated that no negligence was involved and no further investigation was required. This attitude that "no one was at fault" seemed to confirm the lack of command emphasis on property accountability of leased equipment. This apparent lack of concern by the chain of command was largely due to units returning equipment just hours before scheduled flights redeploying them to their home stations.

COR Appointments

We appointed CORs on many contracts to better manage the assets, but we often had to replace or reappoint new CORs as their duties changed. Poor COR involvement resulted in a lack of emphasis on maintenance and accountability of leased equipment. Usually, units that did not use a COR properly were unable to motivate the contractor. This put the U.S. government in a poor position to enforce rights and avoid paying for services that were not received or damages that were not our responsibility.

The high priority on leasing equipment and getting it into the user's hands resulted in omitting a normal receiving procedure. With no COR available at the beginning of the contract, vehicles were not adequately checked for proper functioning and hidden damages before acceptance by the U.S. government. Often, there were no issue documents. The failure to document vehicle inspection before issue caused problems upon return in determin-

ing what damage was the fault of U.S. forces and what was present before receipt. Lack of issue documents at turn-in has cost the U.S. government money by giving the contractor a chance to claim previously existing damages.

During initial issue, the CORs often failed to record the engine number, chassis number and other administrative serial numbers on the vehicle. Usually only the license plate number was recorded. Despite vehicle substitutions and exchanges during *Operation Desert Shield/Storm*, often no records verified that a vehicle was ever in service. In many instances, equipment was damaged. The condition of these vehicles and their locations were sometimes reported to the contractor, but without written documentation or notification of the contracting officer. Without proper accountability by the COR or commanders, equipment remained damaged and unusable or was abandoned by the unit. This usually resulted in contractors billing us for equipment that was not in use but still in the possession of U.S. personnel. At the end of the war, hundreds of pieces of equipment were lost or abandoned without license plates and without any way to trace the vehicle to its owner. This resulted in numerous claims from the contractor for payment for lost vehicles.

COR Critical

During the performance phase of the contract, the COR is critical in ensuring that the U.S. government actually receives its supplies or services. The COR must be familiar with all the contract requirements and ensure enforcement, or the U.S. government will pay unnecessary expenses. Many times, units did not use the COR. In these cases, the contractor had no designated point of contact to certify documents. The contractor often obtained a signature from any user on the receiving report

or invoice. The invoice was regularly certified authorizing payment in full for the services on the contract. These same customers usually complained bitterly that the contractors were not responsive to their calls for maintenance services. These complaints were usually nonspecific and made verbally by a messenger rather

invoices or receiving reports show a license or serial number as well as equipment type and quantity.

- Requiring units to appoint competent individuals as CORs and then to stabilize these soldiers rather than change CORs frequently. The appointment and

award of a Firm Fixed Price (FFP) contract. However, without basic bookkeeping, handling some claims and Termination for Convenience (T4C) settlement proposals was difficult. T4C proposals were initially misdirected by the contractor to unearned revenues instead of the appropriate costs. Claims typically

'...unit commanders did not seem to be held accountable for the equipment as they would have been if the equipment had been placed on their property books....The lack of equipment accountability while in the hands of U.S. forces was a major contributor to the claims we received for damaged or missing vehicles.'

than in writing. General statements from the customers were not sufficient to withhold payment from the contractor, especially when the user had signed for services as received. We could not make deductions to a contract for nonperformance when the receiving documents certified that the services had been received. The deductions should have been annotated on the invoice or receiving report by the unit or COR. If CORs had questions or doubts, they should have contacted the contracting officer for guidance.

In future operations, we highly recommend:

- Holding commanders of using units properly accountable for the equipment leased from contractors. The units should have the same accountability requirements on leased equipment as for equipment on property books.
- Conducting a thorough pre-inspection by competent maintenance personnel before the unit accepts equipment and again before turn-in. A central issuing point or transportation motor pool (TMP) could control this pre-inspection.
- Requiring in the contract that

proper use of the COR is the key to successfully managing the leased vehicle problem. The COR should be identified by name and properly appointed during the development of the requirement. The unit should get the COR, as soon as identified, involved in providing the contracting officer with all the information required so the unit quickly receives the best possible contract support and equipment.

These corrective actions are critical if the U.S. government is to avoid paying for damage that is not our responsibility and to ensure that soldiers are held accountable for the proper control and use of equipment.

Accounting for Costs

In settling both claims and termination proposals, the objective is to reach a fair and reasonable price by mutual agreement. Settling by mutual agreement requires satisfactory explanations and documentation from the contractor for costs. In Saudi Arabia, the contractor's accounting systems were practically nonexistent or, at best, inappropriate for accounting for individual elements of cost. The ability to track costs by Cost Accounting Standards (CAS) is not a prerequisite for

included a rate for labor hours that wrongly included indirect overheads cost and also cited the labor hours in a lump sum without appropriate documentation and detail.

The limitations of the contractor's accounting systems should be kept in mind when writing contracts with a high probability for claims, such as leasing vehicles and equipment. For instance, the contracting officer, with little additional effort, can have the contract establish that only direct labor hours and materials will be considered on claims for repair. Exact hourly rates can be part of an advance agreement worked out at the first opportunity after award. If the claim work later becomes so great that it causes a significant change in the contractor's overhead, the contractor may be allowed to demonstrate this. This is a fair plan and eases the documentation effort.

Further, the contract can be written so that claims must be well documented to substantiate direct labor hours for each task performed and that actual invoices or multiple quotes must be submitted for associated parts prices. This will help establish that both labor and parts are fair and reasonable costs for repair of each piece of equipment. This also makes not allowing certain repairs or

tasks easier because the labor for each task is spelled out. The contracting officer should beware of quotes for prices. Our experience shows that the contractor can easily get unreasonably high quotes from third parties for replacement vehicles, repair parts and repairs. However, the information was not always unreasonable and eventually formed a valuable data base.

Some contractors tried to claim the full rental rates for time required to perform equipment maintenance or to complete repairs after return of the equipment. To improve service and lease contracts written for future contingencies, we would address the equipment maintenance and repairs completed after the turn-in of the equipment in the contract. Lease or service payments under the contract should end with the return of the equipment. However, the contractor still must spend time and effort working on the equipment, which is allocable to contract. This work is considered either deferred maintenance for which the U.S. government already paid under the lease agreement or work for which the U.S. government will pay under a claim. Stating this in the contract will avoid arguments.

Requiring definition and documentation of direct labor costs and materials at the beginning of the FFP contract will speed the claim process. This gets the contractor to begin tracking costs and expenses, which later helps the contractor and the contracting officer in developing and evaluating termination settlement proposals.

The contractor needs to understand this major point before making his termination settlement proposal: address the costs and expenses affected by the termination and do not base a settlement on the unearned revenues remaining under the terminated portion of the contract. Perhaps the lack of an income tax, cost

accounting standards and previous exposure to government contracting makes it difficult for even the most successful businessmen in this part of the world to shift their focus from anticipated earnings to the appropriate, unrecovered costs and expenses.

The Review Process

In spite of all the difficulties we faced, none were more disheartening and disillusioning than the review process imposed upon us. In fact, this review process prevented us from accomplishing the mission we were left to do. We left behind approximately 43 contracts and over \$20 million in claims that we were not able to settle. The reason we could not settle them is the review process.

In late May 1991, we were instructed that a review board must look at all claims, regardless of dollar value. Also, the review board must approve the contracting officer's decision before the claim could be paid. The review board initially consisted of legal counsel and two lieutenant colonels. An estimate was that the review board would add three to seven days to the settlement process. At some point, a cost/price analyst, the principal assistant for contracting (PARC), and the head of contracting activity (HCA) also began reviewing every claim. (The review policy and procedures never were in writing to the best of our knowledge.) The result was that the review board added at least 30 days to the settlement process. This is only an estimate because some of the claims we were working have been with the board for over 45 days. With one or two exceptions, we have not settled any claims that we sent to the review board.

We do not question establishing a review board. We do question the soundness of reviewing every claim. Two of us have unlimited warrants and the other two have \$1 million warrants. (A warrant is a document

that gives the contracting officer authority to obligate the federal government up to a specified amount of money.) However, we could not settle any claim regardless of dollar amount. It makes better sense to review claims based on a dollar level or complexity of issues or both. A review board established along these guidelines would allow contracting officers to do their jobs at a level of authority granted by their warrants and not bog down the system with needless administrative oversight. Unfounded micro-management impacts negatively on the morale and efficiency of contracting officers and calls into question the integrity of the system.



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NBC PROTECTIVE COVERS

CPT James P. Sabisch

One of the biggest fears on the battlefield today is attack by nuclear, biological or chemical (NBC) weapons. Many countries can deliver chemical or biological attacks, and some are moving closer to being able to deliver nuclear attacks. For these kinds of attack, survivability becomes the number one rule of operations. Potential NBC targets on the battlefield run from the theater rear to the company front. We must ensure that not only do soldiers survive, but also that supplies and equipment remain free of contamination from an NBC attack. With NBC Protective Cover (NBC-PC), supplies and equipment can be protected from NBC attacks. NBC-PC greatly reduces the contamination from NBC attacks as well as decontamination requirements. For logisticians, NBC-PC has another important side benefit. It also provides protection from effects of natural elements such as rain, snow, blowing sand and ultraviolet light. Protecting supplies from natural elements is the first step in avoiding NBC contamination. NBC-PC also ensures that supplies arrive at the front line undamaged.

NBC-PC is a self-extinguishing, impermeable, multiple-reinforced plastic sheeting that does not require decontamination. If contaminated, this plastic sheeting will be buried with other contaminated

equipment such as protective overgarments. This will reduce the need for decontamination support. NBC-PC provides protection from contamination by liquid, chemical or biological agents, and nuclear dust. NBC-PC may be used for up to 45 days and still prevent penetration by liquid agents for 72 hours. Petroleum, oils and lubricants (POL) will not affect the cover. It can be used under all battlefield conditions including dust, smoke, aerosols, rain, fog, salt water spray, salt fog and haze.

NBC-PC is available in 20-foot by 149-foot or 12-foot by 309-foot rolls. A roll weighs under 130 pounds. NBC-PC is transportable by air, rail, sea or ground vehicles. Additional transportation assets will not be necessary for transport. Patterns are available in standard, nonreflective woodland, desert and arctic camouflage. Another benefit is that soldiers may write on NBC-PC with indelible ink or a felt tip marker. This allows "visibility" of contents under the cover and

provides product visibility without product exposure.

The British Army, which has a small chemical corps, uses protective covering extensively. They use Chemical Agent Resistant Material (CARM). It is a polyethylene, reinforced material (lightweight plastic) similar to the plastic used as temporary covering of buildings under construction. It comes in rolls 4 meters wide by 50 meters long with holes and fasteners down the sides.

The British NBC defense concept, known as "contamination control," is similar to our concept of "contamination avoidance." Contamination avoidance includes actions to reduce the risk of being an NBC target and actions to lessen effects of NBC hazards once attacked. British contamination control begins at the manufacturing point where CARM is applied to supplies and equipment. This process allows for forward throughput of supplies and equipment

without the need to apply additional NBC protective covering.

Using the British approach to contamination control, NBC-PC could cover supplies, equipment, pallets and tentage. It provides a readily available, versatile contamination avoidance measure. The NBC-PC can provide overhead contamination protection for



The nuclear, biological, chemical protective cover (NBC-PC) is available in standard (shown here), woodland, desert and arctic patterns.

individual and crew-served weapon fighting positions and maintenance work areas. The NBC-PC also can provide an impermeable ground cover for mission-oriented protection posture (MOPP) gear exchange operations.

Training Requirements

The cost of NBC-PC, about \$600 a roll, prohibits its use in training. However, soldiers can train with a tough, heat-resistant, clear polyester film called Mylar that is readily available. Mylar also may be used to protect supplies and equipment in an actual NBC environment. Each layer of Mylar provides two hours of contamination protection. Another possibility for a training cover is black polyethylene, a lightweight plastic film available in various widths and lengths.

All soldiers can use and maintain NBC-PC. Formal training is unnecessary. Soldier training should consist of on-the-job and refresher training using the NBC-PC technical manual.

Decontamination operations are labor intensive and time-consuming. Decontamination of supplies and equipment requires diversion of critical personnel, equipment and other resources. Use of NBC-PC in supply operations will greatly reduce decontamination manpower and equipment requirements on a force that already may stretch thin providing support forward. Effective use of NBC-PC could free up resources, such as water for decontamination operations, cargo trucks for transport of necessary decontamination supplies and personnel conducting the decontamination operation. Also, time constraints may not allow for decontamination operations, causing the forward shipment of "dirty" (contaminated) supplies and equipment. Using NBC-PC eliminates the requirement to decontaminate supplies since they would not get contaminated. POL (Class III), ammunition (Class V), and repair parts (Class IX), are the most critical combat classes of supply. These classes of supply are difficult, if not impossible, to decontaminate.

Bulk Class III products cannot be decontaminated. Contaminated POL could cause internal engine damage, as when certain nerve agents and JP5 (jet petroleum fuel number 5) become mixed in small quantities. Decontaminating packaged POL products is a labor intensive, time-consuming process. Class V can react with the standard decontamination agents currently used by the Chemical Corps. Decontaminating solution number 2 (DS2) and Super Tropical Bleach (STB) cause a heat reaction in the decontamination process. This could damage sensitive munitions or cause a premature explosion. Decontamination of Class IX would be extremely labor intensive. Products such as filters, gaskets and packaging material could only be decontaminated by time and natural weathering since decontamination agents would damage or destroy them.

Protection Priorities

To gain the most from NBC-PC, units need to develop a protection plan. This plan should provide guidance but avoid details normally found in standing operating procedures (SOPs). Commanders at all levels will provide input for the protection plan. It focuses the protection effort and gives priority to the most critical capabilities or assets. Finally, each company or detachment commander will develop a priority of protection list. This list generally should be ordered by rank and consistent with designated battle tasks. The priorities list must be flexible and change as the situation or support requirements change.

All supplies and equipment cannot possibly be covered with NBC-PC. For example, a corps ammunition storage point (CASP) would cover several grid squares on a map with a 1:50,000 scale, making it impractical to cover all the ammunition. Configuring preferred (critical) munitions in unit loads and covering them with NBC-PC would ensure a ready supply of "clean" ammunition. Sensitive munitions such as the Dragon

or TOW II (tube-launched, optically tracked, wire-guided) antitank missile cannot be decontaminated with STB or DS2. Time and small quantities of calcium hypochlorite (HTC) (swimming pool chlorine) or sodium hypochlorite solution (household bleach) are required for decontamination of sensitive munitions. For a readily available supply of clean ammunition, individual stocks of preferred munitions must be covered.

When developing the priorities of protection list, the highest category is for extremely delicate or highly sensitive supplies. These are supplies not readily relocated out of the attack site. The next level of protection is for critical supplies and services with a high demand and low turnaround time. The final category is precontainerized or sealed packaging. Supplies and equipment in this configuration are stored in the open without undue risk of contents becoming contaminated. Examples of supplies precontainerized or sealed are Meals, Ready-to-Eat (MREs), packaged POL and containerized Class IX, such as engine assemblies. More categories of protection may be developed depending on mission and the commander's guidance.

Additional Benefits

The numerous benefits from using NBC-PC probably have the greatest impact on logisticians. Protection of supplies and equipment in an NBC environment also protects against effects of the natural environment.

During *Operation Desert Shield/Storm*, supplies and equipment were destroyed or damaged from rain or blowing sand. One division lost almost 15,000 cases of bottled water in three days, after rain caused the cardboard shipping boxes to fall apart. One support group (corps) estimated that weather caused the loss or damage of \$10 million in supplies and equipment. The breakdown of losses for this unit by class of supply is as follows:

Class I	\$3,000,000
Class II, IV	\$2,500,000
Class III (packaged)	\$500,000
Class IX	\$4,000,000

Had NBC-PC been available, the loss or damage of supplies and equipment would have been much less, thereby preserving precious assets and dollars for use elsewhere. If future support concepts include the "Just-In-Time" delivery now used in the civilian sector, military units will not be able to lose huge quantities of supplies and continue the mission.

There is a drawback to covering supplies and equipment with NBC-PC. If the cover remains in place for a long time, condensation may begin to form on the underside. This buildup of condensation would have the same effect

on packaging and supplies as rain. But condensation will be a minimal problem as supplies and equipment are constantly uncovered, issued, transported and recovered. This movement would reduce any measurable problem resulting from a buildup of condensation. Logisticians must actively seek ways to reduce the cost of sustaining soldiers in the field. We need to make every effort to protect valuable supplies and equipment from the effects of NBC attacks as well as loss caused by the natural elements. A simple solution, such as NBC-PC, provides protection from both effects. With fewer supplies available in military depots and more supplies purchased and delivered "Just-In-Time," we may not have the luxury of replacement supplies readily available, at the

decisive time in battle. Sustaining our soldiers in the field is not a sometime option, it is an all-the-time duty.



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'During Operation Desert Shield/Storm, supplies and equipment were destroyed or damaged from rain or blowing sand.'

SUPPORTING THE XVIII AIRBORNE CORPS ARTILLERY DURING OPERATION DESERT SHIELD/STORM

CPT Todd A. Falk

This article provides my perspective on logistical support of the XVIII Airborne Corps Artillery and its subordinate units during Operation Desert Shield/Storm. I will critically analyze the deficiencies inherent in providing direct support to nondivisional units and lay a foundation for the need to restructure the support concept of nondivisional units, particularly within the artillery arena. I have approached this problem from my own experience with a non-divisional artillery unit. While it may appear that the article may be overly critical of certain organizations, that is not my intent. My intent is to describe support as I saw it at the time.

During the initial deployment phase, the XVIII Airborne Corps Artillery expanded from one field artillery brigade to four field artillery brigades of more than 8,000 personnel. The Corps Artillery consisted of active field artillery brigades from Fort Bragg, NC; Fort Sill, OK; and Army National Guard field artillery battalions from West Virginia, Alabama and Tennessee (Figure 1). These brigades and separate batteries also had unique systems that created challenges within the logistical arena. These major systems were 155-millimeter (mm) towed howitzer, 155-mm self-propelled howitzer, 8-inch self-propelled howitzer, Multiple Launch Rocket System

(MLRS), Army Tactical Missile System (ATACMS) and Q-36/Q-37 Radar.

The concept of logistical support for the XVIII Airborne Corps Artillery was sufficient, organic combat service support (CSS) to perform all missions and be self-sustaining for at least five days. No brigade carried its basic load of petroleum, oils and lubricants (POL) and ammunition because of the lack of assets. Brigades also lacked adequate direct support maintenance during the entire operation.

Four different sources initially provided direct support for Corps Artillery:

1. 1st Corps Support Command

(COSCOM)

- All classes of supply
- Field services

2. 21st Support Command (SUPCOM)

- Showers, latrines, tents
- Water, ice
- Subsistence

3. Host Nation Support

- Water
- POL
- Line haul (fuel, equipment, supplies)

4. Contracting Office

- Local contracts
- Ordering officers and Class A agents

The direct support burden for 1st COSCOM increased as more of its

UNIT	MAJOR SYSTEM
XVIII Abn Corps Artillery	Headquarters
1st FAD, Fort Bragg	Q-37 Radar (2)
3-27th FA BN, Fort Bragg	MLRS (27)
6-27th FA BN, Fort Sill	MLRS (9), ATACMS (18)
18th FA BDE (Abn), Fort Bragg	M198 Howitzer (72)
75th FA BDE, Fort Sill	M109 Howitzer (72)
212th FA BDE, Fort Sill	M109 (48), M110 Howitzer (24)
196th FA BDE, TN ARNG	M109 (18), M110 Howitzer (24)
C TAB, 25th FA, Fort Sill	Q-36 (3), Q-37 (2) Radar
C TAB, 26th FA, Fort Sill	Q-36 (3), Q-37 (2) Radar

NOTE: The 75th FA BDE was attached to 7th Corps at the start of *Operation Desert Storm*. The 196th FA BDE, from the Tennessee Army National Guard, started arriving in mid-January and provided fire support during the ground attack.

LEGEND:

Abn	Airborne	FAD	Field Artillery Detachment
ATACMS	Army Tactical Missile System	MLRS	Multiple Launch Rocket System
BDE	Brigade	TAB	Target Acquisition Battery
BN	Battalion	TN ARNG	Tennessee Army National Guard
FA	Field Artillery		

Figure 1. XVIII Airborne Corps Artillery Task Organization

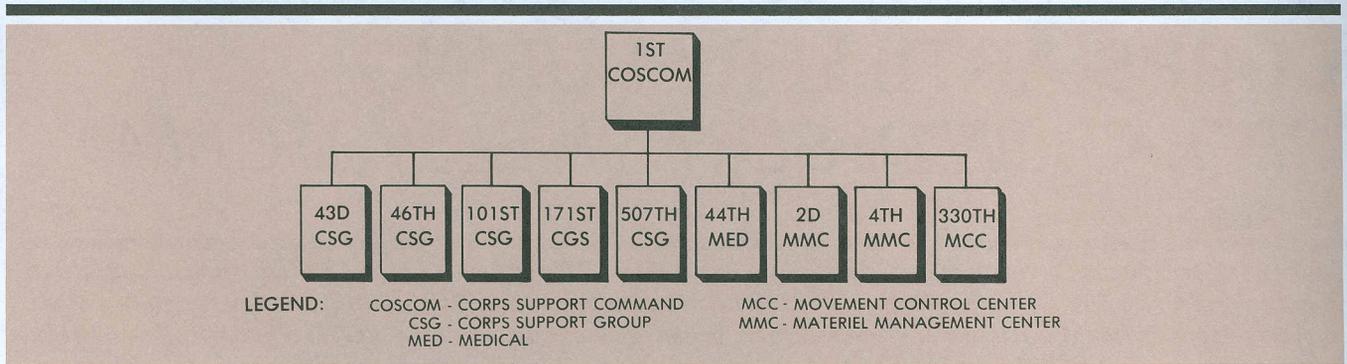


Figure 2. 1st Corps Support Command (COSCOM)

subordinate units arrived in theater. The 1st COSCOM (Figure 2) included five corps support groups (CSGs) and the 2d and 4th Materiel Management Centers (MMCs). Four different CSGs supported XVIII Airborne Corps Artillery during *Operation Desert Shield/Storm*. Some brigades exchanged direct support units (DSUs) five different times.

Personnel from the XVIII Airborne Corps Artillery started arriving in Saudi Arabia on August 8, 1990. By the first week of September, the advanced parties were ready to receive the main bodies. In the supply system, only the bare necessities were available. 1st COSCOM units had skeleton crews for operations, and they appeared to be overwhelmed by the arriving personnel. Upon arrival, the Corps Artillery established itself at the Saudi Arabia National Guard (SANG) compound in Dhahran. The compound served as a staging base while each brigade collected equipment and supplies from the port of Dammam.

Throughout the operation, XVIII Airborne Corps Artillery combatted the problem of no dedicated direct support for supply and maintenance operations. The area support concept

did not work well for nondivisional combat and combat support units. This is particularly true for Field Artillery units because they shift to many different parts of the battlefield according to doctrine.

Once brigades received a total battalion or element, they conveyed to locations 200 kilometers northwest of Dhahran. Initially, organic assets provided support until *Operation Desert Storm* began. During this phase, providing quality life support systems in the desert environment was the main emphasis. 1st COSCOM, with assigned CSGs, supported the XVIII Airborne Corps Artillery under the area support concept. However, from my perspective, support to nondivisional units was inadequate because CSGs focused on and aligned with divisional units (Figure 3). Transportation, personnel, equipment and command emphasis also contributed to the CSG's inability to provide quality supply support forward to nondivisional units.

Observation: The area support concept does not work for nondivisional units that doctrinally move throughout the entire battlefield.

Recommendation: The Army

should tailor support to provide dedicated direct support to nondivisional units. A company-sized, multifunctional support package should be developed for these units. This allows a good working relationship that continues throughout the operation. As non-divisional units move through divisional sectors, the multifunctional support package would accompany them. This provides uninterrupted logistical support. Contingency units that deploy on a moment's notice especially need this dedicated working relationship.

Soldier Support

This phase began when units arrived in forward base camps and ended at the beginning of *Operation Desert Storm*. Units began arriving by the third week of September.

At this time, the main concern was to provide the soldiers with a suitable living environment. For almost four months, forward base camps were home for the soldiers. The camps sprang up from the desert sand and the closest urban city was 200 kilometers away. Located three to four kilometers off the only main supply route (MSR), base camps were accessible by tactical or four-wheel-drive vehicles. Engineers

CORPS SUPPORT GROUP (CSG)	DIVISION (DIV)
43d CSG	1st Cavalry DIV
46th CSG	82d Airborne DIV
101st CSG	101st Airborne DIV
171st CSG	24th Infantry DIV
507th CSG	3d Armored Cavalry Regiment

Figure 3. XVIII Airborne Corps Support Group (CSG) Support Relationships

later built roads to the base camps for easier access.

The only way to obtain supplies was by the direct coordination of battalion and brigade S4s. Most supplies, minus water and POL, were brought by organic vehicles driving the 400 kilometers to Dhahran and back. They would go through supply channels based in Dhahran or buy from the local economy. By November, 1st COSCOM units were in our location but still unable to provide critical Class II (general supplies), IV (construction and barrier materiel) and IX (repair parts). This was probably due to the transportation shortage in theater.

Local Purchase: Ordering officers and Class A agents were critical during the entire operation and especially the early stages. Immediate needs and requirements could only be filled locally. The Army's supply system could initially provide only about 10 percent of our needs and our ability to local purchase significantly enhanced our mission readiness and living conditions. We could locally purchase some of the following:

- Class IV material
- Office supplies
- Office furniture/equipment
- Fans
- Ice chests
- One-time services
- Repair parts
- Tools
- Morale, welfare and recreational equipment

Some problems for our ordering officers and Class A agents were the limit of \$2,500 per purchase and prayer time during business hours in Southwest Asia. The ceiling of \$2,500 hampered meeting our need for bulk purchases and limited our ability to provide enough supplies on time. Any purchase over \$2,500 required the contracting office to buy it for us. Four times during the business day, all businesses closed for prayer. The majority closed from 1200 hours to 1600 hours. They then closed three more times, half an hour each, until 2100. Purchases had to be planned around these prayer times. The language barrier never was a problem because many

businesses had at least one employee who spoke English.

Ordering officers and Class A agents, with local purchases, provided most supplies throughout the seven months in theater. However, as time progressed, our ability to local purchase decreased while our requirements remained the same.

Observation: Without the ability to local purchase, operations and quality of life in the desert would have been reduced.

Recommendation: Ordering officers and Class A agents should be identified and trained before deployment (two each per battalion or separate unit). This will enable them to fulfill immediate logistical requirements in the theater of operations. Ordering officers should also be authorized to purchase up to \$5,000 instead of the current \$2,500 limit per purchase.

MTOE, TOE and CTA Shortages: Units did not deploy with many items critical for sustaining desert operations. The Army should carefully consider the ability to obtain these supplies rapidly for future operations. Common tables of allowances (CTAs), tables of organization and equipment (TOEs) and modification tables of organization and equipment (MTOEs) did not fully prepare our units for the desert. The system was sluggish because no contingency stocks existed within the theater.

Latrines and showers: Latrines and showers were locally constructed. Host nation assets transported them by flatbed trucks to field sites. Water in showers was frigid in the desert climate. Of the various heating techniques, immersion heaters proved the most effective.

Tents: Tents were a problem throughout the theater of operations. The Saudi four-man tent provided a cooler shade than the standard Army tent but little or no protection against rain and sandstorms. Corps Artillery units required over 1,800 Saudi tents to protect every soldier.

Reefer Vans: We got eight 20-foot refrigerator, or reefer, vans from port but had two major problems. First, we waited for a general officer's signature for two days. His staff was in a position

to issue the reefer vans but not given the authority. This was a waste of a general officer's time and a disservice to the soldiers who had to eat Meals, Ready to Eat (MREs) for over three weeks. Secondly, the reefer vans contained no self-contained power generator. This caused a further delay of four weeks as we tried to contract for purchasing power generators. Local leasing of 40-foot reefer vans corrected the problem and filled our remaining requirements.

Water Support: Host nation support provided bottled water in each brigade's support area. Host nation as well as 1ST COSCOM units delivered bulk water daily.

- Water chillers: Water chillers for "water buffaloes" provided chilled water in the desert. They lowered the temperature of the water enough to provide a more palatable product. This raised the water consumption among the soldiers - which was a vital concern. These water chillers were few in the beginning, and it was first-come, first-serve. However, we later received enough through the supply channels for every unit.
- 20,000-gallon collapsible water container: A 20,000-gallon bag was positioned in each brigade support area for each battalion and separate battery forward area water point supply system (FAWPSS).
- FAWPSSs: These provided enough water for showers and mess operations.

Cots: Cots were a problem throughout the entire operation. Many units did not deploy with cots and demanded them upon arrival. Cots vanished as fast as they came in and were issued on a first-come, first-serve basis.

Observation: Without an efficient way to get certain contingency items, soldiers endure undue hardship. MTOEs do not fully support the unit's ability to fight and sustain in a desert environment.

Recommendation: Soldiers need a way to deploy with these critical items or immediately obtain them upon arrival in theater. Items impractical to have on hand should be placed in con-

tingency stocks. Support equipment such as generators *must* accompany the item that requires external support. "Beefed-up" contracting teams need immediate and *wide* deployment to take full advantage of host nation assets.

Supply Management

Class I (Ration Issue in Theater):

This appeared to be a clear case of the "haves" and the "have nots." Soldiers back in the urban areas were on an A-M-A (A-Rations; Meals, Ready to Eat; A-Rations) ration cycle, while soldiers in the desert ate M-M-M initially and later T-M-T (T-Rations; Meals, Ready to Eat; T-Rations). Class I had no clear control throughout the entire operation and a lack of transportation increased the problems. A-Rations and B-Rations never had clear-cut procedures for issue but were a big morale booster when served. The limited T-Ration selection significantly lowered morale of the soldiers. Chicken cacciatore became what SPAM was to soldiers during World War II.

Observation: MREs and T-Rations are not suitable to keep serving over an extended period. Rations, along with mail, are a big morale booster or "buster."

Recommendation: Units must have the means to store and transport rations as soon as they arrive in theater. The theater command must establish clear-cut standard procedures for fair and equal distribution.

Class II and IV: Upon arrival in theater, the Corps Artillery brigades were shuffled between several different DSUs. Some brigades changed as many as five times in a six-month period. These changes spread supply requisitions across Saudi Arabia. Ordering officers procured the bulk of Class II and IV simply because DSUs did not have these supplies on hand. Another problem within the supply system was the switching between two different MMCs. Both the 2d MMC and the 4th MMC were colocated within 1st COSCOM but operating under differ-

'Class I had no clear control throughout the entire operation and a lack of transportation increased the problems.... Chicken cacciatore became what SPAM was to soldiers during World War II.'

ent automated systems. The 2d MMC operated under the Standard Army Retail Supply System (SARSS) and 4th MMC under the Standard Army Intermediate Level Supply Subsystem (SAILS). This caused several problems with our units from Fort Sill, OK. Each time they placed Class II, IV and VII requisitions through 4th MMC, the orders were canceled. They were ordering supplies under old Department of Defense activity address codes (DODAACs) from Fort Sill that were not on 4th MMC's system. These DODAACs were rejected when critical supplies were ordered. Several other factors contributed to the problem:

1. The individual units failed to follow proper procedures to track requisitions. They simply did not follow up on their requisitions.
2. Many supply sergeants relied on the "good ol' boy network" entirely too often. While this was often the quickest way to get the needed parts or supplies, it did not give the supply system a chance to build demands.
3. Many times, when asked, commanders could not produce a document number for critically needed items. What they thought was on order was never requisitioned.
4. There was a loss of confidence in the supply system because of the constant switching of DSUs.
5. Reconciliation printouts did not arrive in units until late December.
6. Priorities were the same for every unit. This further delayed and bogged down the system.

Observation: The Army needs a standard supply system that works with all systems. Units had a difficult time tracking requisitions because of the

constant switching of DSUs. "Fill or kill" is not the answer.

Recommendation:

Units need dedicated supply support activities. This will provide a constant address to obtain needed supplies and reduce the audit trail.

Class V: The issue and turn-in procedures for Class V were far from efficient. One-stop service did not exist. Paperwork had to be hand-carried to two different MMCs, corps G4 and the appropriate ammunition supply points (ASPs). All theater ASPs also required SUPCOM's signature. Even with paperwork approved, there was no guarantee that the ASP could fill the requirement. The information flow between MMCs and ASPs was two days old in many cases.

Standard procedures did not exist among the different ASPs in theater. Several times, units arrived at an ASP to find out that procedures were totally different from another ASP or that procedures suddenly had changed. This caused further delays and wasted valuable time with the lack of standardized procedures.

Observation: Failure in communications and standard procedures within theater caused delays and wasted manhours and resources.

Recommendation: The theater command should establish standard procedures theaterwide for turn-in and issue of ammunition. Bureaucracy should be minimized to one-stop service. Proper communication systems should be used to enhance operations.

Class VII: Forced issues pushed down to major subordinate commands created problems for XVIII Airborne Corps Artillery. This works well with divisional units that have an entire DISCOM picking up, transporting, storing and issuing to divisional units. However, it does not work with a headquarters staff that does not have the personnel or equipment to distribute large quantities of supplies. During each force issue, Corps Artillery G4 drove over three hours, one-way, to pick up the equipment for

itself and four brigades. Supplies were laterally transferred to each brigade and then loaded onto other vehicles. The brigade then repeated the process down to the battalions.

This experience offers an example of how the supply system at times was not responsive for nondivisional units. Despite DSUs within a few kilometers of our units, the DSUs only could provide bulk water, POL and limited Class IX and maintenance support. Corps Artillery headquarters had to provide its own organic vehicles for issue of Class II, IV and VII items.

Nuclear, Biological, Chemical (NBC) Equipment: Corps Artillery had to provide over 10 Heavy Expanded Mobility Tactical Trucks (HEMTTs) on two separate occasions to pick up all NBC overgarments, boots, gloves and hoods. NBC equipment for over 6,600 soldiers was pushed down to XVIII Airborne Corps Artillery's headquarters for issue - a huge undertaking and all accomplished by headquarters S4 staffs.

Here are a few of the forced issue items issued directly to the Corps Artillery:

- Long-range navigation (LORAN) aids
- High Mobility Multipurpose Wheeled Vehicles (HMMWV)
- POL coupler adaptors
- Batteries
- Water tankers
- Clothing/boots
- Radios
- Japanese vehicles

Observation: Certain supply activities were not able to perform their mission due to the shortage of personnel and transportation assets. This caused undue hardship on nondivisional major subordinate commands and their staffs.

Recommendation: Dedicated DSUs for nondivisional units could provide the needed support. A multifunctional company could provide sufficient support for a field artillery

brigade. With a supply platoon and a transportation platoon, a multifunctional company could provide the needed external support.

Class IX and Maintenance: Class IX repair parts and direct support maintenance experienced severe problems from the beginning. Repair parts were slow to arrive in theater, and critical parts were the hardest to obtain. We relied on DSUs that were not fully capable or equipped to repair our systems. In most cases, the DSUs had never supported a field artillery brigade. They lacked the major assemblies, maintenance personnel, authorized stockage lists (ASLs), bench

'The nonlinear battlefield's advantages of maneuver and speed hinge on the ability of the logistical tail to provide adequate support.'

stocks and organizational repair parts to support an artillery brigade. The DSUs tried to provide adequate support, but it takes time to develop a meaningful support relationship.

Some brigades changed direct support maintenance units five times while in Saudi Arabia. The old DSU would start receiving parts to support the artillery unit just as the unit would change to another DSU. Job orders were being closed out with only partial repairs, and the unit had to tow equipment to the new DSU. Repair parts were lost and reordered, causing further delays in completing job orders.

Observation: The current doctrine of area maintenance support for nondivisional artillery units does not work. The battalions and brigades lack a working relationship with direct support maintenance and this reduces combat effectiveness.

Recommendation: Stabilized, dedicated maintenance support teams for nondivisional units are a necessity. A team's personnel, ASLs, tools and test equipment should be tailored to support each assigned unit. These teams should train with and support

the same unit in peace and war. A typical artillery brigade requires artillery, communication/ electronic (COM-MEL) and automotive teams. A platoon-sized, dedicated maintenance section could support a brigade.

DSU Flexibility

On January 16, 1991, elements of Corps Artillery started the long movement toward the XVIII Airborne Corps' western sector. The field artillery brigades once again changed missions, and now were reinforcing different divisions. The process of building a new logistical support relationship began as the logistical "tail" of the 1st COSCOM slowly caught up.

COSCOM units did not start arriving until a week later, and many were not operational until after three weeks. Initial logistic packages pushed by COSCOM contained Classes I, III and V. They also had limited packaged POL and NBC items within the first week. Ordering officers and Class A agents became critical for units to obtain needed Class II, IV and IX supplies.

COSCOM developed support packages to travel with brigade trains once the ground war began. These packages would haul the required POL and ammunition for sustaining artillery battalions during combat operations. Mortuary affairs and maintenance teams were also attached.

Ground War

Once the ground war started, Corps Artillery rapidly advanced north and then east. Predesignated logistics (LOG) bases never materialized because of the rapid advances on the battlefield. Communications hindered our ability to find the LOG bases. Information flow was several hours behind due to the constant movement and adverse weather. Mobile subscriber systems (MSEs) were on hand, but the ability to communicate and rely on the system never materialized. The only reliable means of communication was

radio teletypewriter (RATT). Messages were passed on the RATT but the process was slow. Information often was more than three to four hours old. This led to tremendous difficulty for the 196th Forward Brigade. After four days, the brigade had difficulty locating LOG bases because of the rapid advance. Class I POL and water became critically short in the next 48 hours. After a failed attempt to push supplies to the 196th Forward Brigade, the brigade was able to locate the 171st CSG, west of Basra, and obtain needed supplies.

Observation: In this situation, area support works to the fullest advantage if units can locate CSGs. Rapid, reliable communications provide the critical link to supply operations and supported units.

Recommendation: Support elements need the flexibility to react to

current changes on the battlefield. Units must be able to find support on the nonlinear battlefield. A multifunctional support unit for nondivisional units would enhance the ability to react to these rapid changes.

The Solution: Multifunctional Support-The Forward Support Company (FSC)

The nonlinear battlefield's advantages of maneuver and speed hinge on the ability of the logistical "tail" to provide adequate support. Nondivisional units (artillery in particular) need dedicated logistical support to exploit their capabilities.

A multifunctional support company has several advantages over today's support doctrine. The ability to provide tailored, habitual and responsive support are its greatest assets. This unit, colocated with the brigade trains, could provide all direct support necessary for

that brigade. A specific TOE should be based on the type of unit supported, but the "building block" for a company should consist of four platoons: supply, transport, maintenance and medical (Figure 4). Organization within a corps artillery would consist of three FSCs and a staff colocated with the Corps Artillery headquarters.

Today's existing support doctrine for nondivisional units, particularly field artillery, needs a serious overhaul. Support for the XVIII Airborne Corps Artillery during *Operation Desert Shield/Storm* was effective - but by no means efficient. Without the dedicated effort of many professional combat, combat support and combat service support soldiers, an operational support system would not have existed.

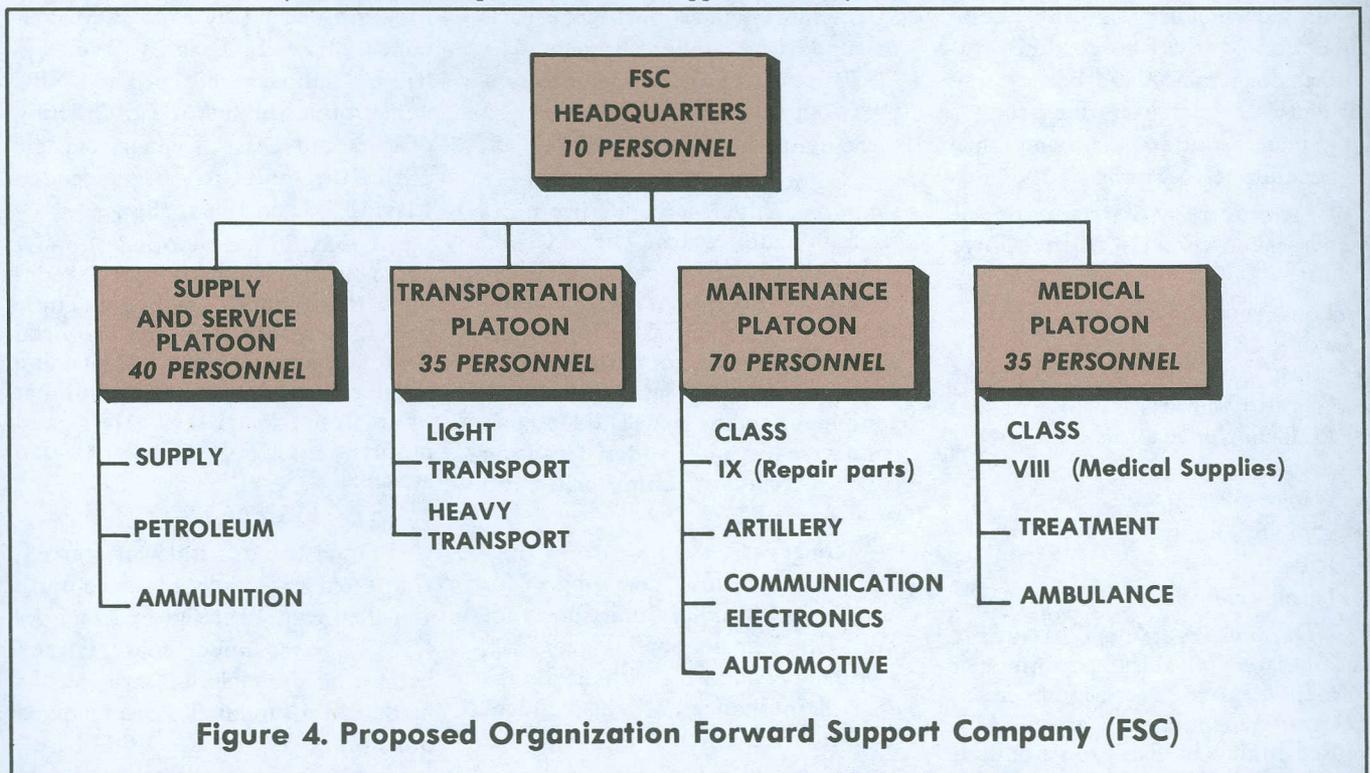


Figure 4. Proposed Organization Forward Support Company (FSC)

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WHO'S ACCOUNTABLE?

PROPERTY ACCOUNTABILITY

DURING DEPLOYMENT

CPT Sheila A. Flowers

With today's world situation, a commander must be ready to deploy immediately with all assigned personnel and equipment. As we saw during *Operations Just Cause* and *Desert Shield/Storm*, there is usually no time to conduct extensive pre-deployment preparations. While taking appropriate property accountability measures in peacetime does not guarantee success on the battlefield, it can be a combat multiplier. How? By ensuring units will have equipment available to train or deploy. Accurate property accountability is a mandate that requires active support at every level of command. With serious budget restraints in the near future, all units must effectively use property on hand.

Minimum Loss

This article will not find fault or condemn preparations for deployment to *Operation Desert Shield/Storm*, but will remind or inform accountable and responsible soldiers of their responsibilities according to AR 710-2 (Supply Policy Below the Wholesale Level). All accountable and responsible soldiers must ensure before deployment that all property has been transferred to a command-appointed individual. Since *Operation Desert Shield*, it became obvious that no operational system has been established or implemented to minimize the loss of property accountability during combat. Often, procedures that existed were not followed. The main problem is that units deployed with property

classified as property book accountable, and sometimes, nondeployable. According to installations at Fort Benning, GA, and Fort Lee, VA, most units deployed with installation and/or the Furnishings Management Office (FMO) property. Therefore, accountability cannot be accomplished until the return of the units. To date, property accountability cannot be established because all the equipment has not been returned. Installations have numerous reports of survey pending, which is critical to the property book officers (PBOs) because the accountability for that property still cannot be established.

Maybe you have heard and maybe you even believe these fallacies: "Once the area is declared a combat zone, the need for accountability goes out the window" or "When the first bullet is fired, everything will be written off as a combat loss." These statements reflect our own ignorance of property accountability and the possible mismanagement of millions of dollars. Yes, commanders can authorize all property lost as combat loss, but this should be used only for an actual loss because of combat situations and not as an excuse to subsidize negligence.

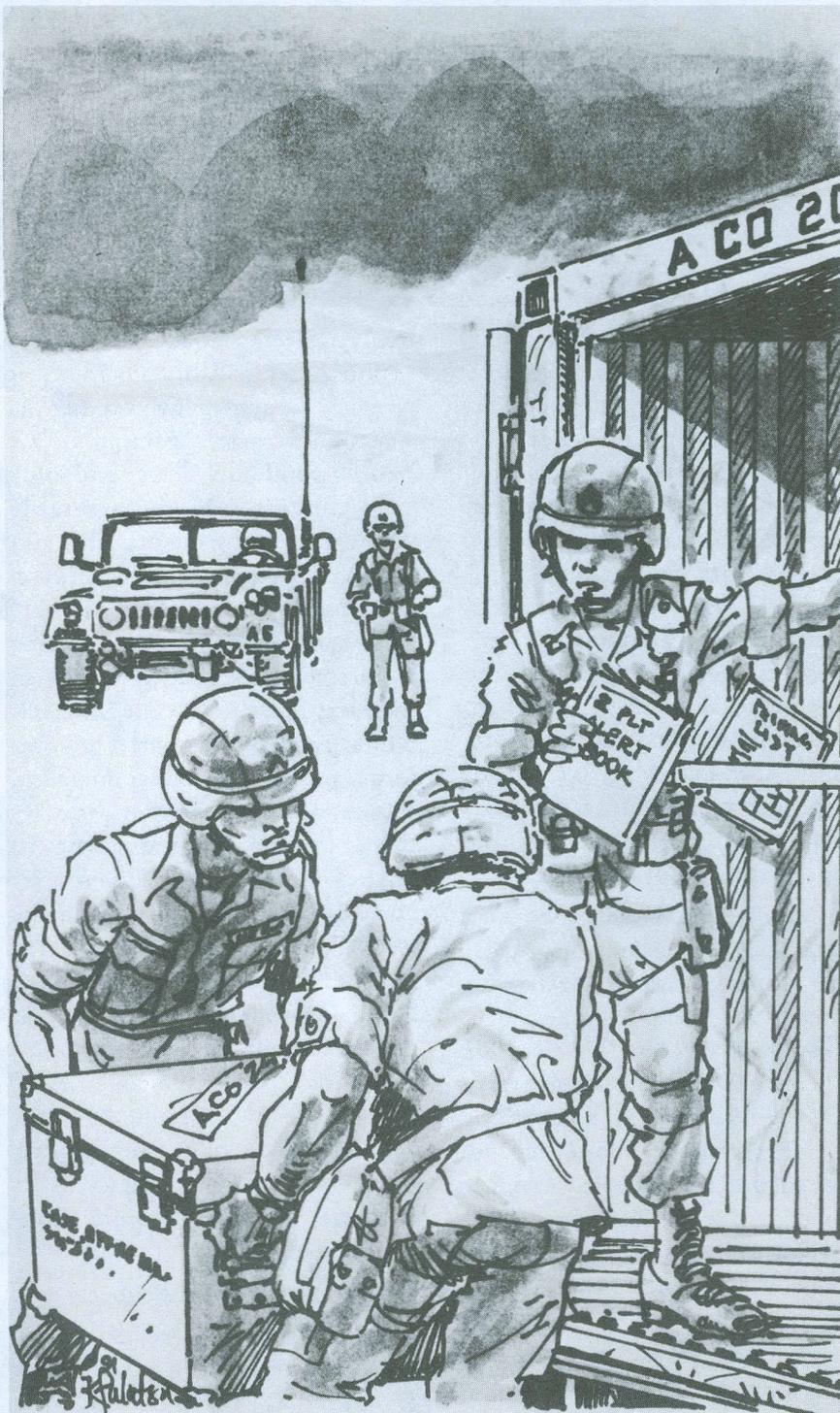
Accountability and Responsibility

Before going any further, let's broadly define property accountability. AR 710-2 gives specific policies for the accountability and assignment of property issued to a unit. With the exception of real property such as buildings, warehouses and

fixed engineered facilities, all property in the Army will be classified for property accountability purposes. As a reminder, these classifications are "nonexpendable," "expendable" and "durable." **Nonexpendable property** is equipment that is not consumed and retains its original identity during use. This property consists of items with an accounting requirements code (ARC) of "N" in the Army Master Data File (AMDF). Nonexpendable property requires formal property book accountability. **Expendable property** is property that is consumed in use or loses its original identity in use. This property consists of ARC "X" items in the AMDF. Expendable property requires no formal accountability. **Durable property** is property that is not consumed in use. This property consists of items coded ARC "D" in the AMDF, and does not require property accountability. However, the unique characteristics of durable property require hand-receipt control.

Nonexpendable Property

Now that the property categories are defined, let's focus on nonexpendable property, the only category that requires formal accountability. Under the category "nonexpendable" are these subgroups: installation, organization and FMO property. Installation property consists of "nondeployable" property issued to a unit (except for expendable items and personal clothing) under authority of



Commanders can authorize all property lost as combat loss, but this should be used only for an actual loss because of combat situations and not as an excuse to subsidize negligence.

a common table of allowances (CTA) or other approved document. Organizational property is property authorized to a unit or organization under the modification table of organization and equipment (MTOE) or a deployable table of distribution and allowances (TDA) authorization document. Organizational property also includes all CTA property that deploys with the unit. Finally, FMO property consists of furnishings for the barracks, quarters and offices, including linen and curtains. This property is nondeployable and should be left in the fixed facility. Of the three categories defined, installation property accountability is usually the heart of all problems experienced by the PBOs.

Responsibility A Problem

Our recent experiences during *Operation Desert Storm* seem to show that unit commanders attach little significance to the fact that installation property is nondeployable (and accountable) according to regulation. Nevertheless, someone must maintain responsibility for this property. Property responsibility is the relationship between personnel and the property under their control. Responsibility is assigned and acknowledged in writing for all property listed on the property book. This responsibility is a major problem during deployments because a soldier who is responsible must have control of the property. However, when the unit deploys, someone in the rear detachment signs for the property. Is this soldier picking up accountability or responsibility?

The types and levels of responsibility are clearly defined in AR 735-5 (Policies and Procedures for Property Accountability). It is important to understand that both command and supervisory responsibility depend on the location of the

property within the chain of command. This responsibility is part of the job or position and comes with assuming a command or supervisory position: this responsibility cannot be delegated. Direct responsibility is a formal assignment of property responsibility to a soldier within the supply chain. With command and supervisory responsibility, property is within a soldier's custody but not necessarily in that soldier's possession. Accountable officers have direct responsibility but can delegate by written designation or hand receipt. Finally, the personal responsibility is always accompanied by the physical possession of property. With these definitions of the four levels of responsibility, we can safely determine the responsible individual in any situation. In our example above, the soldier is picking up responsibility, not accountability. The accountable soldier will always remain the primary hand receipt holder or the ultimate property book officer. This is why we must understand that accountability is about maintaining formally prescribed property records for property.

The Bottom Line

While responsibility is about the care, custody and safekeeping of government property, the specific type of responsibility depends on the rela-

tionship of the soldier to the property. Accountability and the four levels of responsibility are separate obligations and carry specific duties. Financial liability can be assessed against any soldier who fails, through negligence or misconduct, to perform those duties in AR 735-5. If units would comply with AR 710-2 and AR 735-5, PBOs would have documentation for the accountability of all property. For example, in order to deploy installation property, the regulations require a request approved by the commander who authorizes the unit to deploy with the property. This seems very simple, but entire units deployed from installation without following these procedures. Often units deployed with computers, office equipment and other installation property - some of it did not return. Writing these losses off as a combat loss when the equipment was not authorized to deploy in the first place goes beyond a "wink and a nudge" at the regulations.

The Solution

In short, if a unit is forced to include all additional property required in its mobilization plan, we would not have a problem. Battalion and brigade S4s (Logistics Officers) should take a hard look at what installation property would be "nice to have" in combat. They should

maintain the documentation of the installation property together with proper authorization for its deployment at the unit. During a deployment, running these documents through the approval chain would be a simple matter. This "blank check" authorization to deploy that installation equipment would also ensure that PBOs get advance notice of what property the unit plans on deploying. Accountability then becomes a non-issue because we would have accountability. Proactive measures toward property accountability before combat will eliminate many problems once deployment operations begin.



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Attention

This is the last edition of the *Quartermaster Professional Bulletin* that will be mailed directly to all Quartermasters on active duty in the rank of master sergeant and above. Beginning with the summer 1992 edition, there will be no copies sent to individuals each quarter. All soldiers will have to subscribe to the *QMPB* through the Government Printing Office (GPO). The order form is on page 64 of this issue and will be printed again in upcoming issues. GPO will be the only source of obtaining subscriptions. So if you don't want to miss an issue of the news of the Corps, get your order now for the *Quartermaster Professional Bulletin*.

WINNING THE AGE-OLD BATTLE AGAINST FOODBORNE ILLNESS

Dr. Steven E. Anders

War is filled with danger and uncertainty. But the threat in combat doesn't always come from enemy weapons. The sad fact is that throughout history far more soldiers have died from nonbattle injuries (NBI) and infectious diseases of one kind or another than from actual battle wounds.

The real culprits, by and large, have been tiny pathogenic microorganisms--bacteria, viruses and parasites--that infect soldiers directly or indirectly through contaminated food and water supply. If left unchecked, foodborne illnesses can spread quickly and destroy an army from within.

The most common such maladies are typhoid fever, infectious hepatitis, dysentery and acute diarrhea, often referred to in older works and military treatises as "campaign diseases." Indeed all the Great Captains from Caesar onward knew well their evil effects. Their symptoms include severe cramps, fever, abdominal pains, vomiting, and diarrhea or bloody diarrhea. They can take weeks or months to heal and can result in death if not properly treated.

The good news is that during *Operation Desert Shield/Storm*, the U.S. Army experienced the lowest NBI rate for foodborne and waterborne illnesses of any war in recorded history. Even the most optimistic analysts would never have predicted so relatively few cases of serious gastrointestinal diseases, given the speed of mobilization and the large number of troops and great distances involved. It was also known beforehand that the theater lacked certain sanitary features, and that there were high levels of communicative diseases in the area for which visitors might prove easy targets (Table 1).

In the end, of course, the world saw for itself the superior weapons and tactics the allies used to defeat the Iraqi army during the "100-Hour War" in Southwest Asia. Many marveled at the record-breaking logistics effort it took to sustain such a monumental undertaking. Largely unnoticed in all this is the fact that the U.S. Army scored an equally impressive victory against its unseen enemies, the "microbial foot soldiers" that have wreaked such awful havoc in past wars. Indeed, to fully appreciate the success of this latest operation, it helps to recall how truly devastating foodborne and waterborne diseases have been throughout the course of military history.

The problem didn't just emerge in recent times. Some biblical scholars, for instance, have gone so far as to speculate that the plague which destroyed the Philistines around 1100 B.C., after their battle with the Israelites, was actually an epidemic of acute dysentery. Others point out that a similar fate befell the ancient Assyrians in 700 B.C. and that both the Greeks and Romans succumbed to the effects of dietary-related diseases on their varied campaigns throughout the Mediterranean region.

Europe in the Middle Ages saw the advent of more lethal weapons, including the use of gunpowder, but the specter of infectious diseases continued to cast a long shadow over the medieval battlefield. For example, King Edward's disciplined knights, archers and pikemen prevailed at the battle of Crecy in 1346. But they were so sorely afflicted with dysentery at the time that their French opponents scoffingly referred to them as the "breechless" or "bare-bottomed" army.

In eastern Europe, the Hungarian King, Albert V, was on the verge of a great victory against the Turkish infidels on October 27, 1439, when he took sick and died from a sudden bout of acute dysentery. Three days later his whole army found itself in the throes of an epidemic, collapsed and was forced into wholesale retreat.

Even the famed Spanish Armada that set sail for England a century and a half later suffered the debilitating effects of foodborne and other related diseases. Rampant outbreaks of typhus and dysentery onboard the filthy, overcrowded vessels undermined the fleet's effectiveness and helped bring about the British victory.

In the early modern period, no less a military genius than Napoleon himself felt the ravages of microbial enemies within the ranks of his Grand Army. The 600,000-man force he sent to invade Russia in 1812 met with freezing weather, starvation and widespread epidemics of typhus and dysentery. Less than 40,000 returned safely and only about a thousand were ever again fit for duty. Turning to this side of the Atlantic, the U.S. Army in its 200-year history has been spared none of the ill effects of foodborne disease in combat (Table 2). In the Revolutionary War, diarrheal disease killed more of General George Washington's men than English muskets. Doctors at the time, still a century away from discovering microorganisms, attributed the cause of diarrhea and dysentery to such things as "bad air," too much alcohol or hot weather. Their treatments included bleeding, emetics and purgatives (which caused even more vomiting and diarrhea), quinine, opium and other concoctions, none of which had the intended effect.

**POTENTIAL FOODBORNE DISEASES
IN OPERATION DESERT SHIELD/STORM**

<u>TYPE</u>	<u>TIME</u>	<u>SYMPTOMS</u>	<u>SOURCE</u>
SALMONELLA	6-48 HOURS	FLU-LIKE	POULTRY
AMEBIC DYSENTERY	2-4 WEEKS	DIARRHEA	HUMAN FECES
BACILLARY DYSENTERY	2-3 DAYS	BLOODY DIARRHEA	HUMAN FECES
TRAVELER'S DIARRHEA	12-72 HOURS	FEVER/DIARRHEA	HUMANS
BOTULISM	12-36 HOURS	NERVOUS SYSTEM	CANNED FOODS
BRUCELLOSIS	2-3 DAYS	FEVER, DIARRHEA DEPRESSION	UNPASTEURIZED MILK PRODUCTS
TYPHOID	2-4 WEEKS	FEVER/HEADACHE DIARRHEA/DELIRIUM	WATER/FOOD
TRICHINOSIS	10-14 DAYS	FEVER/DIARRHEA	PORK
HEPATITIS	15-50 DAYS	LIVER DYSFUNCTION	FECES

Table 1.

In the Mexican War (1846-48), General Zachary Taylor saw hundreds of his hapless troops die of typhus, dysentery and acute diarrhea in squalid camps along the Texas border. To his south, General Winfield Scott's army landed safely at Vera Cruz and, in a remarkably successful campaign, managed to march overland and capture Mexico City. Enroute though, he lost more than a third of his force to disease--which gave real meaning to the term "Montezuma's revenge. "

Statistically, at any rate, the Mexican War was the deadliest war ever fought by American soldiers. Of the more than 100,000 troops that participated, only about 1,700 were killed in

action, while more than 11,000 died from disease and exposure.

The ratio of battle versus non-battle casualties and death by disease improved somewhat by the time of the American Civil War. Yet, two soldiers still died of disease for every one killed as a result of battle wounds. Soldiers on both sides had more to fear from microbes than minie balls. The same old culprits, acute diarrhea and dysentery, accounted for more sickness and death than any other disease. In all, more than 1 3/4 million cases were reported, leading to some 45,000 deaths.

The subject of camp diseases often dominated soldier correspondence during this era. Frequent men-

tion of having come down with "flux" or "the bloody flux" (the common terms for all bowel disorders back then) literally fill the pages of Civil War diaries and letters. "There is but one kind of Sickness here," one Yankee recruit lamented in a letter to the homefolks, "and that is diarrhea, and everybody has it." A Massachusetts sergeant campaigning in Virginia in 1862 reports that "my bowels trouble me a great deal." While still another confides in his diary: "[I'm] sick with diarrhea. Sickest I ever was. My bowels moved 18 times in 3 hours."

This situation gradually improved during the course of the war. In the decades after Appomattox, real headway was made

**U.S. ARMY DEATHS: BATTLE VERSUS NONBATTLE INJURY (NBI)
AND DISEASE IN MAJOR WARS, 1775-1975**

<u>WAR</u>	<u>BATTLE</u>	<u>NBI/DISEASE</u>	<u>TOTAL</u>
REVOLUTIONARY WAR	————	————	4,044
WAR OF 1812	————	————	1,950
MEXICAN WAR	1,721	11,155	12,876
CIVIL WAR (NORTH)*	110,070	249,458	359,528
SPANISH AMERICAN WAR	396	1,939	2,335
PHILIPPINE INSURRECTION	1,004	3,161	4,165
WORLD WAR I	50,510	69,446	119,956
WORLD WAR II	202,113	103,892	306,005
KOREAN CONFLICT	33,629	20,617	54,246
VIETNAM CONFLICT	47,355	10,796	58,151

*Note: Confederate records show at least 94,000 died of battle wounds and another 100,000 from disease and nonbattle injuries.

Table 2.

in the discovery of microscopic sources for some of these age-old diseases and also in the development of some workable remedies. Of no less importance, the postwar era ushered in a nationwide sanitation movement that would result in across-the-board improvements in public health and personal hygiene. Even so, these breakthroughs were not enough to stave off widespread disease among soldiers in the Spanish-American War at century's end.

In the "Splendid Little War," as it's often called, U.S. forces scored a stunning victory over Spain and thus gained for this country world-class status. Moreover, it only lasted a couple of months, while the total number of Army dead was held to around 2,400. Upon closer examination though, this victory appears a little less splendid. Only 396 of those died from

battle wounds, the rest from diseases, mostly contracted while still in camp.

Troops in the Caribbean may not have died from eating "embalmed beef," as critics alleged. They did get sick and die in abundance from typhoid, dysentery, malaria and yellow fever. Many feared, in fact, that if the Army had tried to remain in Cuba for any length of time it would have been completely dissipated and destroyed by disease.

Not until the great wars of the 20th century did U.S. forces abroad manage to reverse the age-old trend and see fewer deaths by disease than deaths from battle casualties. By the time of World War I, the military had come to recognize the overwhelming importance of proper sanitation and good messing procedures

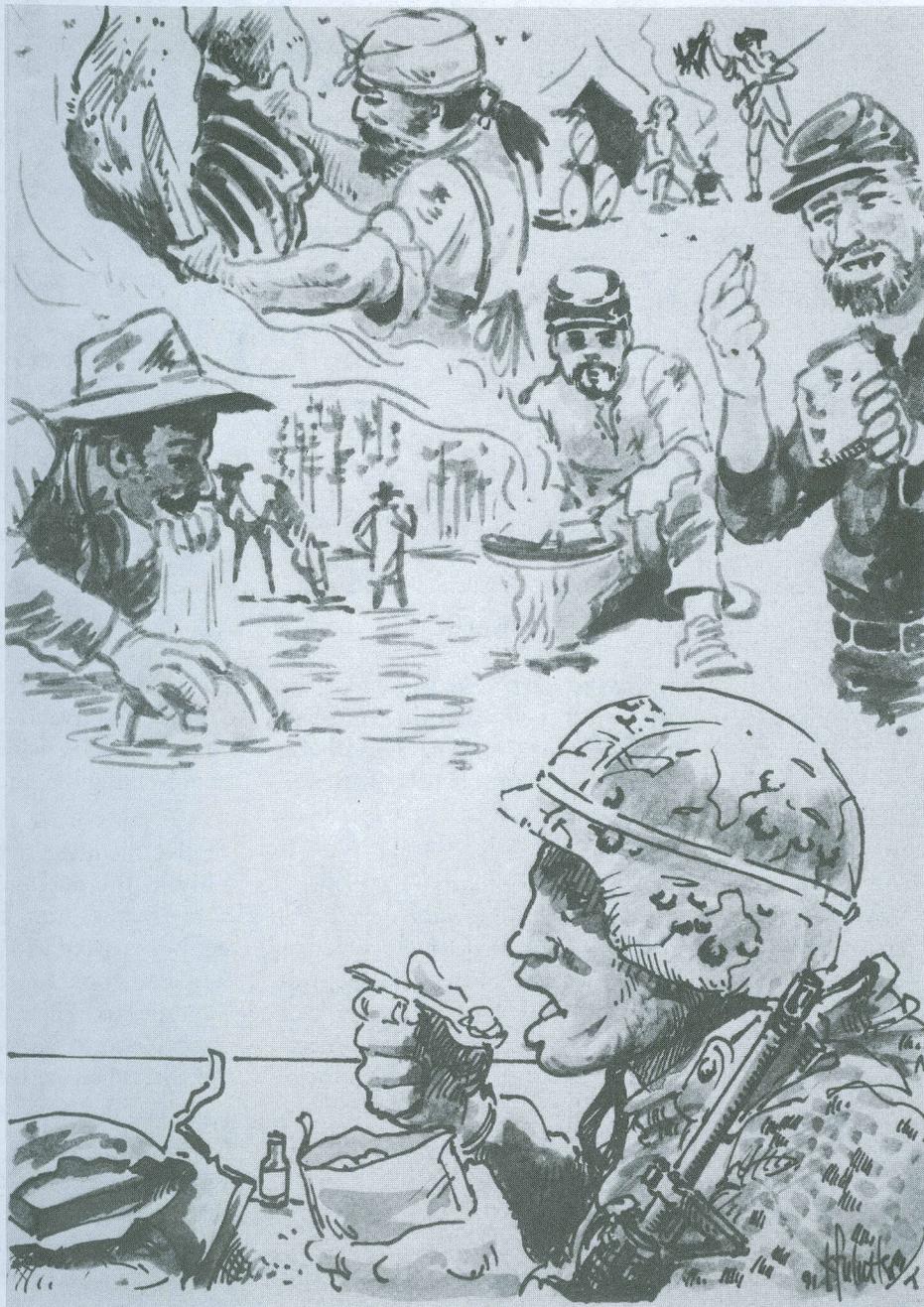
for stemming the spread of deadly intestinal diseases. Allied doughboys on the Western Front were never completely immune from the effects of foodborne illness (including an occasional outbreak of botulism), but clearly a revolution had occurred.

The Army faced a far greater challenge in World War II. With more than 24 million meals served each day to GIs (government issues) in every theater around the globe, the possibility of foodborne illness loomed as an ever present danger. Yet, in the final analysis, less than 10 percent of all disease in overseas troops was attributed to diarrheal diseases, a far cry from the wars of centuries past. The main exceptions involved an explosive epidemic in North Africa in the spring of 1943 and an ongoing problem in the Southeast Asia theater where the rate

of such diseases often reached 50 percent.

The trend toward lower and lower incidences of foodborne disease has continued in the postwar decades, but can never be taken for granted. As late as the Korean Conflict, 25 percent of a division force was incapacitated by foodborne-related diseases. Likewise, the expeditionary force that went to Lebanon in 1958 during *Operation Blue Bat* experienced a fairly high rate of foodborne illness mainly as a result of consuming locally grown food.

In Vietnam the NBI hospital admission rate for disease was 351 per thousand per year, with the most common complaint being diarrheal type diseases. The problem usually stemmed from a breakdown in unit mess sanitation or from troops eating locally procured vegetables contaminated with shigella and salmonella bacteria. Better med-



The Evolution of Army Rations: From 'Fire Cakes' and Hardtack to Meals, Ready to Eat and T-Rations

ical surveillance and improved mess and water sanitation helped drive down NBI rates toward war's end. Also, the widespread use of disposable paper plates and plastic eating utensils meant that far fewer cases of

diarrheal disease were linked to poorly cleaned mess gear. Indeed, one commander reported that "dysentery among the Marines was higher in Naples than it was in Beirut because in Beirut we ate C-Rations." Compared with other recent Army exercises in the Middle East, the troops of

diarrheal disease were linked to poorly cleaned mess gear.

More recently, when the Marines returned to Lebanon in 1982 as part of a larger multinational peacekeeping force, they took to heart some of the hard-won lessons learned from the 1958 deployment. While their neighboring French and Italian counterparts dined more or less exclusively on fresh foods and gained rave reviews in the press, the Marines depended far more heavily on C-Rations and MREs (Meals, Ready to Eat). The latter were not always as welcome, perhaps, but resulted in a much lower rate of gastroenteritis.

Indeed, one

**ILLNESS RATES OF U.S. ARMY SOLDIERS
DURING SELECTED EXERCISES
(TOTAL OUTPATIENT VISITS)**

EXERCISE	RATES/1,000/DAY
BRIGHT STAR 1985	44.9
BRIGHT STAR 1987	35.6
BRIGHT STAR 1990	24.0
DESERT SHIELD 1991	6.54
DESERT STORM 1991*	2.98
* AS OF 23 APRIL 1991	

Table 3.

Operation Desert Shield/Storm experienced much lower rates of all types of illnesses (Table 3). During the buildup and deployment phase, figures show the daily sick call rate at six or seven per thousand. When the actual shooting started, it dropped to less than three per thousand per day—a clear indication of the overall good health of the soldiers sent into combat.

Throughout the Persian Gulf War, medical surveillance teams found that the rate of diarrheal disorders consistently averaged less than one case per thousand soldiers each day. Mostly these were just annoying instances of "traveler's diarrhea" which studies show is commonplace with about half of all visitors, military and civilian, in third world countries. It comes from a sudden change of climate and different eating habits, but is usually not terribly debilitating or life-threatening. That's slight comfort, to be sure, for the soldier confined to a fighting position or tank.

More importantly, there were no reported outbreaks of waterborne diseases and no known instances of Hepatitis A, which comes from human waste infecting the food sup-

ply via diseased food handlers. It is fairly common throughout the Persian Gulf region. That Hepatitis A did not pose a problem for U.S. soldiers is a tribute to the expert job performed by Army food inspectors and supervisors.

Likewise, there were no reported instances of bacillary dysentery or shigellosis (the "bloody diarrhea" of old), nor of cholera, or typhoid, or brucellosis which comes from infected milk and other dairy products. And the list goes on. Fortunately, none of the truly nightmarish scenarios regarding foodborne illnesses that might have taken place in the desert occurred. Why?

There are many reasons for this success story, and some unlikely heroes. Certainly the high quality of packaged food and careful food handling had a great deal to do with the low incidence of foodborne illness. Looking back, it appears that adoption of a "family of rations" to accomplish the very difficult field feeding mission and the consequent use of B- and T-Rations, MOREs (Meals, Ordered Ready to Eat) and MREs paid off royally in terms of overall health benefits. Likewise, the

use of bottled water, along with the highly effective water purification equipment, also helped immeasurably in preventing the spread of disease.

It was crucial, too, that the preventive medicine team got involved early in the deployment and made sure that soldiers understood the perils associated with food-related illness and took appropriate steps to limit the risk. The Army veterinarians contributed to the process by ensuring that when fresh food items were purchased, they came only from approved sources.

Finally, it should be emphasized that unit commanders and noncommissioned officers did their part by "taking care of soldiers." In this case, they enforced proper sanitation and insisted on good personal hygiene at all levels as the best possible defense against the unseen enemies in war.



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TOTAL QUALITY MANAGEMENT THROUGH TOTAL QUALITY LEADERSHIP

Dr. Phillip H. Kirkpatrick

Editor's Note: In response to Presidential Executive Order as well as Department of Defense, Department of the Army, and U.S. Army Training and Doctrine Command guidance, the U.S. Army Quartermaster Center and School (USAQMC&S) began a process to bring Total Quality Management through Total Quality Leadership (TQM/TQL) to the Quartermaster School. This journey started with a blank sheet of paper and has grown to a fairly successful program that can work in all Army activities. This article is Part One of a two-part series. Part One portrays the first year's journey and the guiding principles of TQM/TQL. Part Two will show how Total Quality Management through Total Quality Leadership will work for you in your unit.

Total Quality Management (TQM) through Total Quality Leadership (TQL) is an exciting "can do" philosophy based on a set of principles fostered by "top-down" leadership. It's basic premise is that any task, mission, job or function can be improved if enough information about that process is gathered and then those closest to the process are allowed to fine-tune it. Here at the USAQMC&S, the first steps toward implementing that philosophy were taken in July 1990. USAQMC&S department directors then initiated work on TQM/TQL with a sense of urgency heightened by *Operation Desert Shield/Storm*. Since then we've seen some interesting, and exciting, developments. The commanding general, USAQMC&S, chairs the Quartermaster TQM Executive Steering Committee (ESC). The ESC has 16 voting members comprised of department directors or the "corporate leaders" of the USAQMC&S. They approve or deny proposals for changing a process, and they also commission Management Working Groups (MWGs). MWGs, as the title implies, consist of managers and supervisors with a direct operational interest in a specific mission-essential task. The ESC has commissioned five MWGs for the Quartermaster School based on the USAQMC&S Mission-Essential Task List (METL): Doctrine

MWG, Evaluation MWG, Force Design MWG, Life Cycle Management of Personnel MWG, and Training MWG. In brainstorming sessions, these managers identify processes they would like to see improved for analysis. By consensus, the USAQMC&S MWGs prioritized their respective "process lists" and moved to charter Process Action Teams (PATs) to perform the core work of TQM.

A PAT is the "meat and potatoes" of TQM. It is a group of workers closest to the process to be analyzed. An MWG, through its respective members, nominates personnel and a chairperson for the PAT; and they are then trained by TQM staff personnel within the USAQMC&S. All PAT activity is scheduled and directed by the chairperson, who is also responsible for each meeting's agenda and publication and distribution of minutes. A PAT's first action is designing a "flow chart" of the process under study. This is the information gathering phase of TQM/TQL mentioned earlier.

All original actions in TQM are "top-down" driven, but success is generated from the "bottom-up." The Training PAT initiated the first success story by showing how to save money by automating classroom management in the Quartermaster School. The ESC approved funds for state-of-the-art computer software and hardware

to manage facilities with a centralized, automated system. The Training MWG projects a \$25,000 savings in manpower over the next three years with computerized classroom management.

Following the lead of the Training PAT, the Doctrine PAT showed cost savings by revising the process for developing doctrinal field manuals (FMs). New computer hardware and software for the Publications Division, Directorate of Training and Doctrine, will keep more of the FM production in house. The Training MWG projects a three-year savings of \$185,000 for the self-contained, more manageable publication process.

The Life Cycle Management of Personnel PAT, Evaluation PAT, and Force Design PAT are each in the analysis phase of their process reviews. The Doctrine and Training MWGs have each created a second PAT.



Dr. Phillip H. Kirkpatrick, a veteran of the Korean Conflict and a University of Richmond (VA) graduate, serves as Special Assistant for Total Quality Management through Total Quality Leadership (TQM/TQL) for The Quartermaster General. He is responsible for analysis, design, development, implementation and control of the organizational effort to institutionalize TQM/TQL.

RESHAPING THE CORPS FOR THE FUTURE: CMF 92

MAJ Janelle L. Monnier

Numerous changes are impacting our Army today. As the Army becomes smaller, our soldiers must have a broader base of expertise to meet mission requirements. The Quartermaster Corps has a history of diversity because our soldiers have had job-related experiences in various Quartermaster military occupational specialties (MOSs). Our reshaping of the Corps is an initiative to provide the Army with the kind of Quartermaster Logistics Warrior it needs and provide our soldiers with the best opportunity for success.

Why a new CMF?

Quartermaster Officers have been designated career management field (CMF) 92 since the early 1970s. Three years ago, we revised our warrant officer CMF to 920. The next step is our enlisted CMFs that currently include CMF 76 (Supply and Services), CMF 77 (Petroleum and Water) and CMF 94 (Food Service).

Ultimately, all 14 Quartermaster MOSs of these 3 separate CMFs will be combined into one CMF: 92. The first of these revisions is the 76 CMF: the focus of this article.

How are we reshaping our Corps?

The Deputy Chief of Staff for Personnel seeks to reduce the number of MOSs in the Army. Numerous branches are in the process of consolidating and reshaping their CMFs. We started with the 76-series MOS.

Assignments for Quartermasters in the past have been based on their ability and the unit needs rather than on soldiers' actual MOSs. This primarily results from the low density of Quartermaster soldiers in most units. The random assignment of our soldiers works well for the unit, but not always for our soldiers. The perfect example is the 76X (Subsistence Supply Specialist) MOS. Most battalions have no subsistence mission except during field training exercises and deployments. Often, a 76X is assigned to a dining facility, unit supply, battalion staff or other supply functions. The end result is a soldier not working in his MOS and the missed opportunity to gain proficiency. This missed opportunity could continue for the duration of the assign-

ment, up to three years. When Skill Qualification Test (SQT) or Self-Development Test (SDT) time comes around, this soldier who was doing an excellent job in his current assignment may not make those excellent scores in his assigned MOS. Additionally, job satisfaction is always at jeopardy in this situation. With CMF redesign, we are acknowledging the need for diversity. Individuals who have sought out the challenging jobs ultimately will benefit from the redesign. This will foster the strong, dynamic soldier that the Army needs in the new Quartermaster Corps.

Our efforts have been directed toward MOSs 76C (Equipment Records and Parts Specialist), 76P (Materiel Control and Accounting Specialist), 76V (Materiel Storage and Handling Specialist), 76X, 76Y (Unit Supply Specialist) and 76Z (consolidated MOS at the rank of master sergeant). By consolidating these six MOSs into three, we expected to lessen some recurring problems for our soldiers. Promotion opportunities for our soldiers have been adversely affected by our force structure imbalances. The restructure will also provide broader job opportunities at all duty locations and will enable our soldiers to stay in one location longer and still fill the critical jobs. We will reduce permanent change of station (PCS) turnaround time between overseas assignments, improve career progression and develop a soldier who is ready to meet the needs of tomorrow's smaller Army and succeed.

What is the impact?

The redesign combines the six MOSs into three MOSs with the proposed titles 92A (Automated Logistics Specialist), 92Y (Unit Supply Specialist) and 92Z (Senior Noncommissioned Logistician). The 92A is formed from the old 76C, 76P, 76V, 76X and portions of the 76Z. The 92Y is formed from the old 76Y and portions of the 76Z. The 92Z equates to the previous 76Z, but only at the rank of sergeant major (SGM).

The noncommissioned officer (NCO) of the two new advanced individual training (AIT) entry-level MOSs will progress all the way through the rank of master sergeant in the specialty where

he "grew up," instead of moving to the "capper" or senior level MOS at that rank. Upon promotion to SGM, the NCO will become a 92Z.

The other MOSs in the old 76 CMF, Services MOSs, will compete for their own SGM positions in their specialties. We have changed the designation of 10 SGM positions from 76Z to the 3 service MOSs involved. These numbers represent the authorizations typically filled by these specialties and some new, additional positions based on requirements for senior level expertise.

When will this happen?

The results of the revision will become effective during 1993. Before full implementation, personnel MOS reclassification will occur. The old MOS designations will be taken from the system. A lot of work must be done in the training arena to prepare for the new MOSs. The AIT, Basic Noncommissioned Officer Course (BNCOC) and Advanced Noncommissioned Officer Course (ANCOC) will all be restructured. The 76Z course will end.

The U.S. Army Quartermaster Center and School, Fort Lee, VA, is dedicated to training and producing a quality soldier who is confident and self-reliant. The Quartermaster School provides the atmosphere for this new soldier to excel. The Logistics Warrior of the future will be fully qualified and technologically proficient to meet the challenges of emerging supply systems, changes in battle doctrine and requirements for worldwide mission support.



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TRAINING REQUIREMENTS FOR THE NEW 92A MOS

CPT Joanne Bernstein

The consolidation of military occupational specialties (MOSs) 76C (Equipment Records and Parts Specialist), 76P (Materiel Control and Accounting Specialist), 76V (Materiel Storage and Handling Specialist), 76X (Subsistence Supply Specialist) and portions of the 76Z (consolidated MOS at the rank of master sergeant) into MOS 92A (Automated Logistics Specialist) will benefit the reclassified soldier by providing job diversity and greater promotion opportunities. However, for success as a 92A, the soldier must have extensive training in automation.

The 92A soldier must be familiar with the Unit Level Logistics System (ULLS) and the Standard Army Retail Supply System (SARSS) on the Tactical Army Combat Service Support Computer System (TACCS), as well as Logistics Applications of Automated Marking and Reading Symbols-Tactical (LOGMARS-T). Additionally, the 92A soldier will be required to operate materiel handling equipment; know the special considerations of storage and distribution of perishable and semiperishable subsistence; and be familiar with preservation and packaging techniques, supply storage and handling procedures, and external transport (sling load) operations.

The tentative reclassification date is June 1993. During that month all existing MOS 76C, 76P, 76V and 76X soldiers in the Active and Reserve Component (RC) will become Automated Logistics Specialists. With that reclassification, soldiers in the new 92A MOS can fill positions held by any of the four former MOSs. The new 92A must learn skills formerly performed by all four separate MOSs.

For example, a present 76P at Level 30 will be required to know skills currently performed by a 76V30 and 76X30 when the 76P30 is reclassified into MOS 92A.

Additional Training

The new 92A and this soldier's

unit commander must ensure training in the additional skills. To assist with transition training, the U.S. Army Quartermaster Center and School, Fort Lee, VA, is developing a training package of selected Army Correspondence Course Program (ACCP) subcourses from the existing MOSs. These ACCP subcourses will correspond to the list of critical tasks that the Automated Logistics Specialist must perform. Soldiers and their units will be notified when the ACCP package is ready for distribution. Additionally, unit commanders should consider cross-training soldiers in the existing MOSs, using the New Equipment Training (NET) packages for the Standard Army Management Information Systems (STAMIS) applications provided during the extension of ULLS and SARSS.

Transition Training

The first 92A Self-Development Test (SDT) is scheduled for FY95. This gives reclassified noncommissioned officers (NCOs) one year and three months from the reclassification date to complete transition training before taking the 92A SDT.

Resident Training

The Quartermaster School is expected to start Advanced Individual Training (AIT) for Automated Logistics Specialists in the first quarter of FY 93. A series of pilot AIT courses will start as soon as December 1992. The 92A Basic and Advanced Noncommissioned Officer Courses (BNCOC and ANCOC) will start after the reclassification date. Soldiers who will attend BNCOC or ANCOC must become familiar with the 92A skills required up to their present skill level before they attend the resident course. There will be no resident training for either the 92A20 or the 92A50 soldier. The resident BNCOC will be available to RC personnel at Fort Lee or at U.S. Army Reserve Forces (USARF) Schools in a two-phased program requiring both

inactive and active duty training.

Subcourses will be available to RC personnel who have previously attended BNCOC before reclassification or who cannot attend resident training at Fort Lee or a USARF school. The resident ANCOC at Fort Lee and subcourses are available to RC personnel.

More Information

Soldiers can call the Quartermaster School at the following numbers during normal business hours to have their questions answered directly by knowledgeable personnel on the reclassification task force:

1-800-552-4820, EXT 3767 (in Virginia)

1-800-554-4570, EXT 3767 (in the continental U.S. outside Virginia)

687-3767 (DSN)

(804) 734-3767 (Commercial)

The Quartermaster School will publish additional information as it becomes available. We are presently looking at direct mail to Active and RC career management field (CMF) 76 soldiers. Additionally, we will be sending out information teams to the major Army commands to inform commanders of the MOS consolidation and reclassification requirements.



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EARLY LESSONS REMEMBERED:

THE 1991 QUARTERMASTER HALL OF FAME

Seven soldiers became part of the Quartermaster Hall of Fame this year in honor of their contributions to the history, development and success of the Corps. The first four Quartermasters were inducted in June 1986, and the 1991 inductees bring the total in the Hall of Fame to 19 members. LTG W. W. Vaughan, who became a colonel and one of the youngest Army officers of that rank at age 27, captured his feelings about selection this fall and then reflected upon his earlier lessons as a Quartermaster in a letter to the current U.S. Army Quartermaster General, BG John J. Cusick. LTG Vaughan's comments are timeless and serve to remind today's Quartermaster of the importance of our mission as sustainer of *soldiers*. Excerpts from LTG Vaughan's reflections are followed by a listing of all seven 1991 inductees.

"...I thank the Quartermaster Corps, through you, for the honor to have served with them....Perhaps, as with much of what had come my way, I was just in the right place at the right time. Let me share these thoughts with you today, and try to tell you why I felt that way.

"I reported to my first duty station--Fort Meade, Maryland--eager to make things happen. But nothing happened; I couldn't get things done that should be done. I called in the First Sergeant, Karl Mendez, a first generation immigrant from Germany and complained about this situation and demanded to know what was wrong. Did he tell me! I was trying to do things I was not qualified to do. I was trying to tell not what to do but how to do it. He said 'why don't you tell me what you want done and not how to do it. We have experts on how to do what needs to be done; they are anxious to do whatever you want done; they just need you to tell them. Lieutenant, you take care of your people and they will take care of you. He was so smart - so right. I told the Post Quartermaster about this to get his reaction. It was short and sweet. Sergeant Mendez has been turning stupid officers into smart officers for nearly 30 years - join the club. What a great Hall of Famer he would have made!

"Another of my lessons came later from Sergeant Phillip Hyde, an orphan who had found a home and family in the Army. Sergeant Hyde was in charge of the clothing issue warehouses. One night while making my rounds, I noticed a light on in one of the warehouses and went in to see why. I found Sergeant Hyde lived there and was doing some of the Army's unending paper work. I thought it highly irregular for him to be living there and said so. He explained that he worked long hours, had no family, the Army was his life. It just made sense to him to live close to his work and it didn't hurt anybody. He said 'if it makes sense, it is right, it ain't wrong.' On the walls of his room were citations for more medals than I even knew existed -

The Distinguished Service Cross, Silver Star, Bronze Star for valor, French Croix de Guerre, 3 or 4 Purple Hearts. He then added that General [John J.] Pershing liked to drive out from Washington once a month to visit and relive old memories. Being able to do this without going to the barracks was another reason to live where he did. I thought 'this guy is trying to con me' and asked when he expected the next visit. He told me Sunday and asked me to stop by if I wanted to. I did and you guessed it right. General Pershing told me Hyde was the bravest man he had ever seen. Although he was in a Quartermaster company in France in World War I, supporting the front lines, Sergeant Hyde constantly looked for ways to save individuals and whole units that might be cut off and destroyed. Usually, he was going against the conventional wisdom, if not orders, not to go in certain areas. He was doing it because it made sense and was right. Then General Pershing said (I remember his exact words) 'if you do it right, it ain't wrong.' I said to myself 'if it's good enough for him, it's good enough for me.' What a Hall of Famer Sergeant Hyde would make - no, did make!

"In 1943 I found myself in remote western China as Quartermaster and S-4 of an Area Command. One night making my rounds of my area, I noted candlelight coming from a little shack - we had limited electric power so candles were the norm so it wasn't the candle that attracted me. When I entered, I found a giant of a man - a rawboned, weatherbeaten farm hand from Missouri - Corporal Martin Hodges in tears, almost sobbing. He explained he was the Graves Registration officer but didn't think he was doing the kind of job that the three soldiers who had been killed in the air raid the day before deserved. I asked him who his boss was and he said the Quartermaster: me...[he] didn't even know it. I wasn't much help, but told him to tell me what to do and we would do our best together. After a couple of hours in that candlelit shack, we finished. I told him that, notwithstanding what he thought about his efforts, some mother or father would be forever grateful that Corporal Hodges was doing his job - and doing it good. I think he's in lots of Halls of Fame - Don't you?

"Jump the years to Vietnam. Chopper pilots and gunners were being killed with rifle fire because they had no armor protection on the chopper or themselves. We at Natick [U.S. Army Natick Research, Development and engineering Center, Natick, MA] had thought about it but our slow system had done nothing. War might be over before we did. I decided to send a young Captain with a civilian technician to Saigon with all the body armor we had. My instructions were simple. Find the need, fly with them, make up something on the spot, save a life. The first gunner he met he had a customer - made him a crude vest.



On returning from his first mission the gunner could hardly restrain from kissing the two Natick men. His vest had stopped two bullets that otherwise would have killed him. Their action led to moving the system. If you do it right, it ain't wrong. These two Quartermasters went into Hall of Fame a long time ago - don't you think?

"I could cite many examples of individual Quartermaster people - officers, noncommissioned officers, soldiers, civilians, men, women, black, white, you name it - doing whatever it takes to meet the human needs of our troops. Feeding them, clothing them, protecting them, housing them, supporting them in dozens of ways, all with one thought in mind - soldiers may have to die for me but they aren't going to die because of me!

"The jobs and actions of the people I've cited - and those of all Quartermasters - are small and seemingly unimportant when viewed against the glamour and publicity of great battles. Each of these people, taken by themselves, is dimmed by the great Captains of history and its wars. But the fact is, we are all small and unimportant, but if the cause in which we work is great, then some of that greatness rubs off on us....I thank you and your predecessors for letting me stand and work close enough to you to have some of your greatness rub off on me. Again, I was at the right place at the right time."

These seven men were inducted into the Quartermaster Hall of Fame in 1991:

General Richard H. Thompson began his 42-year term as an enlisted soldier and became the first Quartermaster Officer in the Corps' 200-year history to hold the rank of full General while still on active duty. He also was the first commander of the Troop Support and Aviation Materiel Readiness Command. General Thompson was one of the principal architects in the build-up and modernization during the Post-Vietnam Era "Logistics Revolution" of the 1980s.

LTG W.W. Vaughan, responsible for the logistical support of American and Allied forces in China during World War II, focused on Army logistics for 35 years of his 50-year career at every level and in every functional area. He served as a Quartermaster in research and development, procurement, supply, staff and command - from Company A in the field to Theater Headquarters, on the Army General Staff, the Joint Chiefs of Staff, the Army Materiel Command, and the Defense Supply Agency.

The late **LTG John D. McLaughlin** became synonymous with the high quality of Army Food Service because of his initiatives that included establishing courses for Army cooks and bakers, building a world-class Culinary Arts Team and establishing a British exchange program. He was an enlisted soldier in the Army in the 1930s who rejoined civilian life to complete his education and was called back at the onset of World War II. He became the

Army's youngest division Quartermaster and participated in five major campaigns.

LTG Arthur J. Gregg served in two wars and held key Quartermaster command assignments in the United States, Korea, Japan, Europe and Vietnam. In his final assignment as Deputy Chief of Staff for Logistics in Washington, D.C., he exercised staff responsibility for the logistical support of the whole U.S. Army. His actions in the areas of laundry and bath, food service, and provisions for clothing and equipment ensured the well-being of thousands of soldiers. He also represented the U.S. in the North Atlantic Treaty Organization and other multinational logistics organizations and conferences.

The late **MG Kester L. Hastings**, as the nation's 35th Quartermaster General (1954-57), oversaw the unprecedented growth, modernization and global expansion of the Corps' activities. He graduated from the U.S. Military Academy at West Point, NY, 10 days before the Armistice was signed ending World War I. He transferred to the Quartermaster Corps in 1934, and his subsequent titles included head of the Personnel and Training Division and Chief of the Memorial Division. He was also the Quartermaster for the Far Eastern Command from 1949 to 1952, during the difficult days of the Korean War.

The late **MG George Anthony Horkan** started his Army career with a stint as a battalion sergeant major in the Georgia National Guard. He was commissioned a second lieutenant in the Regular Army in 1917 and served in the 55th Infantry Regiment in France during World War I. He transferred to the Quartermaster Corps in 1921. After graduating from the Quartermaster School in Philadelphia, PA, in 1938, he joined the staff and assisted with the move to Camp Lee, VA, on the eve of Pearl Harbor. He served first as Commandant and later as Post Commander during the height of World War II when tens of thousands of Quartermasters trained at Camp Lee (now Fort Lee). He became the 34th U.S. Army Quartermaster General in 1951 and held that post until retirement in 1954.

MG Webster Anderson, pioneer in joint and combined supply operations, expanded Allied facilities and streamlined the Quartermaster Supply and Maintenance System in Europe after World War II. He was the last Quartermaster General in Washington, D.C., before the reorganization and realignment of the Army's logistical structure in 1961. At the beginning of World War II, he joined General Dwight D. Eisenhower's staff to plan fuel support of the Allied Invasion of North Africa. Other duties included Chief Petroleum Officer in the Mediterranean and service as General Douglas MacArthur's Chief Petroleum Officer in the Pacific, where he planned and executed fuel supply for the occupation of Japan, Korea and the China coast.

PLANNING FOR LOGISTICS OPERATIONS: PLATOON LEVEL

CPT Gregory Wylly

- Receive and Analyze the Mission
- Issue a Warning Order
- Make a Tentative Plan
- Start Necessary Movement
- Reconnoiter
- Complete the Plan
- Issue the Complete Order
- Rehearse and Supervise

If you have ever been to any Army leadership school, you would instantly recognize the eight troop-leading procedures listed above. Whenever or however you learned these procedures, any examples illustrating them in action were probably delivered from an Infantry point of view. This viewpoint is helpful, but not always relevant to the diverse combat service support (CSS) mission. My purpose is to provide an example of how to use the troop-leading procedures, within a CSS frame of mind, to plan and conduct CSS operations at the platoon level. Time-tested, these procedures provide the platoon or squad leader a comprehensive, systematic way to plan and conduct logistics operations at the platoon level. The process of moving the supplies forward actually begins at the platoon level. The tactician must apply the troop-leading procedures to each tactical mission, and so should the logistician to each logistical operation.

Step 1 - Receive and Analyze the Mission

You may receive your mission in an operation order (OPORD), warning order or a fragmentary order (FRAGO). However it is received, the leader must analyze the mission. Asking some key questions aids the process of mission analysis. What must I do to accomplish the mission (specified tasks)? What should I also do to accomplish the specified tasks (implied tasks)? For example, if the mission is to operate a field ration break point (specified), then obviously you need to do several other things.

Move in a convoy, conduct site reconnaissance and secure the site. These are the implied tasks. Also helpful in figuring out what must be accomplished are the METT-T (mission, enemy, terrain, troops and time available) factors. What do you know about the enemy, the terrain, the weather? How much time do you have to plan or conduct reconnaissance? What supplies and equipment will you need? What special tasks do you need to do? Should you build a terrain model for a rehearsal? Is there enough time for a rehearsal? METT-T forces you to ask yourself a lot of questions, often more questions than you have answers. But METT-T will ensure that nothing is forgotten. METT-T should guide your thought process in the CSS arena the same way it does in the combat arms arena.

Once your thoughts are in order, then "backwards plan" the operation. This is especially important for CSS soldiers. Since CSS is so equipment-intensive, CSS soldiers often require more time than their combat arms counterparts to prepare for a mission. Therefore, CSS leaders must understand how to plan the use of their soldiers' time. Use the standard one-third/two-thirds rule. Leave your subordinates two-thirds of the available time to conduct their preparations. The planning sequence for a mission issued to you at 0800 might look like Figure 1.

Step 2 - Issue a Warning Order

Initial instructions are usually in a warning order. In this order, the leader gives the sections enough

information for them to begin preparation for the mission. At a bare minimum the warning order should include these factors: the mission, who will participate, the time of earliest movement, critical times (such as time for complete OPORD and departure), any required coordination (with military police (MPs) for convoy escort) and any administrative instructions that are not normally covered in the unit standing operating procedure (SOP). For example:

"The supply platoon will operate a field ration break point in support of 3d Brigade at Grid NK 876543 no later than 2300. I will take drivers from 2d and 3d squads. The quartering party will leave at 1630 with the main body to follow at 2030. I will give the OPORD at the company command post at 1100. Meanwhile, SGT Jones, ensure the MPs are going to provide a convoy escort and work out a linkup time and place here in the BSA. SFC Smith, double-check with DMMC (division materiel management center) to ensure that the ration supplement will be included. Any questions?"

Step 3 - Make a Tentative Plan

Here is where the METT-T factors really come into play. Think of any possible courses of action that would possibly accomplish the mission. Move at night or day? Use two sites or one? Supply point or unit distribution? Select a course of action and then run down the METT-T checklist.

2300	3d Brigade field ration break point operational
2215	Set up and occupy ration break point
2200	Main body linkup with quartering party
2030	Main body depart for break point site
2010	Main body inspection
1900	Main body stage in brigade support area (BSA)
1630	Quartering party depart BSA (Section preparations continue.)
1610	Quartering party inspection
1530	Quartering party stage in BSA (Section preparations continue.)
1300	Rehearsal
1100	OPORD (Section preparations continue.)
0900	Section preparations (Platoon leader prepares OPOORD.)
0845	Warning order
0800	Receipt of mission

Figure 1. Sample Planning Sequence

What is the platoon's mission? What do we know about the enemy? Is there any terrain we can use to our advantage? Is there any terrain the enemy can use to disrupt this operation? How many troops do I have to do this? Are there enough? Can I be augmented by lateral units or the main support battalion? How much time do I have to complete the mission? What can I delegate if I do not have enough time? The leader considers each of the METT-T factors and compares alternatives. You can never wargame every possible contingency, but METT-T will ensure that you cover most of them. METT-T also allows you to provide subordinates enough detail so they can move on to Step 4.

Step 4 - Start Necessary Movement

During Steps 3-8, the leader should be working on the final phases of the platoon's plan, but subordinates must begin their preparations. Complete coordination with any other players required for the mission. For example, request no fire areas (NFAs) through S2/3, or request MPs for convoy escort and security.

Step 5 - Reconnoiter

To ensure a smooth operation along the route and effective site operation, the leader must evaluate the terrain. The absolute minimum should be a thorough map reconnaissance, but a map reconnaissance

requires some experience to be able to "see" the terrain. The best solution is always an on-site reconnaissance. When choosing the route and site, consider what makes a good logistics site. It is not necessarily the same as a battle position for an Infantry company. You need a site with good roads which can support heavy equipment. You need to consider the size of the site. Most of your vehicles will be trucks pulling stake and platform (S&P) trailers so you will probably need ample space to turn around. The site location should be as far forward as possible, but still defensible with your limited assets. It should also be close to the main supply route (MSR). Does the site offer both primary and alternate routes in and out?

When on the reconnaissance, make sure you are gathering all the information you need. Record odometer readings to and from key terrain features. This will allow you to make detailed strip maps for later use. Time the route so that you will have an accurate picture of exactly how long your march will take. Timing the route will let you know if your plan has already gone off track.

Step 6 - Complete the Plan

Based on the reconnaissance, the leader completes the tentative plan. If the tentative plan requires adjustment because of new or more accurate information, then make adjustments.

After this, put the order in the five-paragraph field order format. The five-paragraph field order provides a logical way to brief the order and ensures nothing is forgotten.

Step 7 - Issue the Complete Order

Whenever possible, issue the OPOORD while overlooking the area of operations. The long distances over which logistics units operate may prevent this. If not on-site, the leader should use a terrain model for the section to look at while the order is given. In situations when the mission basically remains the same, FRAGOs may be used, and they should cover only the changes from the last mission.

Step 8 - Rehearse and Supervise

After issuing the order, leaders direct mission preparation to ensure the order is properly carried out. The importance of this phase cannot be overemphasized. Many a sound plan has fallen apart because of a lack of follow-up by leaders.

If time is available before an operation, the leader should conduct rehearsals. Not only will rehearsals foster confidence and improve performance, rehearsals will also reveal any weaknesses in the plan. Constructing a model of the area to be covered requires only some engineer tape. Lay out phase lines and checkpoints with the tape, and pile up rocks or sand to represent major terrain features that the convoy will see along the route.

Have the vehicle commanders actually walk the route they will take. Throw them a curve every once in awhile. For example, have them perform actions during an ambush at a likely ambush site on the terrain model. Have them perform the occupation of the site. Try this, and you will find that any operation goes much smoother with a walk-through. The final briefing, at a minimum, should include all drivers and assistant drivers. This briefing allows you to review the main points of the planned movement along the route and inform personnel of any last minute changes. The final briefing is a confirmation session - not an information session. It should cover:

- Enemy threat
- Order of march
- Length of movement
- Checkpoints
- Critical points
- Destination
- Safety
- Site configuration
- Light discipline
- Length of operation

Also wrapped up in the definition of "rehearse and supervise" are inspections. This is the last action in mission planning. Inspect to ensure that each vehicle has adequate water, rations and ammunition.

For CSS soldiers who often operate independently of their leaders, inspection is especially crucial. Always check to ensure each soldier understands the mission completely as well as any emergency actions to be taken. Are radios in working order? Is everyone operating on the correct time period in the signal operating instructions (SOI)? Are vehicles topped off with fuel? There are hundreds of details. Do not plan alone. Before deployment, wargame this out with your key leaders and come up with checklists that make sense. You cannot afford to forget anything. Remember, what is not inspected will be neglected.

Mission preparation, whether logistical or tactical, requires a great

deal of planning. Successful planning requires intensive time management. Time management is imperative not only for you but for your soldiers to perform all their mission-essential tasks. The troop-leading procedures provide the leader the analytical tools to successfully orchestrate every logistical mission.



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If time is available before an operation, the leader should conduct rehearsals to foster confidence, improve performance and reveal any weaknesses in the plan.

INTEGRATING AUTOMATION IN THE ARMY NATIONAL GUARD

CPT Mark W. Mathwig

As the Army becomes smaller, the Reserve Component will assume more missions. Therefore, the Army must have common logistics automation systems. With these systems, the Reserve Component can quickly and efficiently interface with the Active Component. The Unit Level Logistics System-S4 (ULLS-S4) already exists and helps the Army National Guard (ARNG) become an even more viable player in the Total Force concept. But the ARNG also needs this automation for a more practical, day-to-day reason: the small number of full-time personnel. A company-size unit averages three to four full-time personnel. Out of this full-time staff, only one soldier has a supply military occupational specialty (MOS). The rest of the unit's personnel work part-time (one weekend per month and two weeks per year), including the command structure. During the remaining 28 days of the month, the company is self-sufficient, with minimal guidance and supervision from battalion headquarters. As a result, the full-time support staff must consist of "self starters" with little need for constant supervision. The full-time personnel must plan time effectively to complete their many missions. ULLS-S4 was just the supply automation system needed to reduce the time for supply actions and increase the unit supply sergeant's productivity. Some tasks simplified through supply automation include increased property visibility at company level, greater supply management and discipline, improved unit property accountability and lower administrative workload on the full-time staff. The 32d Infantry Brigade (Separate) (Mechanized) under the jurisdiction of the Wisconsin Army National Guard (WIARNG) has headquarters in Milwaukee, WI. The brigade has 5 battalions and 3 separate companies with 39 company-sized units throughout Wisconsin. These units range in size from an Infantry company detachment

with 70 authorized personnel to a headquarters company with an authorized strength of over 300. The basic equipment value in these companies ranges from \$3 million to \$25 million.

The mission of the 32d Infantry Brigade is to ensure that its organic units attain and maintain combat and mobilization readiness. Through its Logistics Officers (S4s), property book office (PBO) and Materiel Management Center (MMC), the brigade provides logistics policy and guidance.

Automation at Brigade Level

Automation of supply functions first took place in May 1988 with fielding the Tactical Army Combat Service Support Computer System/Standard Property Book System-Redesign (TACCS/SPBS-R) system. The Logistics Support Center 3 (LSC3) at the Oklahoma National Guard, Whitaker Education and Training Center, Pryor, OK, provided new equipment training on the TACCS hardware and SPBS-R to PBO supervisors and personnel. After the manual records were converted to the new system and everything was running smoothly, the system was brought back to the central PBO in Madison, WI. An immediate benefit of SPBS-R was increased asset visibility management at brigade level. The system increased brigade readiness by simplifying the management of cross-leveling and equipment redistribution.

Despite SPBS-R at brigade level, there was still a need for a system to automate company-level supply functions. Enter the ULLS-S4, a user-friendly, menu-driven system easily installed and operated on commercial, off-the-shelf hardware. ULLS-S4 uses microsoft disk operating system (MS/DOS) software. It provides unit supply personnel at the user level with four main selections: download selection, edit files and reports, and backup and restore. Downloaded data from SPBS-R is used to create the comman-

der's files for hand receipt and serial number data files. This, in turn, forms the basis for creating the subhand receipts, component hand receipts, shortage annexes and hand receipt holder information. The report selection prints property accountability documents and summary reports for the commander or hand receipt holder.

The program came from the state department of military affairs, directorate of information management (DOIM) office. The full-time logistics personnel in the brigade received the mission of evaluating the software. The PBO and assistant brigade S4 were ready to start the evaluation since they thought ULLS-S4 could help property accountability at company level. They also felt ULLS-S4 could enhance the command supply discipline program (CSDP). They initially decided to evaluate ULLS-S4 at the PBO's office on a Zenith 248 computer. All battalions in the brigade had at least three computer systems of this type at their headquarters. During the evaluation the time-saving capability of ULLS-S4 quickly became apparent. The PBO felt the program could improve supply management within the brigade. He decided on the central PBO as the proponent and fielding office for ULLS-S4 to the 32d Brigade.

Test Implementation

The initial test began with the maintenance company in the brigade's support battalion and the headquarters company of the brigade. During the evaluation/test phase of the fielding, the brigade PBO and assistant brigade S4 started writing the letter of instruction (LOI) and standing operating procedure (SOP). This was the basis for fielding and operating ULLS-S4 in the brigade. After successfully testing/evaluating the program, they called together all full-time battalion supply sergeants. The meeting focused on "selling" ULLS-S4 to these battalion supply sergeants. After selling the

program to the full-time logistics managers, they made sure the part-time (M-day) logistics managers and commanders agreed to the program. This concurrent with ULLS-S4 was essential for the full implementation and command support. The brigade PBO and assistant brigade S4 came up with a fielding plan tailored to fit each of the battalion supply sergeant's needs. It was decided that the limited computer hardware in the brigade meant only fielding the system at the battalion level.

Fielding Mechanics

To field ULLS-S4, a customer assistance team from the PBO's office went to each battalion and separate company in the brigade. The battalion required all company/detachment supply sergeants to attend a two-day class and practical training exercise on ULLS-S4. On the first day of fielding, the team presented instruction on the overall program and system capabilities. At the end of the first day, the team up-loaded one computer in the battalion/separate company with ULLS-S4. The second day, the team started training the supply sergeants on ULLS-S4. The training package included an internal practical exercise within ULLS-S4 tailored for brigade use by the computer assistance team. An annex was published in the brigade's internal logistics SOP to complement the operating instructions and address any 32d Brigade-specific supply procedures. The training began with the "how tos" of the basic computer hardware. The next step was the practical exercises. Each supply sergeant completed part of the exercise to become familiar with all the functions ULLS-S4 can perform. After each supply sergeant was comfortable with operating the system, the team led a question and answer session. Then the assistance team left the unit with explicit instructions on points of contact for any questions or problems.

Operation

ULLS-S4 automates the more time-consuming paperwork for the unit supply sergeant. This is especially

crucial in an area with many time-consuming duties and few full-time assets. With time reduced for supply actions, the unit supply sergeant's productivity increased. The part-time company commander also gets better visibility of supplies and equipment. This ultimately gives him a better idea of his CSDP. The time saved gives the supply sergeant more opportunity to conduct routine business at the supply support activity (SSA) (U.S. Property and Fiscal Office). The trip to the SSA takes at least two to four hours for most supply sergeants in the brigade. ULLS-S4 eliminated the preparation by hand and maintenance of required records (such as subhand receipts, component hand receipts and shortage annexes) and also eliminated most "stubby pencil" work by the company supply sergeant. The ability of ULLS-S4 to interface with TACCS/SPBS-R means easy control and monitoring by the brigade's logistics offices. Units have seen improved unit property accountability, visibility and greater supply discipline.

Lessons Learned

Before ULLS-S4, company supply sergeants neglected the basic paperwork in their supply rooms. Hand receipts were not being updated, for example, and property records were not accurately posted or not posted at all. Most supply rooms lacked attention to detail. The basic mission was being completed, but not in an efficient or timely manner. Now, the goals set at the beginning of the fielding, in most cases, are being met.

Our greatest problem with ULLS-S4 was not the actual program, but the lack of computer hardware to run the program. Ideally, each company/detachment-sized unit should have a computer to use with ULLS-S4. This is currently impossible. The time and inconvenience involved in using a system located only at battalion headquarters are limiting factors. We had one system, at battalion level, because we did not have enough dollars to buy the needed hardware. Realizing this, a closely monitored schedule for computer time must exist. A schedule allows supply sergeants enough

ULLS-S4 computer time in their weekly routine. The battalion supply sergeant can keep track of company supply activities by this centralized control.

What would we do differently? Our greatest lesson learned was in the fielding plan. Instead of sending a fielding team to each battalion headquarters, we should have chosen a centralized location to field the system to all battalions at the same time. Also, a five-day time frame would have included all necessary instruction and uploading operations. A centralized location and five-day time frame would have reduced the time on the road by the fielding team and ultimately would have started the system operating sooner in the brigade.

ULLS-S4 is an outstanding efficiency multiplier for our unit supply personnel. Armed with this system, our supply personnel increased their effectiveness dramatically. This increased efficiency results in a corresponding increase in the brigade's readiness. To maintain Army National Guard readiness and make this Reserve Component a true partner in the Total Force concept, we need to field systems quickly. Fielding automated systems, such as those in the Active Army, helps reduce the chance of human error by increasing efficiency. More importantly, automation allows us to quickly interface with the Active Component. With operations such as *Operation Desert Shield/Storm*, the ability to quickly become part of the active force is not an option - it is a necessity.



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U.S. ARMY MUSEUMS - DONATIONS AND PROPERTY ACCOUNTABILITY

Philip M. Cavanaugh

At one time or another every Army museum curator has heard someone say something like this: "In 1960, my uncle gave your museum a German helmet and I don't see it on display!" Well, the Army museum system specifies methods of accountability, collection policies, reasons for accepting donations and reasons for not accepting donations.

The Museum System

The Army museum system consists of all Active Army museums and approximately 35 U.S. Army Reserve and Army National Guard historical activities. Museums can be branch museums covering the history of a particular

branch of service, such as Infantry at Fort Benning, GA, Artillery at Fort Sill, OK, and Quartermaster at Fort Lee, VA. Organizational museums relate to a particular unit and normally, when the unit relocates, the museum goes with it. Post museums usually address the history of the post and sometimes the local area. All use artifacts to interpret history.

Although Army museums differ slightly from civilian institutions, the basic definition of a museum by the American Association of Museums (AAM) also applies to all Army museums. "For the purposes of the accreditation program of the AAM, a museum is

defined as an organized and permanent nonprofit institution, essentially educational or aesthetic in purpose, with professional staff, which owns and utilizes tangible objects, cares for them and exhibits them to the public on some regular schedule."

Army museums do not just happen. The U.S. Army Center of Military History (CMH) must approve establishing a museum. CMH will not approve a museum without, among other things, a building with adequate environmental controls (constant 24-hour-a-day temperature and humidity) and a firm collection policy that reflects the museum's



All Army museums are eager to add needed items to collections.

mission. Until 1962 the Army did not clearly define museum operation, organization, staffing or funding. More importantly, and distressingly, the Army had no controls on donations or accountability of collections.

Before 1962 some civilian employees and military personnel viewed museum artifacts as nonaccountable property. Many items were accepted without any controls on their use or disposition. Artifacts were sold, stolen and traded to collectors. Frequently items in excellent condition were "traded" for similar objects in poor condition from the curator's own collection. Unscrupulous museum staff members altered catalog cards to cover the removal of an item in a collection. In the late 1960s, CMH began sending out professionals to examine Army museums, to tighten controls, to require 100 percent inventories biannually and to have any missing items reported on DA Form 4697 (Department of the Army Report of Survey).

Museum Certification Program

In 1977 the CMH began the museum certification program for U.S. Army Museums. This was based largely on the Museum Accreditation Program of the AAM but with certain changes for military museums. All Army museums must be certified to continue to hold artifacts. Poor collections management with poor accountability has been the most frequent reason for a museum to fail certification inspections. To date, the CMH has certified 38 Army museums. Army museums have been closed after failing certification inspections, and curators have lost their jobs because of improper accountability procedures for artifacts. Any prospective donor can now be assured that any donation to a certified U.S. Army museum will be properly accounted for and maintained in an environmentally stable facility with every assurance of perpetual preservation.

Museum Collections - Controls

All Army museums are eager to add needed items to collections. A museum should never accept a donation that it does not need or is unable to properly care for. Each Army museum has a collection policy approved by CMH. The

policy reflects the mission of the museum - branch, post or unit - and restricts acceptance of donations which do not meet this policy. Museums examine their collections regularly and offer excess items to other Army museums whose needs and collections policy require them. Most museum collections policies restrict having more than two or three like items.

When the curator determines that a donor's item meets the criteria of the collection policy, the following will take place: (1) The donor and curator will sign a DA Form 5572 (Proffer of Gift Agreement) which states that the donor owns the item and has authority to dispose of it. The gift is donated unconditionally to the U.S. Army, not the individual museum. (2) The item will then be cataloged with a permanent catalog number. The catalog number shows the year of the donation, the collection grouping and the number in the group. Thus the first donations in a calendar year might be three unit insignia and the catalog numbers would look like this: QMR 90.01.01, QMR 90.01.02 and QMR 90.01.03. The prefix "QMR" was assigned by DA to the Quartermaster Museum, and each Army museum has such an assigned prefix. (3) This catalog number and a brief description of the item will be entered in ink into a permanently bound museum log book of donations. (4) A DA Form 2609 (Historical Property Catalog) record card is completed for each individual item. This card lists dates of donation, donor, period of manufacture and, most importantly, a detailed description of the item. (5) A records jacket file is then established for each individual item. This jacket contains every bit of the museum's information on this item. It contains a copy of the DA Form 2609, the Proffer of Gift Agreement, letters of thanks and any correspondence about the item. (6) The item will then be photographed in black and white with the catalog number displayed in the photograph. The photograph is black and white because a color photograph will fade. (7) The item is then marked with the museum catalog number and placed on exhibit or in the study collection. (8) The final step is to send a copy of the

DA Form 2609 to CMH for entry in the Department of the Army collections listing. Frequently a donor may say: "Just take it. I don't care what you do with it -- use it for 'trading material' if you want to or just throw it in the dumpster." At this point, the curator must explain why this is a violation of the regulations, is unethical and a great disservice to the donor and the item itself. Once a museum accepts an item, the museum must follow the entire accountability procedure; and the item becomes a permanent part of the collection owned by CMH.

Museum Management - Growth

All Army museums operate and are inspected under AR 870-20 (Museums and Historical Artifacts), dated January 1987. This regulation covers every phase of museum operations. Museums are a privilege granted to a unit, post or branch under the agreement to support and fund the museum through appropriated funds.

The Army Museum System under the CMH's direction has evolved into one of the strongest and most reputable museum organizations in the world. Plans are underway for a National Museum of the United States Army in the Washington, D.C., area. This museum will not replace individual Army museums, but will provide a central museum as in most other countries. The Army museums will continue to evolve. New museums will open and others may close, but strict controls and professional management will assure a safe and secure repository for the priceless material culture of the United States Army.

Prior to donations to the U.S. Army Quartermaster Museum, contact the Director or Curator at Commercial (804) 734-1854 or DSN 687-1854 or write: U.S. Army Quartermaster Museum, Fort Lee, VA 23801.



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The Spring 1992 edition marks the fourth anniversary of the *Quartermaster Professional Bulletin*. The following index references what the Quartermaster Corps printed in the Spring, Summer, Autumn and Winter editions for 1991. This quarterly publication focuses on keeping Quartermaster soldiers and Department of the Army civilians aware of emerging developments within the Corps. The staff once more thanks all the authors from throughout the world who submitted articles, graphics and photographs. Your support makes the *Quartermaster Professional Bulletin* a reality. Logistics Warriors, Quartermasters exchange information and ideas in this published voice dedicated to the professional development of the Quartermaster soldier. If there is a topic you would like to see in a future issue or if you want to submit an article, please contact us by calling DSN 687-4382, Commercial 804-734-4382 or by writing to:

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JUST WHO IS DRIVING THAT FORKLIFT?

Michael L. Davis

There is a misconception in the Quartermaster Corps that soldiers with military occupational specialty (MOS) 76V (Materiel Handling Specialist) have a higher than normal percentage of forklift accidents. An analysis of these operations shows otherwise. The Quartermaster Branch Safety Office, Fort Lee, VA, has collected accident information from FY 85 to FY 90 that includes all military and Army civilian employee data available. The results were surprising.

Lack of Training

Forklift accidents for the past six fiscal years totaled 832. Included in that total are 14 fatalities (Table 1), 10 permanent total/partial disabilities (Table 2), over \$3.6 million in injury costs and over \$1.8 million in damage to equipment and other property. Divided further, these 832 forklift accidents included 589 Army civilian employee accidents (70.8 percent) and 243 military accidents (29.2 percent). The 832 accidents included 40 accidents related to the 76V MOS. This is *only* 4.8 percent of the total. What is the real problem behind all these accidents? The study clearly suggests that a large number of personnel, outside the 76V MOS, were working with forklifts and having accidents. Over 25 different MOSs and 33 Army civilian occupational fields, besides the 76V MOS, were involved in all types of forklift accidents. Since 76Vs are trained in forklift operation during their Advanced Individual Training, these statistics also point to a lack of unit training, testing and licensing, as the primary causes of accidents.

A soldier parked a 2 1/2-ton truck at a loading dock in preparation for off-loading an engine. The noncommissioned officer in charge (NCOIC) arrived and opened the doors. The NCOIC did not check to see if the driver was licensed to operate the forklift. The truck driver used a 4,000-pound forklift to unload the engine weighing approximately 3,135 pounds. The NCOIC left to go back to the office. When the operator lifted the engine, the weight of the engine caused the forklift to move forward and strike the rear of the 2 1/2-ton truck. The vehicle moved forward and somehow started. The truck moved across the street and ran into a post and rail configuration used to support electrical outlets. The truck proceeded until it hit another vehicle, pushing it into another set of electrical outlets. The NCOIC, returning from the office, was then able to catch up with the truck and stop it. The soldier oper-

ating the forklift had to stay with the forklift to keep it from going off the dock. The soldiers failed to follow several safety procedures: they failed to block the wheels of the vehicle being offloaded, the truck driver operated a piece of equipment he was not licensed for, the NCOIC did not check to see if the soldier was licensed, they misjudged the weight of the engine, and they misjudged the clearance between the truck and dock.

A soldier and a civilian were attempting to move a 300-pound pallet of rubber floor mats to a new location. The civilian was the forklift operator. The operator attempted to pick up the pallet; but each time he tried, it would tip forward. The soldier, who was acting as the ground guide, decided that he could physically push the pallet forward while the forklift picked it up. In executing this plan, the pallet fell forward on top of the soldier, resting on his leg and foot. The pallet had to be removed by seven personnel who heard the soldier's screams.

Clearance Problems

Misjudgment of clearance requirements also causes a large number of injuries and damage to equipment and property. Here again, only licensed operators should be permitted to operate forklifts; ground guides must be used; the operator must face in the direction of travel; the operator must slow down and sound the horn before proceeding at cross-aisle intersections or when vision is obstructed by doors, corners or elevators; under all travel conditions, the forklift should be operated at a speed that will permit it to stop in a safe manner; and operators of forklift trucks must not cut corners. Finally, judging clearance requires training and experience. If an operator has doubts about clearance, he should stop and check. At the very least, the operator should get off the vehicle and walk around the vehicle to look for possible trouble and clearance problems.

A soldier was driving a 4,000-pound commercial forklift with the forks raised too high. As the soldier was entering the warehouse with the forklift, he misjudged the clearance between the raised forks and the door height and crashed into the steel door. The steel door had to be replaced.

A soldier was unloading repair parts from a trailer. The forklift driver drove between two other vehicles to reach the side of the vehicle being unloaded. The driver was not paying attention to the ground guide and also failed to clear to his front before

	FY	FY	FY	FY	FY	FY	TOTAL
	85	86	87	88	89	90	
Too Fast For Road Conditions	0	0	2	1	1	0	4
Operator/Load Dropped	1	0	0	1	0	0	2
Maintenance	0	2	0	0	0	0	2
Operator/Misjudged Clearance	0	2	0	0	0	0	2
Operator/Human Locomotion	0	0	2	0	0	0	2
Towing/Hauling	1	0	0	0	0	0	1
Operator/Materials Handling	1	0	0	0	0	0	1
TOTALS	3	4	4	2	1	0	14

Note: Four soldiers' deaths were caused by excessive speed. Two soldiers were killed when struck by moving forklifts. One soldier and one civilian died because of misjudging clearance. Two civilians died when the load of the forklift was dropped. Two civilians died during maintenance operations. One civilian died during a towing/hauling accident and one civilian died during a material handling operation. Seven Army civilians and seven soldiers died during these six fiscal years. Only one Quartermaster soldier, a 76X (Subsistence Supply Specialist) who misjudged clearance, died FY 85-90 out the total of 14 fatalities.

Table 1. Forklift Fatalities, Military and Civilian, FY 85-90

	FY	FY	FY	FY	FY	FY	TOTAL
	85	86	87	88	89	90	
Towing/Hauling	0	0	0	0	1	1	2
Maintenance	1	0	1	0	0	0	2
Operator/Materiel Handling	0	2	0	0	0	0	2
Operator/Equipment Failure	0	1	0	1	0	0	2
Operator/Human Locomotion	0	0	0	0	1	0	1
Too Fast For Road Conditions	1	0	0	0	0	0	1
TOTALS	2	3	1	1	2	1	10

Note: All disabilities are soldier disabilities; no Army civilian employee disabilities were recorded FY 85-90. Four of the 10 permanent total/partial disabilities involved Quartermaster soldiers: one 76C (Equipment Records and Parts Specialist) in operator/equipment failure, one 76V (Materiel Storage and Handling Specialist) in operator/equipment failure, one 76P (Materiel Control and Accounting Specialist) in operator/human locomotion, and one 77F (Petroleum Supply Specialist) in towing/hauling.

Table 2. Permanent Total/Partial Disabilities From Forklift Accidents, FY 85-90

proceeding forward. The ground guide yelled but the operator did not hear him. The forklift struck another vehicle being driven through the area. No personnel were injured but major damage was done to the second vehicle. The forklift driver was not licensed to operate the forklift.

Dropping a Forklift Load

It is most dangerous when the forklift operator drops a load. This problem can be overcome by following some safety rules. *Don't* use an improperly loaded machine or one which is not in safe mechanical condition. Inspect all loads to be moved. *Don't* overload, *don't* move an unstable load, *don't* move loose materials, and *don't* move an unsafe load from an unblocked truck or trailer. If the operator is not sure about the procedure, he needs to ask his supervisor. Finally, never allow personnel to stand under the load being hoisted, lowered or carried.

An operator was trying to off-load a large 33-foot x 8-foot metal sheet, weighing 8,000 pounds, from a flatbed trailer. The operator started to lift the metal sheet up but had not centered it on the fork's blades. The sheet slid off the right side of the blades, struck the ground and started to push the forklift over onto its left side. The operator dismounted but ran under the vehicle carriage of the forklift. The metal sheet and forklift both fell over and crushed the operator to death.

Leader Responsibilities

Speed too fast for the road or service conditions is a major problem for the military and one of the leading causes of deaths. While not always comfortable or convenient, operators need to use their seat belts at all times. Much of the responsibility for safety rightfully falls on the shoulders of leaders. Leaders need to enforce and monitor compliance with all orders, regulations and standing operating procedures and ensure that operators are licensed. Operators need to reduce speed when driving down or up grades and not cut corners since this practice can result in upset loads, damaged goods, serious injury to personnel and rollover of equipment. Remember, the driver is responsible for the safe operation of the equipment. The leader is responsible for the driver.

A driver was operating a 4,000-pound forklift on a loading dock. The driver made a 90-degree turn while backing up at too great a speed from the ramp to the loading dock. He was unable to properly straighten the steering wheel of the forklift on the ramp and lost control. The forklift started to go off the ramp. The

driver then attempted to jump off the forklift. His foot caught in the battery compartment. He was pinned down and crushed to death by the overhead protective safety guard of the forklift.

Two soldiers were ordered to move ammunition to a storage area, unload the ammunition with a forklift and wait for the supervisor. When the soldiers arrived at the storage area, they found that they were not on the unaccompanied access roster. The guards should not have admitted them but decided to let them in. The soldiers got the forklift and down-loaded the ammunition. One soldier decided to drive the forklift to the guardhouse for a phone call. He was going too fast to negotiate a sharp, 90-degree turn safely. That caused the forklift to overturn. The driver was thrown from the forklift and crushed beneath it. A seat belt had been installed and then removed from the forklift. The operator's supervisor should never have ordered the soldier to use the forklift since the soldier was neither trained nor licensed to operate it.

Operators and Ground Personnel

When forklift drivers and personnel working in the area come together, major problems can occur. Some simple rules must be followed. The operator needs to face in the direction of travel and must not back up without facing in that direction. The operator must slow down and sound the horn before proceeding at cross-aisles and when vision is obstructed by doors, corners and elevators. Personnel on the ground where forklifts are operating need to be attentive and watch out for vehicles. Ground guides need to be used whenever possible; they are essential to preventing accidents. Ground guides save lives, equipment and dollars but only if they are used. Finally, the operator and personnel on the ground need to remember that momentum, reaction time and braking distance affect the forklift's ability to avoid an accident.

A driver of a commercial forklift in a warehouse was carrying a basket while making a turn. The operator did not see the second individual who was processing the incoming supplies. The forklift struck the individual in the lower legs and pinned him against a stack of supplies. Neither the forklift operator nor the other person were paying attention.

A soldier was walking down the center aisle when a loaded forklift came toward him. Due to a parts cart sitting in the aisle, there was insufficient room for all to pass. The soldier stopped and tried to step aside. The forklift driver could not see him and ran over the soldier's foot.

Common Forklift Safety Countermeasures

- Permit only licensed operators to operate equipment.
- Use ground guides for proper ground signals because noise levels around forklifts are high and voice communications cannot be heard properly.
- Travel with forklift forks elevated not more than four inches above the ground, and park with forks resting on the ground.
- Never bump or push stacks with the forklift to straighten or move the stack.
- Secure and anchor bridgeplates and ramps to prevent them from slipping.
- Stop the engine and set the brakes before the operator gets off the forklift.
- Never allow personnel to stand where they can be struck by the load or forklift.
- Never allow personnel near the mast while the forklift is in operation.
- Never use a forklift to lift personnel unless authorized on a safety pallet.
- Never allow personnel to counterbalance a load on the forklift by riding the load.
- Use correct forklift capacity for the load size.
- Never move unstable loads.
- Never move an unsafe load or unload from an unblocked vehicle or trailer.
- Never allow ground personnel to manhandle heavy items onto the forks.

Leaders and safety go hand in hand. Leaders must make sure that the work area is safe and that soldiers and Army civilians work and act safely. Safety is not a mission to delegate or hand off. Safety is vital to getting the job done. The following are good day-to-day leader practices that just may save a life:

- Know which soldiers and civilians are doing things that might get them hurt (risk management).
- Use your safety weapons: education, training, motivation and discipline.
- Be alert to unsafe practices and stop them.
- Train soldiers and civilians how to do their jobs safely (train to standards).
- Establish discipline in the organization through respect for regulations and procedures.
- Supervise and evaluate soldiers' and civilians' work. Insist they follow safe practices and by-the-book procedures.
- Follow all safety rules and guidelines yourself.
- Monitor the work area for unsafe conditions and

eliminate them.

- Discourage excessive haste and remind personnel to pay close attention to the task at hand.
- Finally, remind personnel that if they are not sure about what procedures to follow to stop all activity and ask their supervisor.

Materials handling equipment has been designed to perform specific functions under specified conditions with trained personnel. However, when the standards of operation are not followed, human error enters the operation and creates a potential hazard. Only thorough *training*, proper forklift operations, following standards and *leader involvement* will prevent accidents, minimize damage and improve safety.



Michael L. Davis, Quartermaster Branch Safety Office, Office of The Quartermaster General, Fort Lee, Virginia.



PROFESSIONAL READINGS

The Professional Readings section of the *Quartermaster Professional Bulletin* is designed to encourage the professional development of all Quartermasters. Titles are selected from the Quartermaster School Professional Reading List, the current Department of the Army Contemporary Military Reading List, as well as other notable sources. Short reviews from the field are welcome.

For Want of a Nail: The Impact on War of Logistics and Communications

Kenneth Macksey, New York: Pergamon, 1989.

This book addresses the often neglected role of logistics and communications (here embracing the means of movement as well as the business of transmitting) in determining success or failure on the battlefield. Macksey takes us from the latter half of the 17th century to the British battle for the Falkland Islands in 1982. He shows us throughout how new technology has created new logistic demands and how improvements in transportation have changed the whole tempo and character of war.

Lost Victory: A Firsthand Account of America's Sixteen-Year Involvement in Vietnam

William Colby with James McCargar, Chicago: Contemporary Books, 1989.

The author, former Director of the Central Intelligence Agency and a key participant in the pacification effort in Vietnam, recounts his views about the war, his wartime role, and how the United States could have escaped with a victory. He believes our major mistakes included supporting the anti-Diem coup, General Westmoreland's attrition strategy, and not having started the pacification program earlier--a program he deemed a total success by 1972. Colby contends that the United States did not lose to a revolutionary army, but rather to a conventional attack after American public opinion had turned against the war.

On Leadership

John W. Gardner, New York: The Free Press, 1989.

This is not just another anecdotal survey of leadership styles but a well-written accounting of how to get the most out of people and organizations. Relying on extensive research and interviews with hundreds of prominent leaders, Gardner provides an analysis of leadership as it is practiced, or malpracticed, in America today. He examines the issues of motivation, shared values, social cohesion and institutional responsibility for their appropriate roles in gaining the most out of an organization. While he argues conventionally that leaders must understand and react to the needs of the people with whom they work, he stays away from the exaggeration and "instant" solutions which seem to permeate so much of contemporary literature on the subject.

Intervention in the Caribbean: The Dominican Crisis of 1965

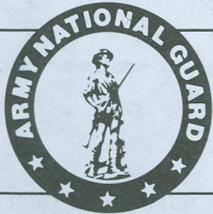
Bruce Palmer, Jr. (General, USA, Retired), Lexington: The University Press of Kentucky, 1990.

General Palmer provides an instructive retrospective into United States military intervention in the Dominican Republic during 1965. This book is especially timely because of his comments on the complexities of peacekeeping and the challenges of peacemaking in a coalition environment, something we're bound to see more of in the Middle East.

A Country Made by War: From the Revolution to Vietnam--The Story of America's Rise to Power

Geoffrey Perret, Random House, 1989.

Perret goes beyond battles and generals to also depict the valor and suffering of the ordinary service member. His book traces the evolution of weapons from smooth-bore muskets to the Stealth bomber and examines the strategy and tactics unique to our military past. Because he writes about both war and society, Perret shows the periods between our major conflicts as significant and fascinating as the drama of the wars themselves.



TOTAL FORCE

NEW RC COMMUNICATION

The *Reserve Component Newsletter* is combining with the *Quartermaster Professional Bulletin*. There are two reasons for this. First, both the Reserve and Active Components need to exchange information and ideas. To do this, both communities need a single professional publication that is a platform for new ideas, innovations, problems and solutions presented to the total Quartermaster Corps. Second, the Quartermaster Corps supports requirements for food, fuel, water, supplies and services to all soldiers. All components need to be trained professionals, ready to support the total force. We need to be **THE Quartermaster Corps** - informed, technically and tactically trained and ready to support the mission. To this end, we need to remain one force and one Corps: "Active and Reserve Logistics Warriors."

The Deputy Assistant Commandants for the Army National Guard (ARNG) and the U.S. Army Reserves (USAR) at the U.S. Army Quartermaster Center and School, Fort Lee, VA, invite all units to participate in the professional development of their Corps by contributing articles for publication in the *Quartermaster Professional Bulletin*. To submit your articles and photographs, use the address within this edition's Directory.

ARNG/USAR ASSISTANCE AT THE QUARTERMASTER SCHOOL

The U.S. Army Quartermaster School has two new Deputy Assistant Commandants for soldiers in the Reserve Component. LTC Lawrence H. Lee is the new ARNG Deputy Assistant Commandant. He came to Fort Lee, VA, after an Active Guard Reserve tour at Fort Indiantown Gap, PA, where he was Manager, Logistics Support Center for the National Guard Bureau Logistics Division.

The new USAR Deputy Assistant Commandant is LTC James F. Ninnis. He came from the 310th Theater Army Area Command, where he served as the Deputy Inspector General.

To contact either Deputy Assistant Commandant, call DSN 687-5258, Commercial (804) 734-5258 or WATS (800) 284-4935 and ask for extension 5258. SGM Lawrence L. Addington and SGM James William Murphree continue as the Enlisted Liaisons for the ARNG and USAR.

For the Enlisted Liaison Office, call DSN 687-1913 (ARNG) or 687-1588 (USAR), Commercial (804) 734-1913 (ARNG) or (804) 734-1588 (USAR) or WATS (800) 284-4935. Ask for extension 1913 for ARNG or 1588 for USAR.

ASSOCIATE LOGISTICS EXECUTIVE DEVELOPMENT COURSE (ALEDC)

The remaining FY 92 dates for the two-week phases of ALEDC are as follows:

	<i>Class Number</i>	<i>State Date</i>	<i>Location</i>
Phase I	92-002	1 Jun 92	ALMC, Fort Lee, VA
Phase II	92-001	10 Aug 92	ALMC, Fort Lee, VA
Phase III	92-001	8 Jun 92	ALMC, Fort Lee, VA
Phase IV	92-002	22 Jun 92	Idaho, Pocatello, ID
	92-003	27 Jul 92	ALMC, Fort Lee, VA
Phase V	92-002	15 Jun 92	South Mississippi, Hattiesburg, MS
	92-001	13 Jul 92	ALMC, Fort Lee, VA

For further information, contact LTC Carlow or LTC Conners at the Army Logistics Management College (ALMC) at DSN 687-1820 or Commercial (804) 734-1820. A toll-free number is also available by dialing 1-800-284-4935, extension 1820. Contact your training officer for additional details. This course qualifies the reserve officer for promotion to lieutenant colonel according to requirements outlined in AR 135-155 (Promotion of Commissioned Officers and Warrant Officers Other Than General Officers).

QUARTERMASTER RESIDENT SSMO COURSE

The resident eight-week and four-day Supply and Services Management Officer (SSMO) Course will be offered 26 Jul 92 through 25 Sep 92 by the Supply and Professional Development Department at the U.S. Army Quartermaster Center and School, Fort Lee, VA. Contact your local training officer to enroll.

RESERVE COMPONENT MULTIFUNCTIONAL COMBAT SERVICE SUPPORT (RCMCSS) OFFICER COURSE

Question:

How does a newly assigned field grade RC officer obtain the background knowledge to perform duties in a multifunctional combat service support (CSS) organization?

Answer:

Self-study, hands-on experience and by attending the newly formed RCMCSS.

Scope:

The RCMCSS course is designed to provide RC field grade officers with a working knowledge of multifunctional CSS needed to sustain the force. This includes multifunctional concepts and procedures of integration and execution; missions, function, capabilities and limitations of multifunctional and subordinate organizations; lateral, higher and lower relationships among supporting and supported elements; and emerging doctrine.

Prerequisite:

Current assignment or future assignment of field grade RC officers to multifunctional headquarters.

Special Information:

The RCMCSS course is conducted in one active duty for training (ADT) phase consisting of 88 hours of instruction. Students will be provided a read-ahead package consisting of FM 100-10 (Combat Service Support) and a special text before attendance. Although formal certification is not required, successful completion of the course depends on familiarity with this material.

Scheduling a Class:

Coordinate with Institutional Training and Education Directorate, Combined Arms Support Command (CASCOM), Fort Lee, VA. The minimum number of students required for training in RCMCSS is 12 students and the maximum number is 24.

CASCOM and the Army Logistics Management College (ALMC), Fort Lee, VA, agreed that RCMCSS is equivalent to the Associate Logistics Executive Development Course (ALEDC)-Phase V. Tentative plans call for ALMC to take over course administration in February 1992, with CASCOM remaining as course proponent. CASCOM will assist ALMC with course updates and training new instructors and also will provide annual emerging doctrine updates to all RC instructors. During FY 92, CASCOM expects that 200 RC field grade officers will be trained. Class locations will be determined by student availability of instructors at major logistics headquarters.

CLASS DATES:

<i>DATES</i>	<i>HOST UNIT</i>	<i>LOCATION</i>
*6-17 Jan	143d Transportation Group	Orlando, FL
*27 Jan-7 Feb	205th CSG/42 DISCOM	Camp Smith, NY
2-13 Mar	103d COSCOM	Des Moines, IA
23 Mar-3 Apr	167th COSCOM	Fort McClellan, AL
27 Apr-8 May	301st ASG	Fort Lee, VA
15-26 Jun	ALMC	Hattiesburg, MS
* 13-24 Jul	ALMC	Fort Lee, VA
*21 Sep-9 Oct	CASCOM	Fort Lee, VA

*Note: Tentative training dates

For further information, write Commander, U.S. Army Combined Arms Support Command and Fort Lee, ATTN: ATCL-TLE (Ray Walker or LTC Wittrien), Fort Lee, VA 23801-6000.

QUARTERMASTER RC OFFICER ADVANCED COURSE

The FY 92 dates for the two-week resident phases of the Quartermaster Reserve Component Officer Advanced Course (QM RCOAC) at Fort Lee, VA, are as follows:

Phase I, Company Command Module (CCM) -

<i>Class Number</i>	<i>Reporting Date</i>	<i>End Date</i>
92-3	11 Apr 92	24 Apr 92
92-4	22 Aug 92	4 Sep 92

Phase III-Taught by U.S. Army Reserve Forces (USARF) Schools at Fort Lee -

<i>USARF School</i>	<i>Reporting Date</i>	<i>End Date</i>
1157th	31 May 92	12 Jun 92
2059th	9 Aug 92	21 Aug 92

For further information, call MAJ Mark Joosse or Jerry Clemons, Commercial (804) 734-5167/5452 or DSN 687-5167/5452.

COMPLETING CORRESPONDENCE COURSE PHASES IIA AND IIB, QUARTERMASTER RCOAC

As of 1 Oct 91, the U.S. Army Reserve Forces Schools ceased teaching Phase IIA of the Quartermaster Reserve Component Officer Advanced Course (RCOAC) and the Army Institute for Professional Development (AIPD) also ceased accepting enrollment applications for Phase IIA. Between now and October 1993, the Phase IIA requirement can be satisfied by successful completion of Phase I of the RC Combined Arms and Services Staff School (CAS3) course. Enroll by sending a completed U.S. Army Command and General Staff College (USACGSC) Form 59-R to the USACGSC, School of Corresponding Studies, Fort Leavenworth, KS 66027-6900. Officers currently enrolled in Phase IIA must complete it by 1 Oct 92.

Continue to enroll in Phase IIB by sending a completed DA Form 145 (Army Correspondence Course Enrollment Application) to the AIPD, U.S. Army Training Support Center (USATSC), Newport News, VA 23628. For enrollment in Phase IIB, be sure to specify only one of three Quartermaster tracks: materiel management, petroleum management or subsistence management. Enrollment in Phase IIB will likely end by 1 Oct 92 when enrollment in the new two-phase RCOAC will begin.

For questions about enrollment status, call Jerry Clemons or MAJ Mark Joosse, Commercial (804) 734-5167/5452 or DSN 687-5157/5452.

REVISED QUARTERMASTER RCOAC

A revision to the entire Reserve Component Officer Education System (RC OES) required development of a two-phase RCOAC. Phase I will be nonresident, approximately 120 credit hours, and must be completed before attending Phase II. Phase II will be a two-week resident phase offered at Fort Lee, VA. Officers beginning the Quartermaster RCOAC after 1 Oct 92 will be enrolled in this two-phase course. Officers currently enrolled in the three-phase RCOAC may complete RCOAC in the three phases, but are encouraged to finish before 1 Oct 92.

For further information or clarification, call Jerry Clemons or MAJ Mark Joosse, Commercial (804) 734-5167/5452 or DSN 687-5157/5452.

FY 92 RC LOGISTICS WARRIOR UPDATE CONFERENCE

The FY 92 Reserve Component (RC) Logistics Warrior Update Conference will be 21-22 Mar 92 at Fort Lee, VA. This conference focuses on exchange of information between U.S. Army Quartermaster Center and School personnel and representatives from the Quartermaster RC community. The school will update attendees on training opportunities, new equipment, concepts and doctrinal changes. The attendees will have the opportunity to establish points of contact, evaluate training opportunities and recommend improvements to assist their units to attain and retain proficiency. For further information, call Jerry Clemons or MAJ Mark Joosse, Commercial (804) 734-5167/5452 or DSN 687-5157/5452.



REGULATION UNIFORMS FOR ALL ARMY PERSONNEL

When purchasing any uniform clothing items through commercial vendors, be aware that YOU are responsible for buying CERTIFIED garments. Otherwise, the Uniforms Section of the U.S. Army Natick Research, Development and Engineering Center warns that soldiers are buying and wearing garments that are not regulation.

Currently, very few commercial vendors are authorized to manufacture Army dress uniform items. Soldiers must look for a certificate in the garments to ensure certification. Ask your post exchange contact to order you a custom garment.

Note that AR 670-1 (Wear and Appearance of Army Uniforms and Insignia) requires this:

"Commanders have the responsibility of ensuring that personnel under their command wear only uniform items that have been produced by certified manufacturers, and that the items meet specifications for quality and design." Also refer to AR 670-1 for soldier responsibility of uniform quality control.

BRANCH LIAISON TEAM VISIT

The U.S. Army Quartermaster Center and School (USAQMC&S) conducts Branch Liaison Team (BLT) visits to provide status and updates of USAQMC&S issues and to gather information from field commanders on logistics issues. BLT visits scheduled during March-May 1992 are as follows:

Fort Bragg, NC	16-20 March 1992
Fort Polk, LA	30 March - 3 April 1992
Fort Riley, KS	6-10 April 1992
Fort Stewart, GA	4-8 May 1992
Fort Campbell, KY	11-15 May 1992

CHIEF OF STAFF SUPPLY EXCELLENCE AWARD

The winners and runners-up of the FY 91 Chief of Staff, Army, Supply Excellence Award are as follows:

ACTIVE ARMY TOE Company

WINNER

536th Maintenance Company
(Direct Support)
USARPAC
Schofield Barracks, HI

TOE Battalion

307th Signal Battalion
USAISC
Waegwan, Korea

TDA Company

Electronic Proving Ground
USAMC
Fort Huachuca, AZ

TDA Battalion

10th Area Support Group
USARPAC
Torii Station, Okinawa

RUNNER-UP

2d Maintenance Company
(TMDE)
USAMC
Waegwan, Korea

25th S&T Battalion
USARPAC
Schofield Barracks, HI

HQ, Korean Service Corps
Eighth Army
Seoul, Korea

701st Military Police Battalion
TRADOC
Fort McClellan, AL

**U.S. ARMY RESERVE
TOE Company**

WINNER

HHC, 172d Support Group
Fifth U.S. Army
Broken Arrow, OK

RUNNER-UP

HHC, 322d Civil Affairs Group
USARPAC
Fort DeRussy, HI

TOE Battalion

3d Battalion, 75th Field Artillery
Fifth U.S. Army
Springfield, MO

478th Engineer Battalion
(Combat) (CORPS)
Second U.S. Army
Fort Thomas, KY

**U.S. ARMY NATIONAL GUARD
TOE Company**

WINNER

3622d Maintenance Company
PA ARNG
Lancaster, PA

RUNNER-UP

696th Maintenance Company
NC ARNG
Kingston, NC

TOE Battalion

4th Battalion, 178th Field Artillery
SC ARNG
Georgetown, SC

3d Battalion (Chaparral)
200th Air Defense Artillery
NM ARNG
Belen, NM

TDA Company

East ARNG Aviation Training Site
PA ARNG
Fort Indiantown Gap, PA

HQ, WV State Area Command (-)
WV ARNG
Charleston, WV

FY 92 SUPPLY EXCELLENCE AWARD

Nominations for the FY 92 Chief of Staff, Army, Supply Excellence Award (SEA) were received from major Army commands last December. Representatives of the U.S. Army Quartermaster Center and School, Fort Lee, VA, are evaluating nominees this February through June. Winners will be announced by Headquarters, Department of the Army in July.

STOCK FUNDING OF DEPOT LEVEL REPARABLES

The Strategic Logistics Agency (SLA) Stock Funding of Depot Level Repairables (SFDLR) Training Teams sponsored by the U.S. Army Quartermaster School completed initial training at Army installations on 5 Dec 91. INNOLOG Corporation will conduct follow-on and refresher training under a contract granted by SLA. INNOLOG has a toll-free number to answer questions on the SFDLR program and to accept requests for training: 1-800-343-4994.

SOLDIER SUPPORT EMPHASIZED

The first Combat Service Support System Program

Review (CSS SPR) last November at the Combined Arms Support Command, Fort Lee, VA, provided a shared understanding of current "support to the soldier" issues and where the Army wants to go in the future. Issues were briefed to General Dennis J. Reimer, Vice Chief of Staff of the Army.

The CSS SPR was designed to plan and put into action initiatives to improve soldier support and to develop and recommend changes to doctrine, training, leadership development, organizations and materiel. Topics included subsistence, safety, morale, shelter, sustainment of families during deployment and casualty operations.

REGULATORY AND POLICY UPDATE

- An interim change, AR 30-5 (Food Cost and Feeding Strength Summary) has been forwarded to Headquarters, Department of the Army (HQDA) for publication. The change provides clarification on operational ration ceilings and on forms preparation.
- An interim change, AR 30-1 (The Army Food Service Program), has been forwarded to HQDA

for publication. The change revises Chapters 6, 7 and 8. Specifically, the changes clarify Reserve Component accounting procedures.

- FM 10-23 (Basic Doctrine for Army Field Feeding) has been forwarded for publication. Anticipated distribution is December 1991 or January 1992.
- FM 10-23-1 (Commander's Guide to Food Service Operations) has been completed. Anticipated publication is during the first quarter, calendar year 1992.

- The next scheduled Contracting Officers Class is scheduled for 8-17 June 1992. If you have someone who needs this training, now is the time to get them enrolled.
- The DA Form 2969-R (Food Cost and Feeding Strength Summary) is now automated and can be submitted to the Army Center of Excellence, Subsistence on computer disc. The software program is available by calling Ms. Hurst, DSN 687-4718.

INFORMATION ON T-RATION MODULES

The familiar 36-meal tray-ration (T-Ration) module now contains 18 meals per module. Submit requisitions under the new national stock numbers (NSNs) designated for the smaller module. However, the Defense Personnel Support Center may issue 36-meal modules against the requisition to clear small quantities of older stock. The total meals should work out to be the same. The NSNs for the T-Rations with 18-meal modules all start with 8970-01-320-xxxx. The last four positions are listed with the menu number as follows:

B# -xxxx = breakfast, menu number, - last 4 numbers of NSN

D# -xxxx = dinner, menu number, - last 4 number of NSN

B1	-4849	B6	-4854	D1	-4859	D6	-4864
B2	-4850	B7	-4855	D2	-4860	D7	-4865
B3	-4851	B8	-4856	D3	-4861	D8	-6254
B4	-4852	B9	-4857	D4	-4862	D9	-4866
B5	-4853	B10	-4858	D5	-4863	D10	-4867

The break in the progression of the last four numbers for the D8 NSN is correct. The menu variety of stock at depots is very good.

NEW NATIONAL STOCK NUMBERS FOR SUBSISTENCE

The following new national stock numbers (NSNs) have been approved by the Armed Forces Product Evaluation Committee.

NSN 8905-01-342-8122	Pork loin chops, center cut, one muscle, boneless, frozen, 5 ounces each
NSN 8950-01-345-9581	Creamy Italian dressing, 7/16 to 2-ounce boat, cup or individual serving size bag
NSN 8950-01-345-9582	Creamy Italian dressing, 8-ounce glass bottle
NSN 8950-01-345-9583	Creamy Italian dressing, 16-ounce glass bottle
NSN 8950-01-343-8197	Creamy Italian dressing, 1-gallon glass jar
NSN 8950-01-344-6618	Lemon pepper, 2.5 to 4-ounce glass jar
NSN 8915-01-345-3130	Juice, orange, frozen or orange juice from concentrate, single strength, unsweetened, U.S. Grade A, 6-ounce, easy open plastic container

The following state-of-the-art food service equipment will use these new NSNs:

NSN 7320-01-328-0268	Vegetable cutter/food processor
NSN 7310-01-336-7160	Storage rack, cans, 27 cases 6/10 cans
NSN 7310-01-281-0239	Food warmer, twin, self-contained, soup station (S/S)
NSN 3920-01-250-0363	Storage racks, S/S, (dunnage) heavy duty, with casters
(60" L X 27" W X 16"H)	
NSN 3920-01-250-0362	
(48" L X 27" W X 16" H)	
NSN 3920-01-250-0361	
(36" L X 27" W X 16"H)	
NSN 7320-01-295-4308	Utensil basket, S/S, wire mesh, with handle
NSN 7320-00-856-6891	Rack-cutlery, S/S, assembly

ADVANCED CULINARY SKILLS COURSE

The "hands-on" Advanced Culinary Skills Course for selected Food Service Specialists is offered four times a year. The last course for FY 92 runs from 8 June to 26 June 1992. For more information, contact Chief, Culinary Skills Training Division, DSN 687-2716/5487.

QUARTERMASTER CORPS CIVILIAN INTEGRATION OF PERSONNEL PROPONENCY (CIPPS)

Under the Army Proponent System, CIPPS became effective with the Deputy Chief of Staff for Personnel memorandum dated March 12, 1991. The Quartermaster Corps is designated the Civilian Personnel Proponent for the following civilian job series: General Schedule (GS) 050, Funeral Directing; GS 1630, Cemetery Administration; GS 1658, Laundry and Dry Cleaning Plant Management; and GS 1667, Steward. Additionally, the following Wage Grade (WG) series are Quartermaster Proponent responsibilities:

4754	5440	6907	7408
4855	5450	6908	7420
5310	6901	7401	7603
5312	6902	7402	7641
5317	6903	7404	
5330	6904	7407	

The intent is to link the Civilian Personnel Management System and the Army Personnel Proponent System to form a single, life cycle personnel management system. The affiliation of the civilian work force will happen later in the calendar year. Affiliation includes issuing a Quartermaster Regimental Certificate. Contact the civilian proponent POC at DSN 687-3530.

Training With Industry

ON-THE-JOB REPORT

CPT Jess V. Ziccarello

Terms and industry practices may be the hardest concepts that a Training With Industry (TWI) participant must learn. Management by committee or management by consensus are concepts foreign to most Army officers. These are everyday practices at Sun Refining and Marketing Company. Managers and other personnel meet daily to discuss the decisions needed for the day or the upcoming week. These decisions range from expanding production of heating oil for the winter to reducing the work force at Sun.

The TWI program offered by the U.S. Total Army Personnel Command (PERSCOM) is part of the professional development series that also includes Advanced Civil Schooling (ACS) and the Logistics Executive Development Course (LEDC). The one-year program with TWI gives an officer the opportunity to work with a specific industry to gain professional experience for performance in future military assignments. At Sun, the soldier joins a company training program developed by the industry coordinator and ultimately contributes to projects assigned by the coordinator.

Sun has corporate headquarters in Philadelphia, PA, and several subsidiaries, including Sun Refining and Marketing Company in Philadelphia. This subsidiary produces products familiar to the general public, such as Sunoco and Atlantic brands of gasoline.

The officer works primarily in Sun's business planning group, the centerpiece of the TWI program. From there, the officer goes to different Sun offices for training. Training includes the areas of materials management, supply and distribution of crude and finished products, operations planning, supply and trading, economics and marine chartering.

The TWI officer spends about eight weeks away from the corporate headquarters at one of Sun's refineries in Marcus Hook, PA. Refinery studies include refinery processing, maintenance practices, risk management, fuels blending and quality assurance. Another seven weeks is spent at the Sun Pipe Line subsidiary in King of Prussia, PA. Classes there include scheduling, operations and maintenance, terminal operations, computer operations and financial operations. The last two weeks away from the corporate headquarters are spent at a marine terminal in Nederland, TX. This trip includes an orientation with the Strategic Petroleum Reserve in Texas and Louisiana.

Officers in the TWI program agree to a three-year obligation and at least a two-year utilization tour. The Army profits from this educational venture with officers who bring back fresh technological ideas from industry and newly acquired managerial skills. This experience will reap benefits for the Quartermaster officer's future through firsthand knowledge of industry operations, an understanding of the industry motives and a greater familiarity with the full spectrum of the petroleum business.



CPT Jess V. Ziccarello, Quartermaster, completed the Training With Industry program with Sun Refining and Marketing Company, Philadelphia, Pennsylvania.

HOTLINE GIVES SOLDIER VOICE

Because the Army relies heavily on field input in its efforts to modernize doctrine, equipment and support for the soldier, the Training and Doctrine Command Systems Manager-Soldier now has a 24-hour hotline.

The hotline gives soldiers and commanders a voice in deciding what a soldier wears, carries or consumes in a tactical environment. Recommendations to improve battlefield capabilities of lethality, command and control, survivability, sustainment and mobility are being sought, as are recommendations on lightening the soldier's load.

Call the hotline at Commercial (404)545-1245 or Autovon 835-1245. These numbers will be used until a toll-free line can be established.

QUARTERMASTER HALL OF FAME (QM HOF)

Nominations are currently being requested for the QM HOF. The QM HOF recognizes retired military (former Active duty and Reserve Components) and retired civilians who have made a significant contribution to the Corps. Packets should include a biography, a narrative of contributions, and an 8-inch by 10-inch color photo; and may include letters of support and award citations. Nominations must be received no later than 28 Feb 92 to be considered for induction in 1992. The following individuals have been inducted into the QM HOF as of this date (in order of induction): MG Thomas Mifflin, MG Nathanael Greene, COL Timothy Pickering, BG Thomas S. Jessup, BG Rufus Ingalls, MG Montgomery C. Meigs, BG Richard N. Batcheld, MG James B. Aleshire, MG Henry G. Sharpe, LTG Edmund B. Gregory, MG Robert M. Littlejohn, LTG Andrew T. McNamara, GEN Richard H. Thompson, LTG Woodrow W. Vaughan, LTG John D. McLaughlin, LTG Arthur J. Gregg, MG Kester L. Hastings, MG George A. Horkan, and MG Webster Anderson

Forward nomination packets to: Commander, U.S. Army Quartermaster Center and School, ATTN: ATSM-QMG-O (HOF Project Officer), Fort Lee, VA 23801-5032. For more information, call the Office of The Quartermaster General at AV 687-4741 or Commercial (804)734-4741.

DISTINGUISHED MEMBERS OF THE REGIMENT (DMOR)

On 27 Mar 92, the Quartermaster Regiment will induct 81 DMORs. Sixty-one of these inductees are retirees. The Regiment has done an excellent job of nominating officers for induction, but we must not neglect nominating distinguished warrants, junior and senior enlisted, civilians and officers. The current proposal is to limit each of the four categories above to three each, regard-

less of duty status and time in service, not to exceed 15 per year. The window for nominations is from 1 May to 1 October of each year. For more information on criteria, call the Office of the Quartermaster General, AV 687-4741 or Commercial (804)734-4741.

Please forward names, biographical data featuring a detailed narrative description of the nominee's distinguished contribution, and a list of his/her awards and decorations to: Office of The Quartermaster General, ATTN: ATSM-QMG-O (DMOR Project Officer), Fort Lee, VA 23801-5032.

QUARTERMASTER MUSEUM EXPANSION

The Army Quartermaster Foundation—a nonprofit, tax-exempt group of volunteers—wants to raise \$1.5 million to expand the existing 20,000-square foot Quartermaster Museum at Fort Lee, VA, by adding 12,720 feet of additional display space, a museum library and a 100-seat auditorium. Contributions to the Foundation are tax deductible, and contributors will be recognized on the Honor Wall in the museum lobby. For more information, contact The U.S. Army Quartermaster Museum, P.O. Box A, Fort Lee, VA 23801.

SUPPORT OPERATIONS COURSE (SOC)

The U.S. Army Combined Arms Support Command (CASCOM) and the U.S. Army Logistics Management College (ALMC), Fort Lee, VA, announce the SOC for any major, captain, master sergeant or sergeant first class who expects or seeks an assignment as a support operations officer or noncommissioned officer (NCO) in a forward support battalion (FSB), main support battalion (MSB), corps support battalion (CSB) or corps support group (CSG) with a direct support (DS) mission. The two-phase course focuses on multifunctional logistics operations in the combat zone. Phase I is a correspondence course on multifunctional training to bring potential Phase II students up to a common level of knowledge about FSB/MSB/CSB/CSG DS operations. Phase II builds on Phase I with two weeks of small group instruction at ALMC or on-site locations. Units must fund all student temporary duty (TDY) and instructor TDY for on-site location offerings. ALMC provides all materials at no additional cost. If interested in enrolling in Phase I of the course and meet the prerequisites, send a DA Form 145 (Army Correspondence Course Enrollment Application) to Commandant, ALMC, ATTN: ATSZ-ETC, Fort Lee, VA 23801-6042. Phase I will be available starting 1 Feb 92. Phase II of the SOC, available through the Army Training Requirements and Resources System (ATRRS), will be offered 6-17 April and 22 June - 3 Jul 92 at ALMC. Additional offerings will be available this FY to units who request and fund the sessions. Offerings for FY 93 and

beyond will be available through ATRRS. For further information, contact LTC William Deadwyler, DSN 687-4931.

ADVANCED CIVIL SCHOOLING (ACS) FY 93

Officers interested in attending fully funded ACS during FY 93 should forward applications to Quartermaster Branch, U.S. Total Army Personnel Command (PERSCOM), by 1 Sep 1992. Officers must be branch qualified, have an outstanding performance record and have at least 24 months time on station by August 1993. Officers assigned overseas must have a date eligible for return from overseas (DEROS) near August 1993 (plus or minus months). Interested officers should read AR 621-1 (Training of Military Personnel at Civilian Institutions) and forward a completed DA Form 1618-R (Application for Detail As Student Officer in a Civilian Educational Institution or Training With Industry Program) along with an original transcript from their undergraduate schools, and a Graduate Management Aptitude Test (GMAT) test score less than five years old. POC is MAJ Angevine, DSN 221-8119/8123.

TRAINING WITH INDUSTRY (TWI) FY 93

Officers interested in attending TWI during FY 93 should submit their requests to Quartermaster Branch, U.S. Total Army Personnel Command (PERSCOM), by 1 Sep 92. Officers must be branch qualified, have an outstanding performance record and have at least 24 months time on station by August 1993. Officers assigned overseas must have a date eligible for return from overseas (DEROS) near August 1993 (plus or minus months). POC is MAJ Angevine, DSN 221-8119/8123.

LOGISTICS EXECUTIVE DEVELOPMENT COURSE/FLORIDA INSTITUTE OF TECHNOLOGY (LEDC/FIT)

Officers interested in attending LEDC and FIT beginning in August 1993 should have their requests at Quartermaster Branch, U.S. Total Army Personnel Command (PERSCOM), by 1 Nov 92. Officers must be branch qualified, have an outstanding record and have at least 24 months time on station by August 1993. Officers assigned overseas must have a date eligible for return from overseas (DEROS) near August 1993 (plus or minus months). Interested officers should forward a written request, an original transcript from their undergraduate schools, and a Graduate Management Aptitude Test (GMAT) test score less than five years old if their undergraduate grade point average (GPA) is less than a 2.8. The master's degree from FIT is completed under the provision

of the Degree Completion Program (DCP). Officers are required to pay for their tuition and books. Currently, this amounts to approximately \$5,000, which must be paid at registration. Officers who attend LEDC alone will be sent temporary duty (TDY) enroute to a new duty station. Officers attending LEDC/FIT will go to Fort Lee, VA, for 11 months permanent change of station (PCS). Their follow-on assignment will be determined after arrival at Fort Lee. POC is MAJ Angevine, DSN 221-8119/8123.

YEAR GROUP (YG) 88 LIEUTENANTS' RETENTION BOARD

The YG 88 Lieutenant's Retention Board, with results released 7 Nov 91, considered a total of 284 Quartermaster officers for retention. The selection rate was 81.6 percent; 232 Quartermaster officers were selected for retention.

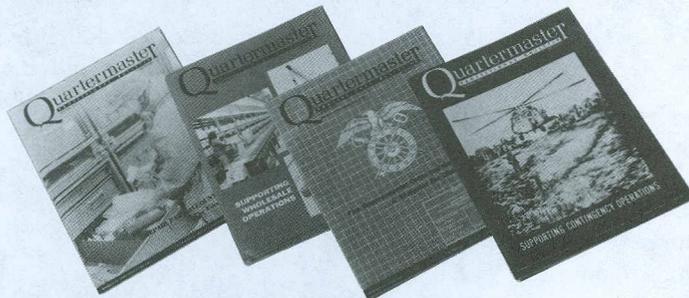
The board's goal was to select the most qualified officers for retention. The principal criterion for selection was the potential for outstanding service as a career officer. Indicators of this potential included physical fitness and military bearing, military and civilian education, assignment history, professional development and performance. An examination of each file showed the following for non-selection for retention: below center of mass reports, straight center of mass performance by the same senior rater, height and weight problems, and lack of photographs or none at all.

The YG 89 Lieutenant's Retention Board should meet during February/March 1992. Lieutenants need to ensure an updated Officer Record Brief (ORB) and a Department of Army photo on file at the U.S. Total Army Personnel Command (PERSCOM) before the board.

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105th SUPPORT BATTALION



LINEAGE

Constituted 10 November 1917 in the Regular Army as the 5th Division Supply Train and assigned to the 5th Division (later redesignated as the 5th Infantry Division)

Organized 20 December 1917 at Camp Joseph E. Johnston, Florida

Reorganized and redesignated 26 December 1917 as the 5th Division Motor Supply Train

Reorganized and redesignated 1 June 1918 as the 5th Supply Train

Reorganized and redesignated 17 March 1921 as the 5th Division Train, Quartermaster Corps

Inactivated 25 September 1921 at Camp Jackson, South Carolina

Redesignated 23 March 1925 as the 5th Division Quartermaster Train

Redesignated 1 May 1936 as the 5th Quartermaster Regiment

Headquarters and Headquarters Company, Companies A and B, and the 2d Platoon, Company E, activated 12 October 1939 at Fort Knox, Kentucky, as the 5th Quartermaster Battalion (Company E [less 2d Platoon] concurrently redesignated as Company D, 34th Quartermaster Regiment - hereafter separate lineage; remainder of 5th Quartermaster Regiment disbanded)

5th Quartermaster Battalion (less Ordnance Maintenance Platoon, Headquarters Company) reorganized and redesignated 12 January 1943 as the 5th Quartermaster Company (Ordnance Maintenance Platoon, Headquarters Company, concurrently reorganized and redesignated as the 705th Ordnance Light Maintenance Company - hereafter separate lineage)

5th Quartermaster Company inactivated 20 September 1946 at Camp Campbell, Kentucky

Activated 6 July 1948 at Fort Jackson, South Carolina

Inactivated 30 April 1950 at Fort Jackson, South Carolina

Activated 1 March 1951 at Indiantown Gap Military Reservation, Pennsylvania

Inactivated 1 September 1953 at Indiantown Gap Military Reservation, Pennsylvania

Activated 25 May 1954 in Germany

Activated 1 June 1957 at Fort Ord, California

Redesignated 19 February 1962 as Headquarters and Headquarters Company, 5th Supply and Transport Battalion, and activated at Fort Carson, Colorado (organic elements concurrently constituted and activated)

Inactivated 15 December 1970 at Fort Carson, Colorado

Consolidated 1 May 1987 with the 105th Supply and Transport Battalion and consolidated unit redesignated as the 105th Support Battalion, an element of the 5th Infantry Division; concurrently activated at Fort Polk, Louisiana

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