

Quartermaster

PROFESSIONAL BULLETIN
WINTER 1990
PB 10-90-4

STRATEGIC LOGISTICS PROGRAM



**TYING LOGISTICS
TOGETHER**

U.S. ARMY QUARTERMASTER CORPS

Sustainer of Armies Since 1775

THE QUARTERMASTER GENERAL

Brigadier General Paul J. Vanderploog

EDITOR-IN-CHIEF

COL John E. Dawley, Jr.

MILITARY EDITOR

CPT Michael P. Gilroy

EDITOR

Linda B. Kines

ASSISTANT EDITOR

Delthea A. Holmes

GRAPHICS, PHOTOGRAPHIC SUPPORT

TASC, Fort Lee, Virginia

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

By order of the Secretary of the Army:

CARL E. VUONO

*General, United States Army
Chief of Staff*

Official:

JOHN A. FULMER

*Colonel, United States Army
Acting The Adjutant General*

Distribution: Special

The QUARTERMASTER PROFESSIONAL BULLETIN (ISSN 0896-9795) is published quarterly by the U.S. Army Quartermaster Center and School, Fort Lee, Virginia. This publication presents professional information, but the views expressed herein are those of the authors, not the Department of Defense or its elements. The content does not necessarily reflect the official U.S. Army position and does not change or supersede any information in other official U.S. Army publications. Use of news items constitutes neither affirmation of their accuracy nor product endorsement. The QUARTERMASTER PROFESSIONAL BULLETIN reserves the right to edit material to meet space constraints. Use of the third person pronoun "he" and any of its forms is intended to include both masculine and feminine genders. All photographs are official U.S. Army photos unless otherwise accredited.

CORRESPONDENCE: Articles for use in future editions are invited. Submit comments about published articles and suggestions for future editions to: Military Editor, QUARTERMASTER PROFESSIONAL BULLETIN, U.S. ARMY QUARTERMASTER CENTER AND SCHOOL, ATTN: ATSM-QMG-B, Fort Lee, VA 23801-5032. Telephone Defense Switched Network (DSN) 687-4741; Commercial (804) 734-4741. Local clearance of manuscripts should be obtained prior to submission.

DISTRIBUTION: Approved for public release. Distribution is unlimited.
POSTMASTER: Official postage paid at Petersburg, Virginia 23804-9998.

Quartermaster

PROFESSIONAL BULLETIN

SPECIAL FEATURE - SINGLE SUPPLY SYSTEM

LEADERS AND TRAINING	
Brigadier General Paul J. Vanderploog	2
SINGLE SUPPLY SYSTEM	4
SCENARIO FOR 21st CENTURY ARMY SUPPLY	6
STRATEGIC LOGISTICS PROGRAM	7
STOCK FUNDING OF DEPOT-LEVEL REPARABLES	9
OBJECTIVE SUPPLY CAPABILITY	12
TOTAL ASSET VISIBILITY	16
READINESS BASED MAINTENANCE	17
UBRD: WHAT IS IT?	19
CONTRIBUTORS AND REFERENCES	21

GENERAL ARTICLES

MILITARY QUALIFICATION STANDARDS SYSTEM	22
OPERATION MULTI-FUNCTIONAL	
MAJ Joseph A. Brown	24
DESERT SHIELD CONTINGENCY CONTRACTING	
LTC Douglas B. Byther	28
A CAFETERIA IN THE DESERT	
Lorraine Netzko	33
CLOTHING THE SAND SOLDIERS	
William Ernst	34
DEFENSE FUEL SUPPORT FOR OPERATION DESERT SHIELD	36
THE BRIGADE SUPPLY AND TRANSPORT COMPANY-SUPPORT FOR AIRLAND	
BATTLE FUTURE	
CPT Michael P. Gilroy	37
GRAVES REGISTRATION AT THE NTC	
CPT Todd A. Mercer	43
FROM PICKETT'S CHARGE TO FINAL GLORY: GRAVES REGISTRATION LESSONS	
FROM GETTYSBURG	
CPT Scott T. Glass	45
PRIORITIES - STATING THE COMMANDER'S INTENT MAKES A DIFFERENCE	
CPT Dean M. Robinson CPT Michael P. Gilroy	48
2d CORPS SUPPORT COMMAND WATER PURIFICATION DURING REFORGER '88 AND '90	
MAJ Harold D. Koutz	50
TREASURE CHEST OF LOGISTICS INFORMATION	54
SAFETY SAVES SOLDIERS: TRAINING PERSONNEL TO PREVENT ACCIDENTS	
Frank R. Hartman	55
SAFETY SAVES SOLDIERS: THINK SAFETY WHEN OPERATING NIGHT VISION DEVICES	
LTC George C. Knapp, Jr. CPT Larry L. Starr, Jr.	56
PROFESSIONAL READINGS	59

FYI - FOR YOUR INFORMATION

TRAINING AND DOCTRINE	60
AIRBORNE AND FIELD SERVICES	60
ARMY CENTER OF EXCELLENCE, SUBSISTENCE	60
GRAVES REGISTRATION	61
PETROLEUM AND WATER	62
SUPPLY AND PROFESSIONAL DEVELOPMENT	63

CAREER NOTES

THE FORCE ALIGNMENT AND BRANCH DETAIL PROGRAMS:	
ROUNDING OUT THE CORPS	
CPT Richard J. Behrens	65
UPDATES FROM THE U.S. TOTAL ARMY PERSONNEL COMMAND (PERSCOM)	70



LEADERS AND TRAINING

Brigadier General Paul J. Vanderploog

' To be successful in combat, the Army must train continually to develop and maintain combat-ready soldiers, leaders, and units that can perform assigned tasks to specific standards.'

—Chapter 1, FM 25-101

The U.S. Army Quartermaster Center and School is focused on training leaders who are well qualified and meet today's standards. We want to ensure that when graduates leave us they are confident and competent.

As we begin the new year, it is fitting that I review some things we are doing to provide realistic, challenging training for the future commissioned and noncommissioned leaders of our Corps. The U.S. Army Quartermaster Center and School has critically examined its current training program for leader development. We have "crosswalked" the critical task lists in the school's programs of instruction (POIs) with wartime unit mission essential task lists (METLs) and eliminated nonessential training. Our products today are battle focused. The principles of training that are outlined in FM 25-101 (Battle Focused Training) have provided the direction of our leader development training. Additionally, as we continually shape our leader development training, we have incorporated feedback and concerns from the Quartermaster leadership across the Army. Particular emphasis has been placed where commanders perceive a training shortfall exists. Specific

areas of concern that we set out to solve were strengthening troop-leading skills for officers and noncommissioned officers (NCOs) and exposing soldiers to the mission capabilities of the supply systems in a field environment.

One step taken to improve leadership training was by utilizing one of the principles of training found in FM 25-101 "...train using multiechelon techniques." A multiechelon training exercise (METX) was developed which maximizes training resources and provides for an integrated operation for students in Advanced Individual Training (AIT), the Basic NCO Course (BNCOC), the Advanced NCO Course (ANCOC), the Officer Basic Course (OBC) and the Officer Advanced Course (OAC). The METX is the final phase of the Quartermaster Corps soldiers' instruction—it is their final "check ride" before graduating. The AIT student is provided the opportunity to reinforce basic soldier skills under the leadership of an NCO leader in a realistic field environment. The BNCOC and ANCOC students are actually training the AIT soldier while developing their leadership skills in a controlled exercise. To further build hierarchical relationships, the OBC

students function as platoon leaders and company executive officers, exercising "hands-on" leadership skills by leading soldiers in a realistic field environment, while simultaneously being exposed to the Quartermaster systems capabilities in the field. The OAC students perform those planning skills required of a company commander by developing an operations order for employing the supply company/companies of the METX. To complete their requirements, the OAC students must brief their orders along with a concept of operations to the simulated platoon leaders and platoon sergeants. This is a great confidence builder and is serving our developing unit commanders well.

The METX is just one example of the innovative training techniques that are time efficient, challenging and realistic and that provide a high-payoff dividend: confident and competent leaders. Additionally, a leader certification program has been developed and is operational in the OAC, which is a mandatory requirement for graduation. It will be incorporated shortly into the OBC, ANCOC and BNCOC. Students must demonstrate their ability to perform the common skills that all leaders must possess. Soldiers are evaluated in the basic soldier skills including: land navigation; communications; nuclear, biological, chemical (NBC); and preventive maintenance checks and services (PMCS). Along with these basics, the students must have a current passing Army Physical Fitness Test (APFT), meet prescribed height and weight standards per

AR 600-9 (The Army Weight Control Program) and be qualified with an individual weapon in the most recent 12 months.

While the focus of the U.S. Army Quartermaster Center and School is total support of combat units in any environment, leaders must also fully understand and not forget the necessity of taking care of soldiers. Leaders cannot be effective without truly caring for the soldiers they are entrusted with. The Sergeant Major of the Army, Julius W. "Bill" Gates, says it very wisely, "Leaders must care enough to hold soldiers accountable for their actions, to tighten supervision, to set standards of performance for operations, and to require that all operations be conducted to standard." That type of caring builds strong, well-disciplined, combat-effective soldiers and units. Clearly, the future is now and we must be ready to send trained and ready leaders to meet these challenges.

Although we at the U.S. Army Quartermaster Center and School have made many improvements, we must continue to be flexible and innovative in developing and refining training strategies to meet the many challenges facing our soldiers. In closing, I trust you *all* will do your best in ensuring that the Quartermasters of our great Army are trained, ready and prepared to execute as the Sustainer of Armies since 1775.

BG Paul J. Vanderploog is the U.S. Army Quartermaster General.

PRINCIPLES OF LEADERSHIP

- Know yourself and seek self-improvement.
- Be technically and tactically proficient.
- Seek responsibility and take responsibility for your actions.
- Make sound and timely decisions.
- Set the example.
- Know your soldiers and look out for their well-being.
- Keep your subordinates informed.
- Develop a sense of responsibility in your subordinate.
- Ensure the task is understood, supervised, and accomplished.
- Employ your unit in accordance with its capabilities.

—Field Manual 22-100 (Military Leadership)

SINGLE SUPPLY SYSTEM

EDITOR'S NOTE: *This is a summary of an article that appeared in the Autumn 1990 edition of the Quartermaster Professional Bulletin to preview the integrated logistics discussed in this edition. The Single Supply System is one initiative of the Strategic Logistics Program, a long-term initiative of the Army's Deputy Chief of Staff for Logistics.*

Soldiers who hear the words "supply system" think of many different images. Even with all its automation, the Army uses two separate and distinct logistics systems: one for wholesale and one for retail. These two separate supply systems seem very different, but the two systems are very similar. Managers at both wholesale and retail levels perform these basic functions: requirements determination, receipt, storage, issue, and accounting. However, the greatest challenge is that both systems have separate automation structures that hinder decisions about trade-offs between repair, redistribution, and assets procurement. Lieutenant General Jimmy D. Ross, Deputy Chief of Staff for Logistics (DCSLOG), realized the twofold need to integrate these two systems to meet evolving requirements within Army logistics and also to improve automated systems operating on dated technology. To do this, DCSLOG created the Strategic Logistics Agency (SLA) to unify the two systems.

The Army has standard information management systems for logistic applications, but the Army spreads logistical technical and functional data among all its different systems. Although these logistical systems communicate, the link is weak. Weak communication results in substandard perfor-

mance. To solve this problem, the SLA is leading an effort to support Army logistics into the 21st Century. General William G. T. Tuttle, Jr., Commander, U.S. Army Materiel Command (AMC), has summarized the concept by saying that AMC, U.S. Army Training and Doctrine Command (TRADOC), and DCSLOG are trying to build "a seamless logistics system, the parts of which are invisible to the soldier. All he sees is that he needs a part, he puts a request in on a little computer, and the part gets to him."

The seamless logistics system, or Single Supply System (SSS) as it is now called, focuses upon asset visibility. The emphasis is on uniting the entire supply system so that it is very close to being "seamless."

The SSS will address three areas. The first area is how the soldiers in the foxholes view the supply system. The SSS aims for no gap between wholesale and retail systems and one system in which all the parts work together with information flowing quickly and easily from one end to the other. When the improved view from the foxhole is correct, supply should be operating as a single system.

The second SSS area falls under the broad term of automation. Soldiers need to be able to access and operate with the same

data at all levels and be able to do this in real-time at all levels.

The third area is shortcuts. The SSS would encourage shortcuts that supplement rather than circumvent the system. Any method that helps improve the service, reduces delivery time and paperwork, and ultimately costs less is a valuable asset. Those methods, however, which short circuit the system and use trading, bartering, or the "good-old-boy" method of obtaining supplies have no place in the SSS. Ideally, the SSS will eliminate undesirable shortcuts.

Although the SSS is just beginning, its impact will be far-reaching. All the major commands are involved through "ad hoc" work groups that take an issue and discuss use, implementation, and impacts; resolve any conflicts; and then send on recommendations and/or implement the decisions. Input is currently being gathered in the field, and changes are being added to the total SSS design.

Through the SLA, the SSS will ultimately transform current logistic functions into one integrated system. The idea is to try to make the system one continuous flow, from manufacturer to user. The Army requires a single logistics system for the early decades of the 21st Century to support long-range concepts of operation. 

CORRECTION: *The Quartermaster Corps does not currently have a Training With Industry program with McDonnell Douglas, as incorrectly stated in the article "Overview: Unique Quartermaster Training Opportunities" in the Autumn 1990 edition. The Corps does have programs with Marriott Corporation, Sun Refining and Marketing Company, Hertling Industries, WAL-MART Stores, Inc., The Procter and Gamble Distributing Company, and Super Valu Stores, Inc.*

STRATEGIC LOGISTICS AGENCY

The Strategic Logistics Agency was established by the Deputy Chief of Staff for Logistics to initiate and implement near-, mid-, and long-range goals of the Strategic Logistics Program (SLP). The SLP supports tomorrow's force in performing the Army's evolving missions.



STRATEGIC LOGISTICS PROGRAM

The Strategic Logistics Program (SLP) is a long-term initiative of the Deputy Chief of Staff for Logistics. The SLP will define functional requirements for operating the Army's logistics systems to the year 2010 and beyond. The SLP will integrate the two separate supply systems: retail and wholesale. The SLP's direction is to explore new concepts that will support AirLand Battle-Future doctrine, unify wholesale and retail logistics systems, and modernize systems operating on dated technology. The program's initiatives will apply equally in war and peace.

INSIDE THE STRATEGIC LOGISTICS PROGRAM...

Scenario for 21st Century Army Supply	Total Asset Visibility
Strategic Logistics Program	Readiness Based Maintenance
Stock Funding of Depot-Level Repairables	Usage Based Requirements Determination
Objective Supply System	

SCENARIO FOR 21ST CENTURY ARMY SUPPLY

The Strategic Logistics Agency has been tasked by the Deputy Chief of Staff for Logistics to look at the 21st Century and determine requirements for support. The agency is also responsible for developing the systems to make it a reality. Here is a glimpse of one possible scenario for the future.

7 June 2011

Temporary command post of the 304th Forward Support Battalion aboard the USS Thomas Jessup, a U.S. Navy Fast Sealift Ship

The West African nation of Ashan has requested U.S. assistance to repel an invasion by a neighboring power. The U.S. X Corps has been dispatched to Ashan. The 4th Infantry Division has been designated as the lead unit. The division's 1st Brigade and its associated units are already in country. The 3rd Brigade is currently en route while its POMCUS (prepositioning of materiel configured to unit sets) equipment staged aboard Navy ships is also en route. The brigade's equipment is being maintained aboard the USS Thomas Jessup by the advance party of the 304th Forward Support Battalion.

"Captain...oh, sorry to interrupt your letter, sir, but I wanted to let you know that we just finished up on 1st Battalion's A-22 tank. It wasn't the servo after all. But it's up and running now.

"Thanks, Sergeant Collins. Have we got any other crises yet?"

"Well, since you asked...I need three parts, all 'ZERO one' priority."

"When did we figure this out?"

"About 10 minutes ago, sir. We just finished all the remaining tests."

"OK, give me the bad news."

"One circuit board W7896, one laser range finder and...you're not going to like this, sir...one valve. The only problem is this particular valve is usually a local purchase back home because the Army doesn't stock too many of them."

"Have you got all the stock numbers?"

"Yes, sir, here you are."

"Sergeant Collins, hand me that notebook computer over there. Sergeant Lemanski, do me a favor and plug this in to COMNET."

"Aye aye, Captain."

"Enough with the Navy talk, let's find out where all these parts are."

Captain Young powered up the microcomputer and keyed in all the stock numbers and the requirements. The microcomputer, in contact with the area, theater, and CONUS control computers, did not make him wait long for answers. Within 30 minutes he had a complete supply status as well as transportation orders. The circuit board was found in a U.S. Army National Guard unit in New York. The CONUS computer tagged the part and cut transportation orders so that the part would be waiting in country when the USS Thomas Jessup docked. The range finder was in a depot in Alabama. Although the range finder was not due to be rebuilt for two days, the CONUS computer upgraded the maintenance priority and dispatched transportation assets to ship it to X Corps once it has been rebuilt. The valve was not in Army stocks, but the computer identified the two current suppliers and communicated with their computers. One of the suppliers had the part and could ship it within two hours. The computer ensured that all the necessary arrangements were made to purchase and then to ship the valve.

"Well, Sergeant Collins, the best I can do is have all this stuff waiting when we dock tomorrow night. Will that work?"

"You bet it will work! Sir, this stuff is better than nighttime baseball."

"Hey, Collins, why don't you come up to support ops where all the real high-tech stuff is?"

"Lemanski, why don't you come down to Bravo Company and get your hands dirty?"

"OK, guys, I'm going to see the commander. Sergeant Lemanski, while I'm gone I want you to run a status on all ammo in theater and inbound. I want to be able to tell the support operations officer what we've got versus what we need once we are on the ground. Also, the artillery battalion S4 was interested in the status of Copperhead rounds.

Let's razzle dazzle 'em. Get the status all the way back to the manufacturer. Also, check for excess on Class IX and Class II in 1st Brigade. With all these units and supplies flooding in, 1st Brigade may have some of the things we need. If you find anything there, have the area control computer cut it to us. Check with the theater and CONUS to locate the rest."

"Roger, Sir!"

Captain Young went to update the battalion commander and left Sergeant Collins and Sergeant Lemanski to ponder the impact of all this.

"Hey, Lemanski, can you really find out all this stuff from that little computer while we're in the middle of the ocean?"

"Of course."

This scenario may seem far-fetched in today's environment. Today, requisitions seem to take forever and computers seem more of an enemy to be despised than a savior in time of need. But the day is coming when the ultramodern scenario described above will be as routine as today's daily inspection. The Strategic Logistics Agency is working to implement the following advances: a system to provide asset visibility to managers at all levels, a program to help managers with repair and distribution decisions, a new relational data base that will determine requirements from actual usage, and a system to automatically find assets for a requisition wherever the asset may be. As these initiatives begin to take effect in the mid and late 1990s, we will see a quantum leap in the logistics support provided to fighting units. 

STRATEGIC LOGISTICS PROGRAM

The Strategic Logistics Program (SLP) will define the Army's requirements for supply logistics into the 21st Century. By the end of fiscal year 94, the Army expects a single logistics system to span the continuum from "factory to fox-hole." The SLP, a long-term program of the Deputy Chief of Staff for Logistics (DCSLOG), will define requirements for operating the Army's supply logistics system by meeting near-term and long-range goals. The SLP focuses on improving existing logistics processes, especially processes with potential to streamline overall logistics functions. The SLP's approach is to explore new processes based on AirLand Battle-Future doctrine and to design, develop, and implement processes that unify today's wholesale and retail systems. For example, in the near future, a major new system will convert unit-level procurement of depot-level reparable, such as vehicle trans-

missions and fire-control computers, from the Army's Procurement Appropriations (APA) account to the Army Stock Fund.

Starting in the 1990s, the SLP will transform the present, separate wholesale and retail supply systems into a single network. The Strategic Logistics Agency (SLA) will implement the various programs under the SLP umbrella. The SLA plans to have this integrated supply network use combat commander's requirements to make the best decisions for logistics support. Through the end of 1994, the SLA will concentrate on consolidating and integrating wholesale and retail functions. The SLA is working with the U.S. Army Combined Arms Support Command (Provisional), U.S. Army Materiel Command (AMC), and the Program Executive Office for Standard Army Management Information Systems (PEO STAMIS) to develop a plan to ensure a com-

plete, baseline standard logistics information system is implemented Armywide. The next generation of logistics management systems will be developed from this baseline.

Stock Funding Of Depot-Level Reparables (SFDLR)

A major near-term effort under the SLP umbrella of initiatives involves the Army Stock Fund. The Army Stock Fund is a revolving capital account designed to finance the supply pipeline from vendors to consumers. The "wholesale" side of Army procurement, such as AMC and the U.S. General Services Administration, uses it to order items for customers in the field. Currently, "retail" customers in the field who order and use the materiel, have free issue of depot-level reparable under the Army Procurement Appropriations (APA) account. This "no cost" approach has resulted in the supply system stocking more components than necessary. Defense Management

Review Directive 904 C requires converting depot-level reparable from APA funding to stock funding. This conversion will offer greater efficiency and economy in supply operations.

For example, a maintenance shop needs to replace an unserviceable 2.5-ton truck engine with a new engine. With the current system, the maintenance shop would turn in the old engine and get a "free" new engine paid for through the APA account. Under the new system, the unit will have to pay for a new engine and then turn in the old engine for monetary credit. No longer can the maintenance shop declare the engine unserviceable and have free issue of a new engine from the APA account. This brings accountability back into the equation and forces field commanders to intensively manage their budgets. The strategy is that the more timely turn-ins of unserviceables will lessen the volume of inventory, heighten the level of accountability, and will create more efficiency in overall repair operations, resulting in less waste. With less inventory to manage, there is less waste.

The Army will implement this stock funding initiative in phases. Starting in October 1990, AMC will begin procuring depot-level reparable through the stock fund. Free issue to units will continue. In July 1991, depot-level overhaul and contract repair will be paid for through the stock fund. In January 1992, all customers will be required to use the stock fund to pay for reparable, with no more free issue. Ordering units will pay for the item. To develop confidence in this method of doing business, the Chief of Staff of the Army approved a one-year test beginning in January 1991. This test will validate the implementation plan and supporting systems for proper evaluation and analysis before retail operations begin in January 1992.

Reduction of Stocks

Additional improvements to support integrating wholesale and retail supply systems are being developed. These initiatives will have proof-of-principle testing throughout the early and mid-90s. This single supply system will eliminate excess, reduce the time for supplies in the pipeline, and significantly reduce stockage levels throughout the force. One way to reduce stockage is to reduce the order ship time (OST) used to compute stockage levels.

Work is now underway to begin reducing the OSTs. Soon, elements of a new requisitioning system will operate with near real-time speed and will reduce the order segment of the OST to less than one day. Reducing OST will be the beginning of realizing savings to the Army from a shorter supply pipeline. A shorter pipeline translates into lower stockage levels Armywide. By the end of fiscal year 94, the Army supply system may be able to reduce the entire pipeline for repair parts to less than 10 to 15 days in addition to reducing the stockage levels by about 50 per cent. The SLA plans for elements of this new requisitioning system to be in place throughout the continental United States and in Europe by the second quarter of fiscal year 1991.

Additional initiatives in supply logistics are projected by the end of 1994. By that time, the SLA will have developed and fielded a supply system capable of sending unit requisitions in near real-time to the appropriate source of supply. This system will use artificial intelligence to prepare and transmit automatic materiel releases or stock redistribution actions in near real-time to the user and the transportation system.

Weapons System Management

Weapons system management is a key element of the SLP.

Weapon system management will serve as the "trunk" of the logistics functions "tree." Weapon systems managers will make repair, redistribution, and procurement decisions based on the field commander's operational availability requirements. By the end of 1994, the Army will use weapon system availability models to determine stockage policies. These availability models will also determine the best maintenance repair policies and priorities for the field, depots, and contractor repair activities. The Army will also use these models to develop replenishment and war reserve requirements from training and field use data. Total asset visibility of stocks, to include supplies in transit, will allow system managers to make effective redistribution decisions. A single stock fund will account for the monetary data. It will be automatically updated when transactions take place within the weapon system management model.

The Future

Thus far we have discussed the SLA's short-term (present - 1994) objectives. For the long-term, SLA will conduct a broad, comprehensive analysis of logistics requirements for the year 2000 and beyond. From this analysis, the SLA will develop the Army's functional requirements for a Logistics System (Future). The future of logistics management information systems will be an integral part of the Department of Defense's consolidation of logistics at the national level. The SLA will also develop changes to support the Tactical Combat Service Support Control System and the Office of the Secretary of Defense Corporate Information Management System. As the Army progresses into the 1990s, the SLA will ensure logistics modernization and integration keeps pace with force requirements, effectively and efficiently. 

STOCK FUNDING OF DEPOT-LEVEL REPARABLES

Possibly the most complex project under the Strategic Logistics Program umbrella involves a major restructuring of the Army Stock Fund (ASF). The ASF is a revolving, working capital fund designed to finance supply pipelines between the suppliers and the ultimate user. The ASF operates like a commercial business: purchasing supplies with stock funds from vendors and selling those supplies to Army customers. Obligation authority given by the Office of Management and Budget (OMB) to the ASF allows the Army to order supplies and to pay for them with stock fund cash. Congress must approve appropriation of funds to purchase war reserve items and buy initial spare parts for new equipment. (See Figure 1. Army Stock Fund Structure.)

The ASF currently purchases consumable and field-level reparable parts, fuels, clothing and textiles, medical and dental supplies, food for commissary resale, general supplies, and common hardware. Congress appropriates procurement funds to pay for depot-level reparable (DLR) spares, subassemblies, and assemblies used in repairing Army end items. Congressionally appropriated procurement funds are designated by commodity-oriented groupings such as aircraft, tactical and support vehicles, missiles, communication/electronics, ammunition, weapon and track combat vehicle, and other support equipment.

The procurement-funded spares, which are mostly high-dollar items, are currently issued to Army customers at no cost to the customer. Stock funding of DLRs would mean that the customer, the ultimate user, would finance DLRs.

For example, a field commander requiring a \$7,000 replacement engine would pay for the DLR from the unit's budget. This extends the cost of readiness from the national level to the unit level.

The Defense Logistics Agency (DLA) and the other services also operate stock funds to procure the supplies they manage. Army customers may order directly from any defense stock fund and reimburse that stock fund with ASF obligation authority or with appropriated funds. The U.S. Air Force and Navy operate vertical stock funds. In that relationship, the wholesale element transfers service-managed supplies to the retail element without an actual sale. The sale is not complete until the end-user buys the item with appropriated funds.

The Navy Experience

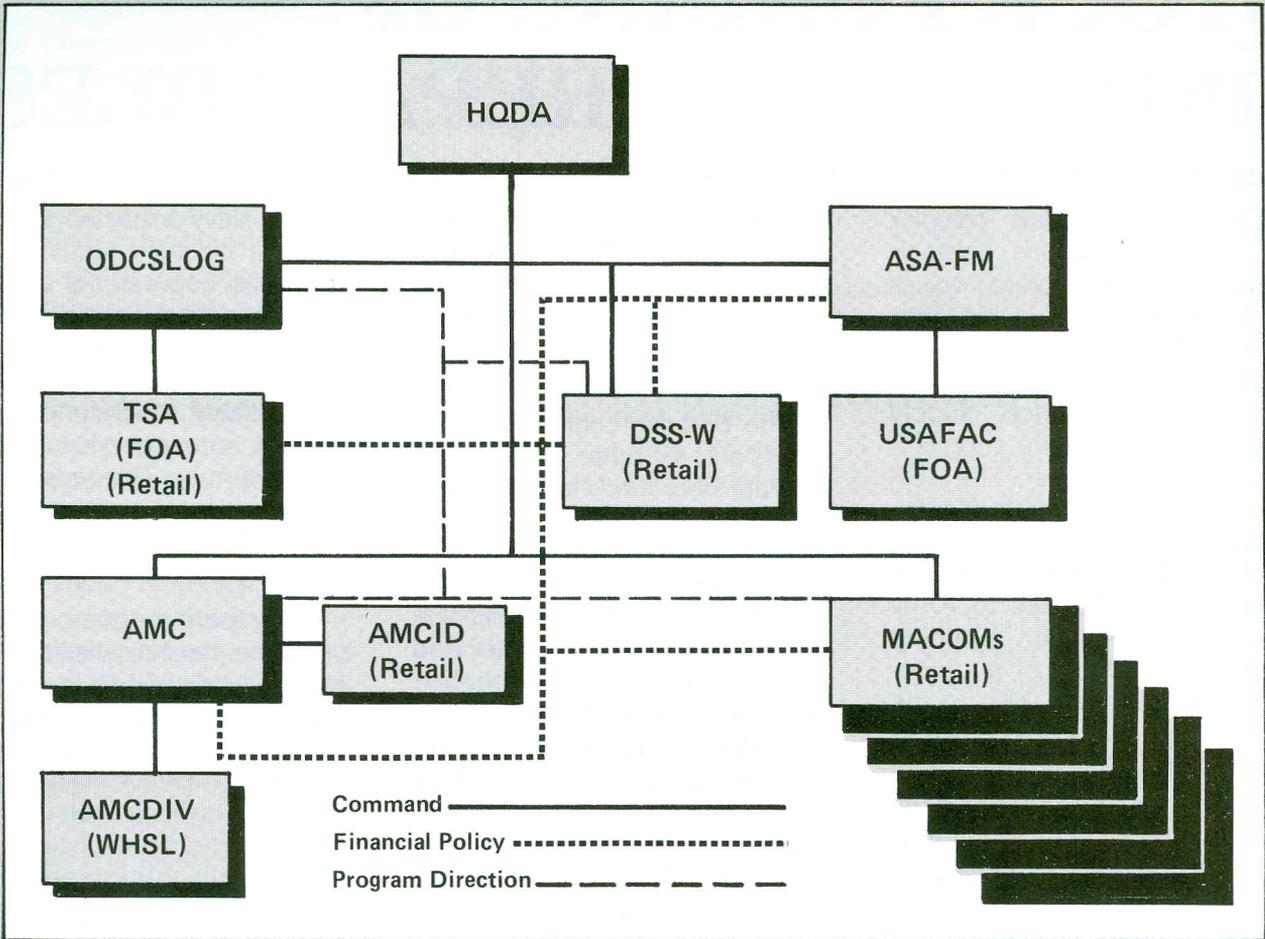
In the early 1980s, the U.S. Navy tested the stock funding of DLRs. The test had two underlying concepts to evaluate. First, the test evaluated whether or not commanders in the field had more incentive to return DLRs for repair if the commanders were required to pay for DLRs and knew that the purchase cost would only be offset by the credit given for the returned unserviceable DLR. Secondly, the test evaluated the logistician's ability to either procure or repair to meet demand by having stock fund management over DLRs and consumables. Previously, DLRs were purchased from one account in the Navy but repaired from another. Congress had to reprogram any changes in funding. With both procurement and repair financed by the stock fund, the Navy logistics manager did not have to seek higher-level approval for either DLR procurement or repair.

The Navy expected many difficulties in stock funding DLRs, especially between the wholesale stock fund level and the retail customer. For example, the Navy feared that retail customers would strip usable stock-funded components from unserviceable DLRs before turn-in. This would cause the depot-level maintenance activities to purchase additional items for their maintenance programs.

Anticipating these potential problems, the Navy limited testing of stock funding DLRs to shipboard DLRs. The Navy tested a two-price system: standard price and net price. The Navy also established a "carcass" tracking system to control the movement of unserviceable DLRs from customers to the wholesale level. Convinced that stock funding DLRs was a sound concept, the Navy began stock funding of aviation DLRs in 1985. During 1981-82, the Navy reported increases in materiel availability of 23 percent and unserviceable DLR returns of 12 percent. The Navy also had reductions of 13 percent in backorders, 10 percent in customer requirements and 25 percent in customer waiting time.

The Army's Budget System

Understanding the Army's plan to stock fund DLRs requires an understanding of the current funding structure and the way it is changing. The Procurement Appropriation Army, Secondary (PAA2) accounts were established to procure DLRs, while the stock fund, as previously stated, procured field-level reparables and consumables. However, data errors and management decisions resulted in DLR items in stock fund accounts and nondepot-level reparables in the PAA2 accounts.



LEGEND:

- HQDA - Headquarters, Department of the Army
- ODCSLOG - Office of the Deputy Chief of Staff for Logistics
- ASA-FM - Assistant Secretary of the Army for Financial Management
- TSA (FOA) - Troop Support Agency (Field Operating Agency)
- DSS-W - Defense Supply Service, Washington, D.C.
- USAFAC (FOA) - U.S. Army Finance and Accounting Center (Field Operating Agency)
- AMC - U.S. Army Materiel Command
- AMCID - U.S. Army Materiel Command – Installation Division
- MACOMS - Major Army Commands
- AMC DIV (WHSL) - U.S. Army Materiel Command Division – Wholesale

Figure 1. Army Stock Fund Structure.

With stock funding of DLRs, all items, including those currently funded through the PAA2 accounts, will be realigned into two categories under the stock fund account. The repairable stock fund will consist of items that meet the following criteria: a source, maintenance, or recoverability (SMR) code in position four equal to "D" or "L"; and/or an automatic return item code of "S," "C," "E," or "R;" and/or a depot

repair program. The consumable stock fund will contain all secondary items that do not meet DLR criteria. Designating items as either repairable or consumable stock fund items will determine whether or not retail customers will receive credit for what they return to the wholesale level of supply.

Credit will be given for turning in both serviceable and unserviceable

stock-funded DLRs. Customers funded by Operation and Maintenance, Army (OMA) funds will have their credit computed using the existing alternate credit policy. The analysis to determine the amount of credit a customer will receive is ongoing. OMA customers will receive credit when they turn items in to their supporting Standard Army Intermediate Level Supply System (SAILS) activity.

Retail stock funds will receive credit from the wholesale stock fund activity upon receipt of notification of shipment from the retail supporting activity, except for U.S. Army Europe (USAEUR) customers. USAEUR customers turn in items to the European Redistribution Facility (ERF). The USAEUR stock fund will be granted credit upon delivery to the ERF (wholesale level of the ASF). The Army will stock fund all DLRs on the following schedule:

- 1 October 1991 (FY 91) - All DLRs will be procured through ASF while continuing free issue to retail customers.
- 1 July 1991 (FY 91) - Depot maintenance of all DLRs paid by ASF.
- 1 January 1992 (FY 92) - Free issue ends. Retail customers reimburse ASF for all DLRs requisitioned. (Units pay for items ordered.)

The Army's approach to stock funding DLRs aligns with the Office of the Secretary of Defense (OSD), Army, and Strategic Logistics Agency (SLA) initiatives. This approach will develop and implement a "business plan," but not in the sense of a plan for the private sector. The Army plans to provide sound and timely management of Army resources, emphasizing OSD's desires to capture total costs and maximize efficiency within and among the military services.

Stock Funding Implementation Plan

Instead of Congress designating funds for "free issue" DLRs, the SLA, under the supervision of Headquarters, Department of the Army, Office of the Deputy Chief of

Staff for Logistics (HQDA ODCSLOG), will implement stock funding of DLRs. The SLA is incorporating OSD and HQDA programs into the transition from today's procedures to the future logistics system. Programs being considered are Secondary Item Weapon System Management (SIWSM), Computer Aided Acquisition and Logistics System (CALs), and Modernization of Defense Logistics Standard Systems (MODELS) as they relate to the purchase and use of spares and repair parts. The SLA will receive recommendations from a Council of Colonels and solicit approval for all plans and actions from a General Officer Steering Committee with oversight responsibility. The SLA will align the stock funding of DLRs in two phases. The first, near-term phase concentrates on using existing automated logistics and financial systems with minimal changes to meet OSD-mandated timelines.

Phase I

All DLRs will be realigned. The effective date for realignment of all secondary items to the stock fund will be 1 January 1992. The realignment will correct miscoded consumables and DLRs. DLRs currently funded as "consumable" stock fund items will be realigned to "reparable" stock fund accounts. Items currently misaligned as procurement account secondary items or stock-funded items will be properly realigned. Army items will be accountable in one of three ways: as major items (including ammunition), consumable stock-funded items, or reparable stock-funded items. The ASF will begin paying for DLRs, but will be reimbursed by appropriated funds. War reserve stocks will be funded

through separate congressional appropriations to the ASF. These items will also continue as free issue to Army customers.

The success of Phase I and the solvency of both the wholesale and retail stock funds depends on improved timing in giving credit for returned DLRs. The wholesale credit policy, in turn, relies on the ability to manage the pipeline of returned DLRs through visibility of both serviceable and unserviceable assets. To avoid delays in granting credit and the resulting cash flow problems in the ASF, DLRs and their accompanying documentation must be received and processed in a timely manner at all levels of supply and maintenance.

All second destination transportation charges for Army-managed secondary items will be funded by the ASF. This will decrease current customer transportation accounts to cover the increased costs of an ASF surcharge.

Beginning in January 1992, the retail stock fund activities will be billed at the standard price listed on the Army Master Data File. The standard price will be based on acquisition cost plus ASF surcharges. Stock Fund Activities will receive credit from the wholesale stock fund when the appropriate inventory control point (ICP) receives notification of DLR shipment, except for USAREUR which will receive credit upon turn-in to the ERF. This policy will avoid retail stock fund and customer cash flow problems. Because this method of billing grants credit before actual receipt of the DLR by the wholesale stock fund, OSD has verbally granted a waiver to policy.

Improving management of the pipeline for returning DLRs is

critical to preventing cash flow difficulties in the ASF. The Army's new credit and billing policies are linked to the "retrograde management concept." The Army will develop standards and procedures for processing and moving both serviceable and unserviceable secondary items through the distribution system for returned items. Those standards and procedures will include improvements that will track assets in the pipeline, establish priority designators for retrograde shipments, ensure prompt reporting to all Army echelons, and provide credit to the various levels based on location of secondary items in the retrograde pipeline. Successful implementation requires timely processing of receipts and monthly reconciliations with activities at all levels.

Phase II

On 1 January 1992, the Army will have completed the transition from procurement account funding of DLR secondary items to stock funding. Phase II will center around moving from a horizontal wholesale/retail stock fund to a more seamless stock fund that has no discernible wholesale or retail elements. This is compatible with the Army's new concept of a single supply system without wholesale and retail levels. The second phase will combine with other SLA initiatives. It will emphasize advanced programs such as Total Asset Visibility (see accompanying article) and Readiness

Based Maintenance (see accompanying article) with weapon system management for both principal and secondary items. Those programs will provide an integrated wholesale/retail supply system supported by a single stock fund. Such a combination could logically lead to combining the ASF with the Army Industrial Fund to establish a single Army Working Capital Fund or self-sustaining fund. Extending this concept into the second or third decade of the 21st Century would result in a single fund that could purchase supplies, maintenance items, services, or any other resources that might, in turn, be sold. This concept offers great flexibility to leaders and managers to make decisions faster in order to meet the battlefield needs of the future.

The Bottom Line

A test demonstration and evaluation of stock funding of DLRs is scheduled to begin January 1991. The test will not use "real dollars" but will concentrate on identifying systemic problems, analyzing soldier and commander feedback, and monitoring installation and resource requirements with a parallel automation system operated by a contractor.

Stock funding of DLRs benefits the Army by improving management of secondary items. Under this new system, some unnecessary and artificial financial barriers

are removed between funding accounts. Therefore, moving funds will be easier. Instead of one appropriation fund for procurement and another fund for repair, the ASF will finance both. The true buyer/seller concept of a working capital fund will be evident. The wholesale repair facilities will only repair DLRs that can be sold by the ASF to its customers; inventory growth will be curtailed; customers will be more careful when placing orders for high-dollar items; and the retrograde pipeline will receive more intensive management.

During the Phase I or transition period, the Army will decrease in size. The Army's wholesale and retail logisticians must coordinate closely to improve stewardship of the Army's resources and implement the new SLP initiatives. Reducing unnecessary inventories is essential.

Success of this ASF plan depends on Armywide acceptance of this new way of doing business. Leaders and operators at all echelons must train in new procedures, new techniques, and new ways of thinking. The Army of the future must accept these facts: an added workload will exist initially, the Army's force structure will diminish, and resources will be less than they have been in over a decade. The time has come to assist in implementing evolutionary, even revolutionary, changes to the Army's logistics program. 

OBJECTIVE SUPPLY CAPABILITY

The Objective Supply Capability (OSC) is the major near-term initiative of the Strategic Logistics Program. Off-the-shelf computer technology will increase efficiency and lower operating costs.

The best part of the OSC concept is that it is not really a separate

system. The OSC uses available automation and communications technology coupled with the modification of existing Standard Army Management Information

Systems (STAMIS) to achieve the savings necessary to offset budget reductions required by a Defense

Management Review Decision (DMRD). The OSC reduces the requisitioning time and, thus, the order segment of order ship time

(OST). This OST reduction will decrease inventory investment in the supply pipeline and could provide the Army a onetime savings of

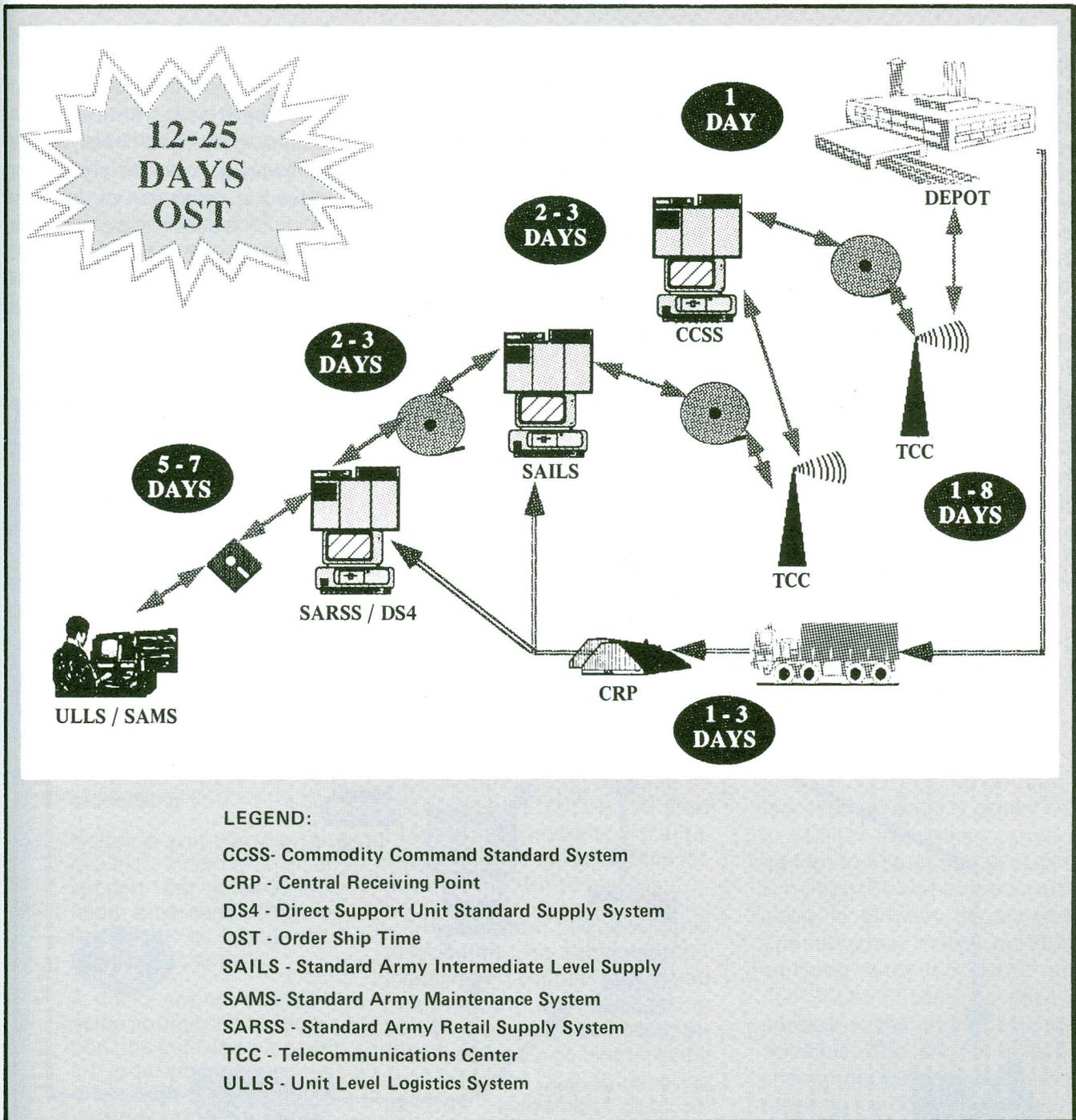


Figure 1. Current Supply System.

up to 1.2 billion dollars. A shorter pipeline will result in savings from reduced stockage levels.

Civilian industry recently has directed much attention toward Just In Time (JIT) inventory management techniques to increase efficiency and reduce costs. Obviously, the Army cannot use the full range of JIT concepts; but with OSC, the Army can substantially

reduce inventory investment, turn over stocks more efficiently, achieve a higher level of management control over inventories, attain greater asset visibility, and significantly reduce excess stocks.

Under the current supply system (Figure 1. Current Supply System), a request for repair parts begins at the user level and may be processed through various retail

supply systems before receipt at the wholesale level. This can take up to 14 days because each system passes along its requirements daily to the next higher level in a batch. Throughout this process, the user's requirement may be satisfied at any level, accumulated with other user requirements and passed as a single requirement to the next higher level, or passed to the ultimate supplier in its original

form. Users currently submit their requirements manually.

The current retail level STAMISs that will interact with OSC are the Unit Level Logistics System II (ULLS-II), the Standard Army Maintenance System Level 1 Interim (SAMS-1 Interim), the Standard Army Retail Supply System Level 1 Interim (SARSS-1 Interim), the Direct Support Unit Standard Supply System (DS4), and the

Standard Army Intermediate Level Supply (SAILS). The Commodity Command Standard System (CCSS) and the Standard Depot System (SDS) interface with OSC at the wholesale level.

Under OSC, the retail STAMISs will be modified to provide customers with "same day" request/requisition processing to the various sources of supply through a computer "gateway" (Figure 2.

Objective Supply Capability). For example, the prescribed load list (PLL) clerk will use ULLS-II to request repair parts. However, each request will be sent directly to the computer gateway for processing instead of being part of the daily batch of requests passed to the supporting direct support unit (DSU). Once the request is received at the gateway, a lateral search and issue process will assure

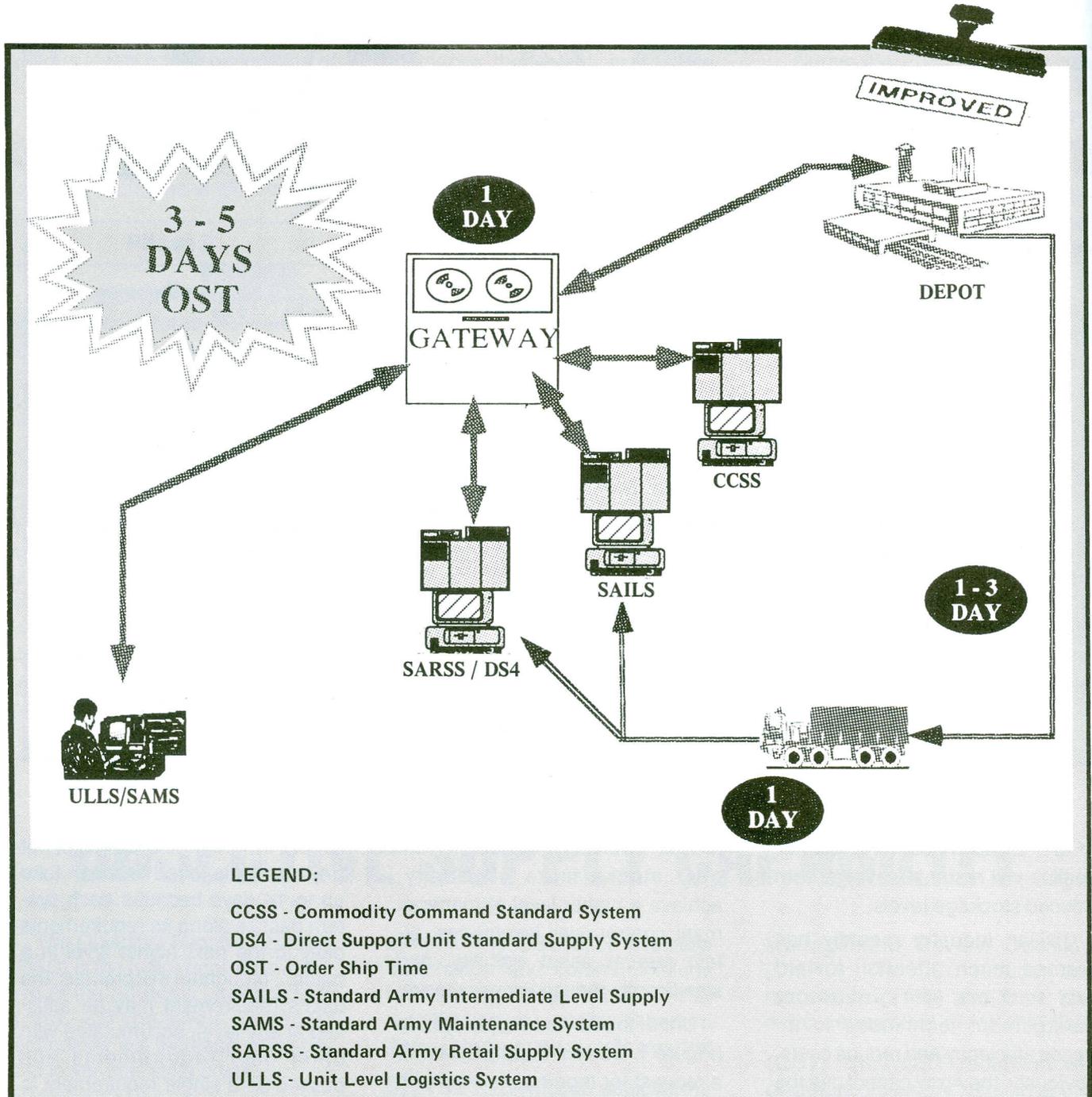


Figure 2. Objective Supply Capability.

that items locally available will be issued before forwarding the request to the next source of supply. Manual exchange of parts requests will still be available as a backup system.

The gateway will contain the data bases necessary to make decisions when processing requests. Asset balance information will be established and maintained for each user authorized access to OSC. A transaction history file will contain an image of each request received, the date and time the request was received, and a code denoting the action taken by the gateway. Financial information will also be maintained for each authorized user. These data sources will be used to perform edits, process validations, obtain financial management information, and provide status to the authorized user.

Upon receipt of a request, the gateway will scan financial files and asset positions to satisfy the request as follows:

- Ensure that funding is available before further processing.
- If stock is available from the requestor's normal chain of support, the gateway will return a message telling the requestor to go through normal supply channels.
- If stocks are not available in the normal chain of support, the gateway will scan for excesses and issue a referral order to the supply support activity (SSA) holding the excess.
- If excesses are not available, the gateway will issue referral orders against operating stocks if they are available anywhere within its area of management. The local commander will set parameters for issue of operating stocks.
- If stocks are not available, the gateway will pass the requirement to the next higher source of supply.

The gateway software is designed to return a status to the requestor in 12 seconds. This status will identify what action to take or what action has been taken. It will also process the request to the appropriate level of supply (all the way to wholesale, when necessary) in one day instead of up to 14 days.

A proof of principle (POP) demonstration was conducted at Fort Hood, TX, from 1 Oct to 30 Nov 88. The POP only addressed non-reparable items (recoverability codes "O" and "Z") for the 2d Armored Division and Directorate of Logistics (DOL) maintenance shop stocks. Pre-OSC OST for Fort Hood varied from 15 to 25 days. During the POP, OST for Fort Hood was reduced to 6.6 days.

The Fort Hood gateway is running on a mainframe computer operated by the U.S. Army Information Systems Command (USAISC) located at the U.S. Army Aviation Systems Command (AVSCOM), St. Louis, MO. Access to the gateway comes through the Defense Data Network (DDN). At Fort Hood, the average wait time for a PLL clerk to receive feedback from the gateway has been 17 seconds.

The Fort Hood POP also tested reducing the ship portion of OST through direct unit delivery. Instead of all supply deliveries going through a central receiving point (CRP), deliveries go directly to the main or forward DSU. By removing the CRP "middleman," divisional customers are getting parts several days faster.

Results of the POP were briefed to the Chief of Staff, Army, on 21 Dec 88 and approved for further development. Fort Hood specifically requested leaving the OSC POP in place. Average Fort Hood OSC OST for the 20 months ending 31 Jul 90 was 6.9 days. An improved operational version of OSC will extend to all activities on Fort Hood for all Class IX (repair parts) items when units return from Saudi

Arabia at the completion of Operation Desert Shield.

The Army is planning to test the extension of OSC to VII Corps in Europe. The POP will be tested at approximately 600 sites within VII Corps. These sites will include 537 ULLS, 39 SAMS, 22 DS4, 1 SAILS, and 1 SARSS. The test in VII Corps will include Class II (general supplies), packaged Class III (petroleum, oils, and lubricants), Class IV (construction and barrier materiel), and Class IX (repair parts) items. The projected initial operational capability date is 4th Quarter of FY 91. The VII Corps gateway will be co-located with the continental United States (CONUS) gateway on the mainframe computer system at USAISC-AVSCOM.

The Strategic Logistics Agency (SLA), with input from the U.S. Army Forces Command (FORSCOM) and the U.S. Army Training and Doctrine Command (TRADOC), has developed a proposed schedule to extend OSS to CONUS installations to realize savings in FYs 91 and 92. Operation Desert Shield has impacted the ability to maintain the schedule. The timing may change, but SLA is working with TRADOC and FORSCOM to come as close as possible to the original extension schedule. The original schedule showed the following installations receiving the OSC technology:

FY 91

Fort Polk, LA	Fort Rucker, AL
Fort Stewart, GA	Fort Benning, GA
Fort Riley, KS	Fort Knox, KY
Fort Carson, CO	Fort Leonard Wood, MO
Fort Bliss, TX	Fort Jackson, SC
Fort Sill, OK	

FY 92

Fort Bragg, NC	Fort Campbell, KY
Fort Drum, NY	Fort Lewis, WA
Fort Irwin, CA	Fort Meade, MD
Fort McCoy, WI	Fort McClellan, AL

Plans are also underway to extend OSC to Korea and the Pacific in the near future. 

TOTAL ASSET VISIBILITY

The ability to locate any item in the Army supply system wherever it is, whenever it is required will be a vital management tool in the logistics system of the future. This is Total Asset Visibility (TAV).

Recent Defense Management Review Decisions (DMRDs) indicate that asset visibility has become an Army priority. For example, DMRD 901 cites "visibility of retail and operating stocks" as a way to reduce Army supply system costs. DMRD 927 mandates integrating wholesale and retail logistics, which requires visibility of the Army's inventory. In fact, asset visibility has been dubbed the architectural foundation of both the near-term DMRD efforts and Strategic Logistics Agency (SLA) initiatives. Recognizing the need for such visibility, SLA has begun to develop an automated TAV system that will ultimately provide near real-time visibility of the Army's assets by location, quantity, and condition.

TAV proposes to achieve asset visibility through an evolutionary process that adds classes of supply over a period of time. The TAV program proposes to build on existing capabilities to achieve early paybacks, provide maximum near-term capabilities, and establish the necessary systems and communications to evolve into a decentralized, interactive network supporting managers and users at all levels of the Army. TAV, when linked to other SLA initiatives (Readiness Based Maintenance) and existing application processes (Requirements Determination), will generate savings for the Army and ultimately promote a more agile, effective, timely, and efficient logistics system. Over the long term, TAV should be an interactive network of computers, computer "gateways," and data bases supporting Army decision makers.

TAV will be developed and evaluated using a rapid proof of principle (POP) demonstration and rapid prototyping methods. The TAV POP demonstration will be conducted from

1 Oct 90 to 15 Jan 91, using Class V (ammunition), VII (major end items), and IX (repair parts) items for the Multiple Launch Rocket System (MLRS) as a test sample. The POP will demonstrate both centralized and decentralized technologies.

The POP will demonstrate centralized information management by extracting updates from existing systems, both retail and wholesale. These transactional updates will be tied to the Army force structure. These updates will also be configured by weapon system based upon identifying all associated support items of equipment from established Army weapon system data sources (Basis of Issue Plan) and Class IX (repair parts) by coordinating with materiel developers. These updates will be posted to a central data base once tied to the Army force structure and configured by weapon system.

The POP will demonstrate the decentralized technology by "reaching through" to selected sites to obtain data. The POP will feature computer gateways to the U.S. Army Missile Command (MICOM) that get procurement information for the MLRS, gateways to a U.S. Transportation Command (TRANSCOM) in-transit visibility prototype to get in-transit asset locations, and gateways to the Objective Supply Capability (OSC) prototype gateway to get visibility of Class IX (repair parts) items at Fort Hood.

The POP will provide visibility of on-hand unserviceables to be used in a Readiness Based Maintenance POP. The POP will also provide on-line access for demonstration purposes. This capability will allow the user to query the TAV database as well as "reach through" through computer gateways to obtain details not in the core TAV data base.

As with any information system, test and evaluation of the POP is critical. The POP will be tested in four separate segments. Segment one

will test the accuracy of the data base. A sample of on-hand asset positions will be matched with both the accountable record and with the physical on-hand inventory. Segment two will test the communications capabilities of the POP. Communication links will be tested for responsiveness and the ability to expand to a wider user base. Segment three will test the TAV data base design. Segments two and three will be performed by the Information Systems Engineering Command. Segment four will test the functionality of the POP. A survey will determine management decisions that could have resulted from the TAV data. Segment four will be performed by a combination of SLA personnel, MLRS item and program managers from MICOM, and representatives from Army Materiel Systems Analysis Activity (AMSAA). AMSAA will also conduct an independent evaluation of the TAV POP.

This approach combines centralized information management and decentralized "reach through" technology. This approach provides the Army a way to meet mainstream application processes such as requirements determination, distribution, redistribution, and identification of excess; support the other Strategic Logistics Program initiatives such as Readiness Based Maintenance; and work with decision support processes that require information for premobilization or other specific needs. Additionally, TAV uses a building block approach to obtain visibility, management, and control of assets. This approach will provide near-term payoffs and a logical transition to the interactive systems of the future as the Army progresses toward combining wholesale and retail logistics into the "single supply system." TAV will provide a global view of the Army's inventory whether in the depot, in transit, or in the hands of the soldier. 

READINESS BASED MAINTENANCE

Current Army doctrine requires that its forces be prepared to fight in a broad range of potential scenarios, from low-intensity, short, contingency operations to high-intensity, large-scale wars. To meet the challenges of combat across this broad spectrum, the Army emphasizes acquiring high-technology weapons to achieve an edge over potential adversaries. The components for the high-technology weapons are complex and cannot be repaired in forward areas. The emphasis of high-technology weapons has increased the importance of rear-echelon logistics structures in maintaining combat readiness. Components for high-technology weapon systems are expensive and may be scarce in both peacetime and wartime due to budget constraints. Furthermore, the unpredictable failure rates of these components make their demand difficult to forecast in peacetime. The duration and intensity of operations, behavior of components in various climates, and actual damage during battle makes predicting demands for these components even more difficult during wartime. Because of these complex problems, differences between demands for high-technology components and their availability are likely to occur soon. The Army needs decision support systems to help logisticians execute integrated

support actions that are more responsive. One of these systems is Readiness Based Maintenance (RBM).

The RBM process, developed by The RAND Corporation's Arroyo Center, is a decision support system. RBM relies upon the hypothesis that the Army can no longer continue to achieve its operational availability goals for

high-technology weapon systems by maintaining huge stocks of parts in the supply pipeline. The often-used "stock buy-out" approach of the past several decades is no longer viable today with reduced military budgets. Therefore, the Army needs to target its resources carefully. Modern weapon systems such as the M1 Abrams tank, M2/3

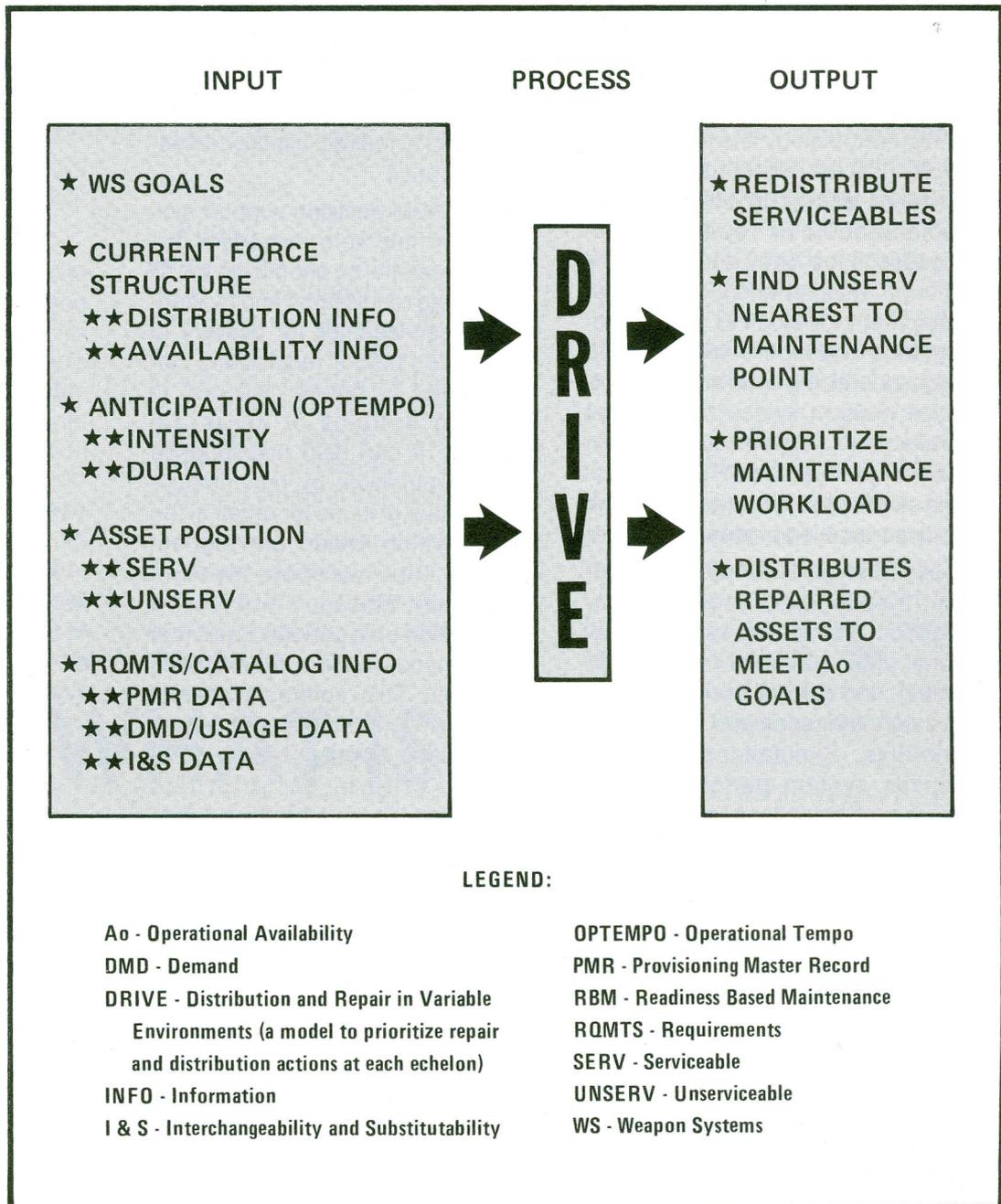


Figure 1. Readiness Based Maintenance Execution System.

Bradley fighting vehicle, and AH-64 Apache helicopter contain technically sophisticated and highly integrated subsystems composed of computers and other complex electronic and electro-optical equipment that perform many mission-essential functions. When these high-technology subsystems fail, the combat value of the weapon system is substantially reduced. To support high-technology weapon systems with reduced resources, the Army is studying decision support systems to help logistics managers allocate these resources more effectively in both peacetime and wartime. The focus is to create a decision logic structure for Army logistics managers which will recommend priorities for the repair of high-technology line replaceable units (LRUs), distribution of associated assets in storage, and redistribution of repaired components. If the Army does not have enough maintenance hours, test equipment, or stock to go around, logistics managers will have to begin prioritizing what actions maximize weapon system operational availability. Appropriate decision support tools such as RBM can assist logistics managers in the decision-making process.

A prototype RBM decision support system uses readiness data, logistics characteristics of operational plans (demand rates, repair times), and current asset positions to determine repair and distribution priorities. Simulations modeled logistic system performance in combat. Simulations successfully demonstrated using the RBM decision support system to set priorities on existing distribution, repair, and then the redistribution of high technology LRUs to best use weapon system availability. The key feature of the simulations is a tool called the Distribution and Repair in Variable Environments (DRIVE) model. The DRIVE model is an algorithm designed to prioritize repair and distribution actions at each echelon. It maximizes the probability of achieving specific

operational availability goals over a given time with available resources.

RBM processes weapon system operational availability, current force structure, anticipated operating conditions, current LRU and spare parts positions (both serviceable and unserviceable), interchangeability and substitutability data, and item characteristics to produce decision recommendations (Figure 1. RBM Execution System). RBM will recommend priorities for distributing existing serviceable assets, repairing unserviceable assets, and redistributing repaired assets to improve weapon system availability where it is needed most. RBM provides logisticians the capability to direct field return "carcasses" to the correct maintenance point and to redirect assets/carcasses in-transit.

The RBM decision support system can help item managers distribute materiel by prioritizing the fill of existing requisitions and by identifying serviceables for delivery to units even before requisitions can be issued or before "failures" in weapon systems or LRUs are created. It can help maintenance shop supervisors by recommending a group of items for repair in the order which yields the highest payoff for weapon system availability. Managers will receive information on a periodic basis that recommends repair and distribution priorities. This contrasts sharply with the Uniform Materiel Movement Issue Priority System (UMMIPS) criteria to prioritize requisition fills and the "first in-first out" method often used for items being repaired. While the economies of scale associated with batch processing will still be an important consideration in scheduling, achieving improved weapon system availability will become the more important goal. The increased responsiveness of a logistics system using the RBM decision support system should more than offset costs associated with reducing reliance on batch workloading of repairs. Using the RBM decision

support system, with the other SLA initiatives such as Total Asset Visibility, Usage Based Requirements, and the Objective Supply System, should reduce the quantity of LRUs in the supply system.

"White-glove" tests were conducted at the direct support (DS) level, in a theater of operations, and in a depot environment. These tests illustrated the variety of areas where a decision support system such as RBM would benefit Army logistics support of high-technology weapon systems. The areas that gave an early indication of the RBM effectiveness were:

- DS-level repair of components of M1 tanks and M2/3 fighting vehicles in a main support battalion (MSB).
- Theater-level repair of the Target Acquisition Designation Sight/Pilot Night Vision Sensor (TADS/PNVIS) subsystem of the AH-64 Apache helicopter in a specialized repair activity (SRA).
- Depot-level repair of components of M1 tanks, M2/3 fighting vehicles, and common night vision systems.
- Redistribution of materiel within a corps.

At the DS level, repair activities were simulated at a division MSB. At the end, day 60 of the scenario, an analysis of weapon system availability data by The Rand Corporation's Arroyo Center showed that RBM can:

- "Increase weapon system availability;
- Greatly increase availability of weapon systems suffering imbalances of resources;
- Help commanders meet each weapon system's availability goal through judicious balancing of support;
- Maintain high weapon system availability even with substantial cuts in resources."

The RAND Corporation's Arroyo Center also simulated TADS/PNVIS repair in an SRA to test RBM within

a theater of operations. The TADS/PNVS is a high-cost subsystem with complex electronics and optical components up to \$150,000 per component. The analysis concluded that "...using a multi-echelon structure for RBM offers the potential to deliver high combat performance and meet the potential for maintaining support system capability even as the Army must reduce the resources needed for the task."

To test in a depot environment, a depot electro-optical shop repair of components for the Abrams tank, the Bradley fighting vehicle, and common Army night vision systems was simulated. Weapon system availability dramatically increased when RBM prioritized distribution and maintenance resource allocation at the depot level. More importantly, the ability to target repaired assets to the units with the greatest need was increased.

The distribution of serviceable components was also simulated within a theater of operations. This scenario provided an opportunity to test RBM capabilities to anticipate the future demand of the units with the greatest need. The simulation showed that the current system actually tended to reverse priorities so that the least important units achieved the highest weapon system availabilities while the critical units had more than 25 percent of their weapon systems unavailable.

RBM uses a strategy which can identify serviceables for delivery before requisitions are issued or before failures in weapon systems are created. Current Army supply systems do not differentiate among units in a combat theater even though each unit experiences different levels of intensity or has different missions (attack, defend, reserve). RBM would allow the commander's priorities to be reflected in the actions of the logistics system.

SLA is now planning to follow the white-glove tests by The RAND Corporation's Arroyo Center with three proof of principle tests to demonstrate the RBM decision support system at various echelons in the Army. These tests will be conducted within the depot/direct support, SRA, and corps. Each proof of principle test will consist of three phases.

Phase I - Preparation and Benchmarking. Defining procedures and performance indicators, identifying deviations from established policies and procedures, collecting data to establish the rate of weapon system availability in the organization before using RBM, and training personnel to execute RBM and interpret the results.

Phase II - Basic Operational Prototype. Testing an operational prototype that incorporates RBM into the day-to-day operations of an organization.

Phase III - Extended Operational Prototype. Modifying the current Army environment to simulate the future Army environment in which RBM would operate.

The RBM decision support system concept looks at total weapon system availability, not a parts demanded/parts supplied concept. For this reason, many current Army performance standards and regulatory requirements such as requisition and transportation prioritization, repair workloading procedures, and repair stockage performance indicators may need revision. These issues are currently being analyzed before full-scale development and implementation of the RBM decision support system.

The U.S. Air Force has been developing a program similar to RBM called the Weapon Systems Management Information Systems (WSMIS). The Army is currently exchanging information with the Air Force. The Army will benefit from the RBM decision support system through better weapon system availability at a lower overall cost. It will allow the Army to more effectively use limited test equipment and facilities. It will also reduce the stockage levels, maintenance turnaround time for high-technology LRUs, and overall pipeline time required for current weapon system operational availability. 

UBRD: WHAT IS IT?

Usage Based Requirements Determination (UBRD) is a Strategic Logistics Program initiative which provides for the review, development, and integration of automated logistic information and decision support systems into current and future Army automated information systems. In short, logistic information and decision support systems are automated, on-line tools and supporting communication networks. It is these systems that aid logistic managers at all

levels to obtain, validate, verify, and effectively use data. UBRD will make it easier to accelerate development of automated systems and implement these systems into Army logistic processes at all levels and across the traditional organization boundaries of wholesale versus retail operations.

The UBRD initiative will identify and financially support automation efforts, both new and ongoing, that support the Strategic Logistics Agency (SLA) goal of a "seamless"

logistic system within the U.S. Army. Automated systems being considered under UBRD are screened against the following six criteria:

- Automation enhances data quality/accuracy.
- Automation provides improved technology.
- Automation supports an objective of the Defense Management Review Process.
- Automation requirement is documented by a study or

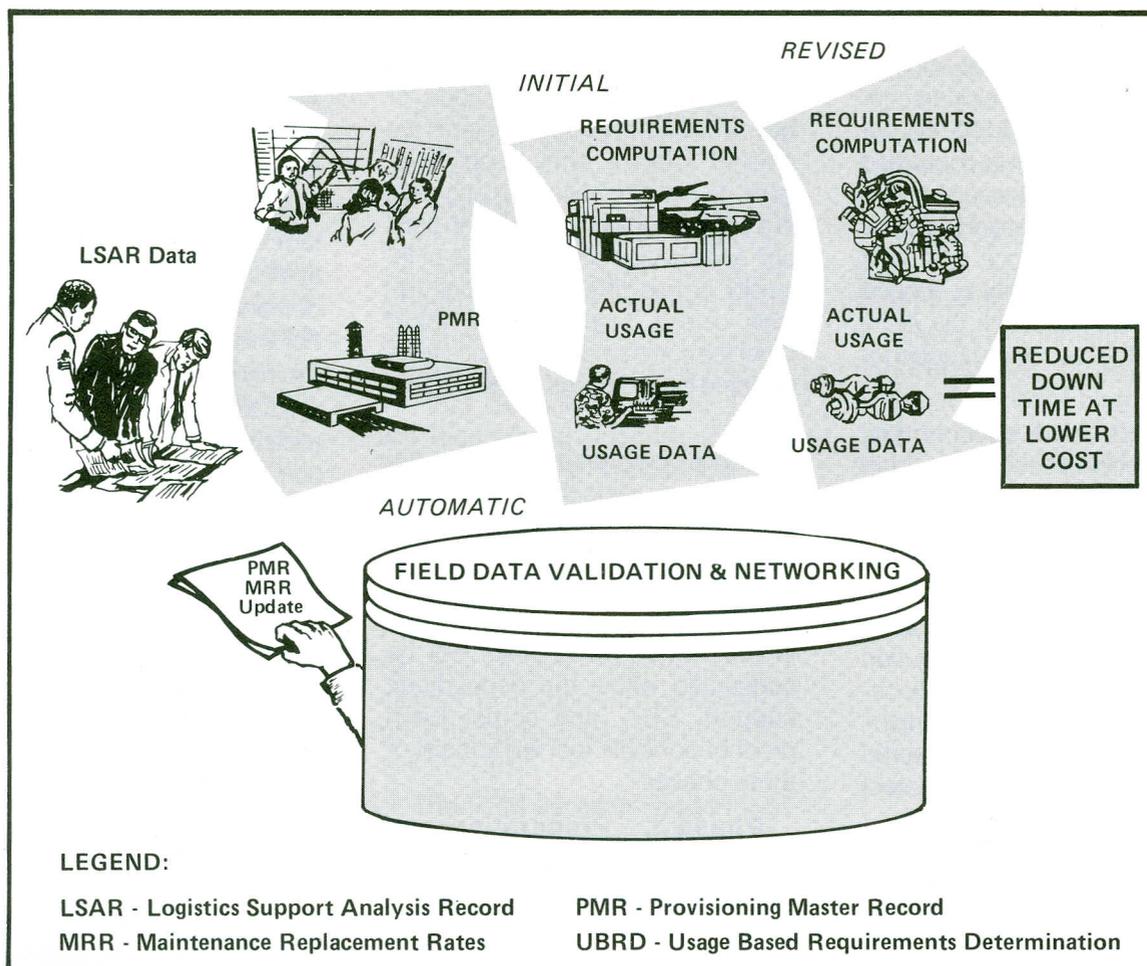


Figure 1. Usage Based Requirements Determination Support To Provisioning.

has been through a functional review process.

- Automation provides significant cost savings or other benefits.
- Automation provides a major improvement to the business process.

Initially, UBRD was merely the development of an automated failure factor update capability for the provisioning process. Greatly expanded, UBRD's scope includes automation efforts across a wide range of functional areas and affects a diverse array of supporting automated systems. Currently, the UBRD initiative covers automation efforts aimed at provisioning, cataloging, requirements determination, item management, and quality assurance. Within each of these functional areas, major efforts are further broken down to sub-initiatives as individual system requirements are defined and validated.

For example, UBRD support to the provisioning process (Figure 1. UBRD Support To Provisioning) currently consists of eight specific sub-initiatives that provide total automated support to the provisioning process. The sub-initiatives will enhance use of Logistic Support Analysis Record (LSAR) data input, screening for national stock numbers, building and maintaining the Provisioning Master Record (PMR), use of interim contractor support data and field feedback data to adjust the Maintenance Replacement Rates (MPRs), and development of an expert system process for provisioning. The expert system will aid in the provisioning analysis process and support provisioning training.

The UBRD initiative will provide a multifunctional, interactive work station environment for functional managers. UBRD will use a mainframe relational data base with networking capability for all Com-

modity Command Standard System (CCSS) files and for non-CCSS logistic data bases and systems both within and external to Army. UBRD will form the baseline automation platform allowing the full potential of these other SLA initiatives: Objective Supply System, Total Asset Visibility, Readiness Based Maintenance, and Stock Funding of Depot-Level Repairables.

UBRD focuses on new ways of doing business. UBRD offers the Army an alternative for developing and implementing automation initiatives, while providing flexibility in spending limited automation resources. A complete implementation plan for UBRD is still being developed, but some elements are already in place. Success of the UBRD initiative depends on the Army accepting both a new way of doing business, as well as changes to the force structure and its automated support systems. 

CONTRIBUTORS AND REFERENCES

The articles on the Strategic Logistics Agency (SLA) and Strategic Logistics Program (SLP) initiatives were compiled from a variety of sources. A partial list of contributors follows:

The RAND Corporation, Arroyo Center, Santa Monica, CA
Logistics Management Institute, Bethesda, MD
U.S. Army Logistics Evaluation Agency, New Cumberland, PA
U.S. Army Materiel Command, Alexandria, VA
U.S. Army Combined Arms Support Command, Fort Lee, VA
Program Executive Office for Standard Army Management Information Systems,
Fort Belvoir, VA
U.S. Army Materiel Command Systems Integration and Management Activity,
Chambersburg, PA, and St. Louis, MO
U.S. Army Communications-Electronics Command, Fort Monmouth, NJ
COL Henry Sobieski, Ordnance, SLA, Fort Belvoir, VA
LTC Charles T. Chase, Ordnance, SLA, Fort Belvoir, VA
Jeffrey Crisci, SLA, Fort Belvoir, VA

For further information about SLP initiatives, the following are points of contact at SLA:

- Overall:
 - * Jeffrey Crisci, DSN 345-0086/Commercial 703-355-0086
 - Alternate - LTC Charles T. Chase, DSN 345-0043/Commercial 703-355-0043
- Stock Funding of Depot-Level Repairables:
 - * Robert McCoy, DSN 345-8178/Commercial 703-355-8178
 - Alternate - Jacqueline Wilson, DSN 345-8177/Commercial 703-355-8177
- Objective Supply Capability:
 - * LTC Edward Shimko, DSN 345-0089/Commercial 703-355-0089
- Total Asset Visibility:
 - * Timothy Yeager, DSN 345-0091/Commercial 703-355-0091
- Readiness Based Maintenance:
 - * Cecilia Butler, DSN 345-0090/Commercial 703-355-0090
- Usage Based Requirements Determination:
 - * Robert Berger, DSN 345-0087/Commercial 703-355-0087

MILITARY QUALIFICATION STANDARDS SYSTEM

The Army's system to develop officers as leaders is called Military Qualification Standards (MQS). MQS provide officers, school commandants, and commanders with a framework for common and branch-specific training, education, and professional development. MQS I covers precommissioning training. MQS II covers company grade officer training. MQS III applies to field grade officers.

The MQS system identifies common and branch training requirements for officers. It has two parts: (1) military tasks and knowledge and (2) professional military education. The military tasks and knowledge part shows the critical tasks on which officers must train, while the professional military education part focuses on improving learning and judgment skills. (See Figure 1. Military Qualification Standards (MQS) Task Areas for Officers.)

The MQS system identifies the critical battle-focused tasks, skills, and knowledge that officers must master at each stage of their careers. It establishes the responsibilities and standards for the professional development, training, and education of Army officers.

MQS and Leader Development

Leader development results from the education, training, and experience officers receive throughout their careers. It starts in the precommissioning phases of training; continues through commissioning, branch education, and operational assignments; and stops only when an officer completes military service. The process depends on three pillars for

success: (1) institutional training, (2) operational assignments, and (3) self-development.

Institutional training most directly involves school commandants and other proponents. The training that company grade officers receive in the Officer Basic Course, Officer Advanced Course, and the Combined Arms and Services Staff School (CAS3) falls into this category. School commandants determine branch task and knowledge requirements as well as assist with the development of assignment policies for officers at all levels. Commandants develop training materials such as branch manuals, correspondence courses, institutional training, and extension training information. Commandants also assess the results and implement changes to improve the MQS system.

Operational assignments directly involve unit commanders. The MQS system links institutional training and operational assignments. It helps the commander construct the unit training plan and design the professional development program for junior officers to complement the training of the Mission-Essential Task List (METL). Commanders are the trainers and teachers responsible for assessing and providing feedback on officers' professional development. They promote ethical development as well as support professional military education through reading programs and assisting preparation for resident training.

The individual officer is directly responsible for self-development, which includes professional reading and self-study. The individual officer must ensure developing the required skills, gaining the required knowledge, and demonstrating

appropriate attitudes and values. These all require initiative and self-discipline. The individual is ultimately responsible for personal development as a leader.

MQS II

MQS II applies to company grade officers in the Active Army, U.S. Army Reserve, and U.S. Army National Guard. MQS II prepares company grade officers for wartime tasks, provides the basis for promotion to major and attendance at Command and General Staff College (CGSC), and prepares officers for positions of greater responsibility. It provides the bridge for officers to progress through the first and second milestones in their careers (now called Passage Points). The requirements which comprise the Passage Points include completing appropriate branch schools and developmental assignments, demonstrating proficiency on common and branch tasks, and completing specified portions of the Foundation Reading program. (The Foundation Reading program is a list of 19 historical books that are a part of MQS. Officers must read a total of 10 books before CGSC, five as a lieutenant and five as a captain.) The first Passage Point occurs when officers enter branch Advanced Courses. The second occurs when officers complete company grade careers and either enter resident CGSC or enroll in a nonresident CGSC.

The military task and knowledge part of MQS II is organized into common task areas essential for all company grade officers and branch-specific task areas that apply only to the officer in a particular branch. The professional military education component of MQS II consists of a

OPERATION MULTI-FUNCTIONAL

MAJ Joseph A. Brown

The support operations officer sat, bent over, and struggled to fight the urge to sleep. He needed to concentrate and focus on his part of the 1800 briefing. The forward support battalion (FSB) staff listened intently as the battalion commander began briefing the division support command commander with his overall support concept. The brigade that the FSB supported had just completed three days of continuous operations to include a deployment, counterattack, defense in sector, deliberate attack, and a hasty defense with a rearward passage of lines. To make matters worse, intelligence reports indicated that enemy airmobile units had been sighted in the north-

ern adjacent unit sector only 15 kilometers away and were last seen headed toward the brigade support area. It was going to be a long night....

Is this a typical unit at the National Training Center (NTC), Fort Irwin, CA, where summer in the Mojave Desert brings temperatures up to 120 degrees Fahrenheit and where the desert maneuver area is as large as the state of Rhode Island?

No. Actually, this is Fort Lee, VA, where the Quartermaster Officer Advanced Course (QMOAC) is conducting a command post exercise (CPX). Since March 1990, officers attending the QMOAC participate in a three-day, continuous CPX designated Operation Multi-Functional.

The typical brigade NTC rotation serves as the basis for conducting the QMOAC CPX. The exercise provides student officers a review of multifunctional logistics, tactics, techniques, doctrine, and procedures of the logistical planners and operators at the brigade level in an NTC environment. The QMOAC CPX uses an actual NTC scenario that includes the following support missions in Operation Multi-Functional:

- Brigade deployment to a forward assembly area
- Defense, on order to counterattack
- Defense in sector
- Deliberate attack



Security is a vital part of the operation. This includes using concertina wire and sandbags around the tactical operations center.

- Hasty defense/rearward passage of lines

The CPX was developed and built around QMOAC Objectives and Competencies. The QMOAC objectives prepare the students for company command, battalion/brigade staff, and multifunctional logistics. The QMOAC competencies provide students the ability to innovate and improvise, anticipate combat service support (CSS) requirements of warfighters, and meet changing demands.

The QMOAC Objectives and Competencies helped develop those of the CPX. The CPX Objectives and Competencies prepare soldiers to function as effective teams and build cohesion, exchange information, prepare logistics estimates, conduct tactical briefings, prepare service support annexes, issue orders, maintain continuous FSB command post operations, and integrate CSS automation.

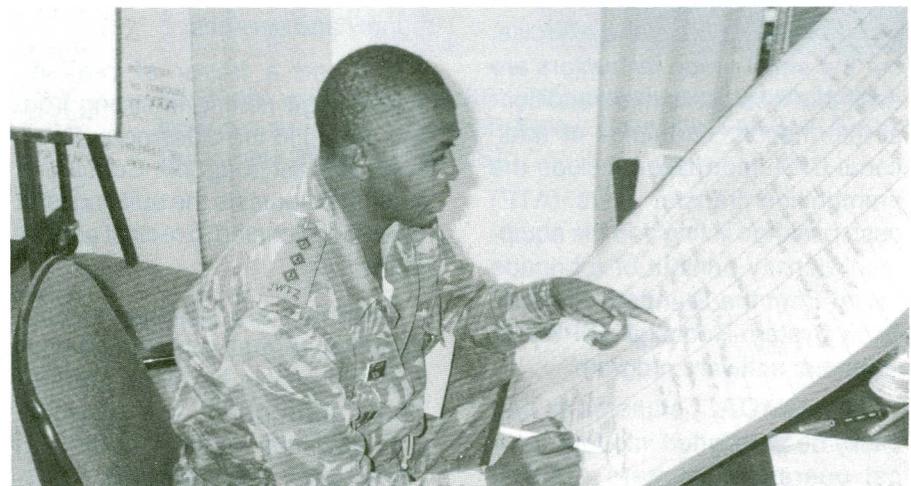
Four small groups of 14-16 lieutenants and captains function as an FSB/brigade Administrative Logistics Center. Students role-play key command and staff positions and alternate positions during the exercise. Each small group prepares logistical service support annexes to brigade operation orders (OPORDs) for four tactical missions identical to missions assigned to an actual unit that trained at the NTC. Students receive logistical annexes to tactical standing operating procedures (TACSOPs) of each echelon within a division. Additionally, the division and brigade operation plans, orders, overlays, and reports annexes are issued for student use. After each mission, the small groups are provided a logistical plan as "a" solution. Time is allocated to discuss and compare plans and concepts. Small group instructors function as the exercise control center and as



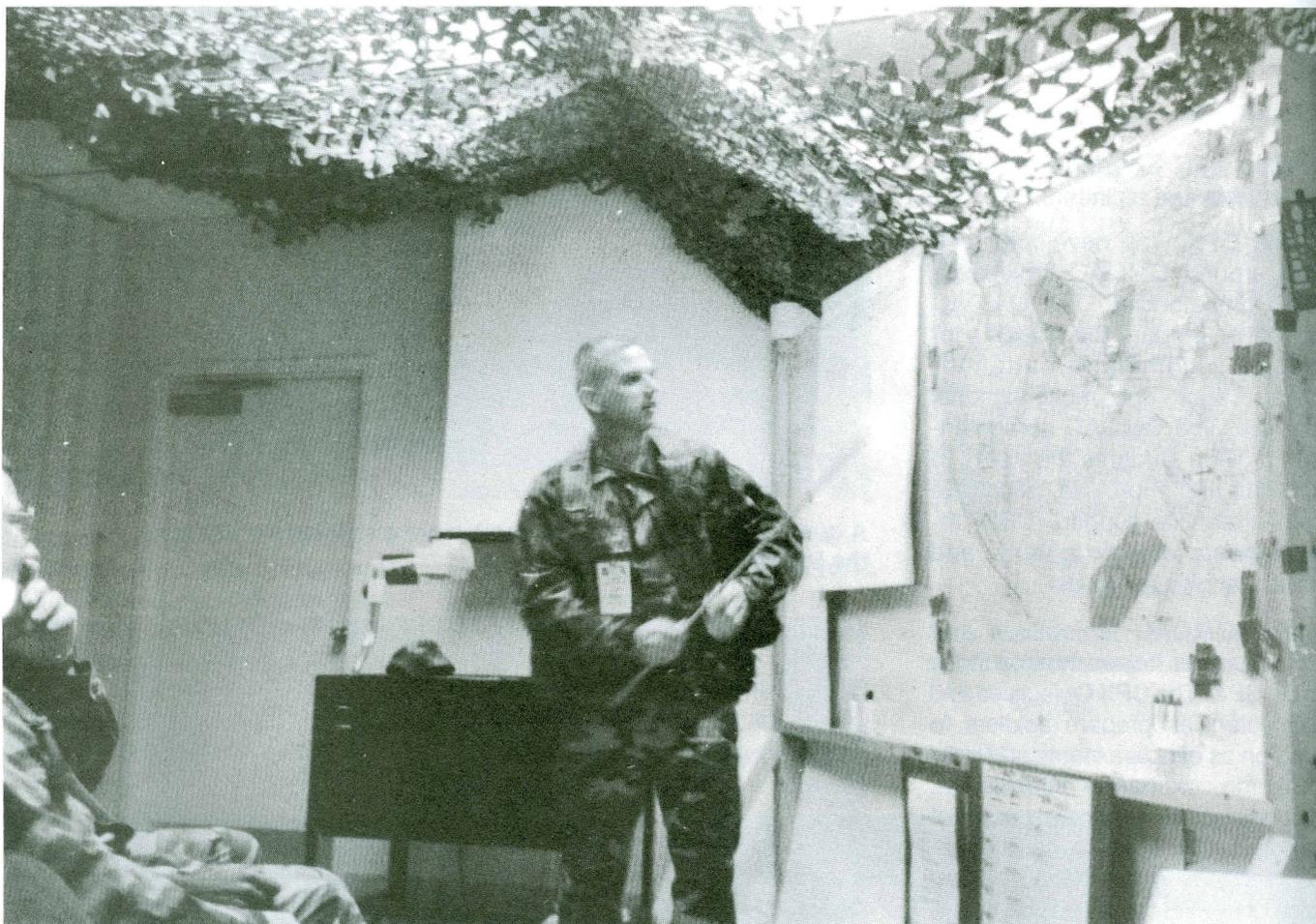
A guard checks access passes before a soldier's entry into the building.



Students check an equipment density printout of a brigade 'slice.'



An international student from Tanzania works on a status report of nonreparable items.



An acting battalion commander briefs his division support command commander.

replicated units at the subordinate, adjacent, and higher headquarters levels. An extensive master incident list (MIL) of message traffic adds realism and a unique flavor to the CPX. Students receive sufficient data to conduct the exercise, but the small group instructors are available if students need additional information. Examples of additional CPX information include the ammunition transfer point (ATP) push package listing and the equipment density printout of a brigade "slice" from the Standard Property Book System-Redesign (SPBS-R) computer software program.

The QMOAC classroom can easily be partitioned into four tactical operations centers (TOCs). Each TOC has a Tactical Army Combat Service Support Computer System (TACCS), two frequency

modulated (FM) radios, a TA 312 telephone, a laptop personal computer, software applications for logistical computations, a map board with NTC map sheets, and a premade status chart for classes of supply and services.

To add a flavor of realism, camouflage netting is strung from the ceiling in the classroom. Doorways are sandbagged. Concertina wire is laid outside the building, and guards are posted to restrict access to the TOC.

Students are required to conduct five, formal, one- to two-hour comprehensive briefings and updates throughout the exercise with division support command (DISCOM) commanders. DISCOM commanders are roleplayed by colonels or senior lieutenant colonels who provide

valuable logistical experience and insight as well as mentorship to the QMOAC students.

The after action review (AAR) is instrumental in the CPX, and numerous informal AARs are conducted throughout the exercise. A final, formal AAR is conducted with the entire class and DISCOM commanders on the last day of the CPX. It concentrates on lessons learned. The formal AAR is followed by small group AARs where each mission is analyzed in detail, and students critique products such as OPODs, service support annexes, graphic overlays, reports, and message traffic.

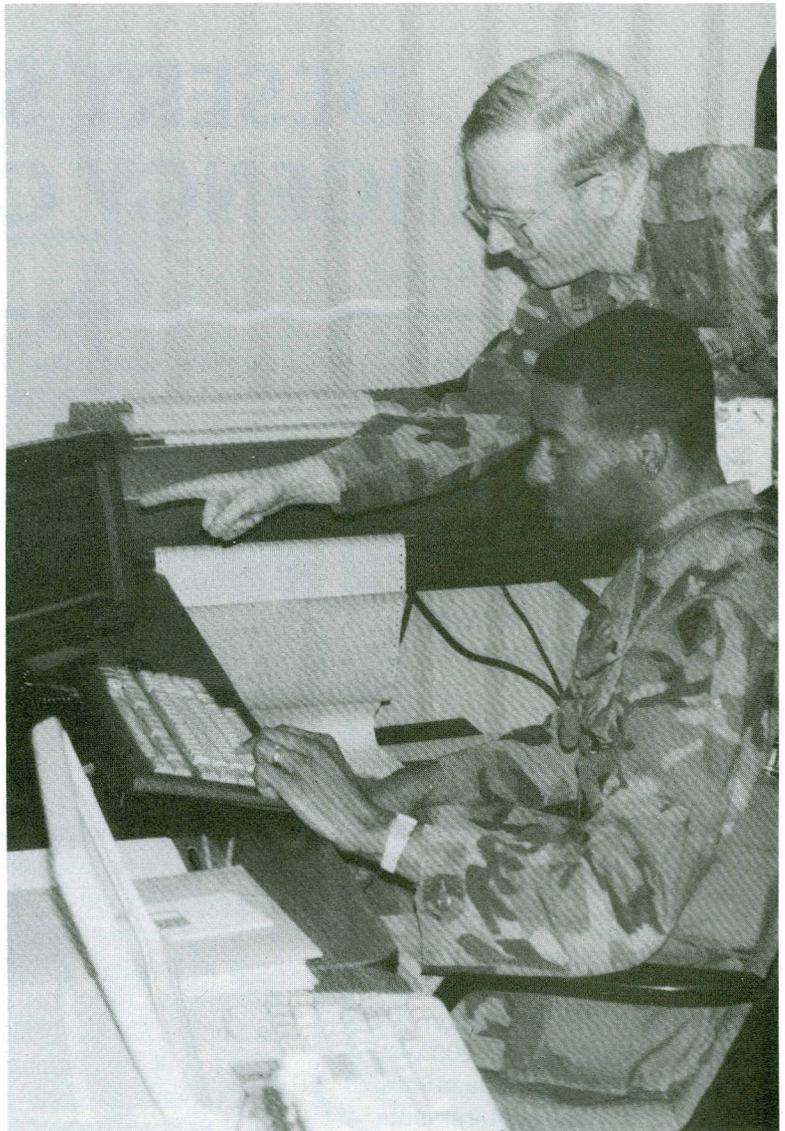
Operation Multi-Functional was designed to stress Quartermaster officers to the maximum extent, in order to "train the way we intend to fight." In the January 1989 *ARMY*



Students constantly monitor message traffic.

magazine, the U.S. Army Chief of Staff, General Carl E. Vuono, called the NTC "the cornerstone of the Army's modern training system, which he described as 'the best peacetime training ever made available to any army.'" Using an NTC-based, continuous operation CPX is helping the Quartermaster School provide the best peacetime training available to its future company commanders. 

MAJ Joseph A. Brown, a Quartermaster Officer, is the Chief of the Quartermaster Officer Advanced Course, Fort Lee, Virginia. He was an Observer/Controller at the National Training Center, Fort Irwin, California for 3 1/2 years.



Students work with the Army's newest computers, including laptops and the Tactical Army Combat Service Support Computer System (TACCS).

DESERT SHIELD

DESERT SHIELD CONTINGENCY CONTRACTING

LTC Douglas B. Byther

EDITOR'S NOTE: The author is the Chief, XVIII Airborne Corps Acquisition Section. After 60 days of contingency contracting as a deputy contracting officer, this article presents his observations in support of Operation Desert Shield. This article provides some excellent information for contracting officers during future operations.

The XVIII Airborne Corps Acquisition Section is assigned to the 1st Corps Support Command in Saudi Arabia for Operation Desert Shield. The section consists of one lieutenant colonel, one major, two captains, and one master sergeant. This office has also been augmented with a finance officer, a lawyer, and clerical support. I have also appointed almost 200 unit ordering officers to purchase immediate unit supply requirements of items less than \$2,500 in value.

It is important to note here that augmentation of the contracting office with personnel of critical skills (lawyer, finance officer, clerk) during contingency operations is a must. Augmentation allows contracting officers to concentrate on critical negotiations of large-dollar contracts which gets the corps what it needs fast at the best price. It also gives the contracting officer immediate support and advice when required.

Ordering officers are also critical because they not only purchase im-

mediate small-value supplies for units but also free the contracting officer to concentrate on larger purchases. Ordering officers and Class A agents should be identified and trained before deployment from home station. This early identification will help the units get their supplies much quicker once they arrive in the theater of operations and will speed operations for the contracting office.

It is impossible for a unit to anticipate all its needs before deployment, and immediate requirements can only be filled locally after a unit arrives in country. This is where contingency contracting comes in — to fill the gaps with supplies and services through the local economy. Realizing this, it is important to put the acquisition team on the ground as early as possible. Two contracting officers departed Fort Bragg, NC, as part of the assault command post on 8 Aug 90. The remainder of the section was on the ground by 14 Aug 90. When the 101st Airborne Division (Air Assault) and 24th Infantry Division (Mechanized) arrived, their contracting officers also joined the corps acquisition section.

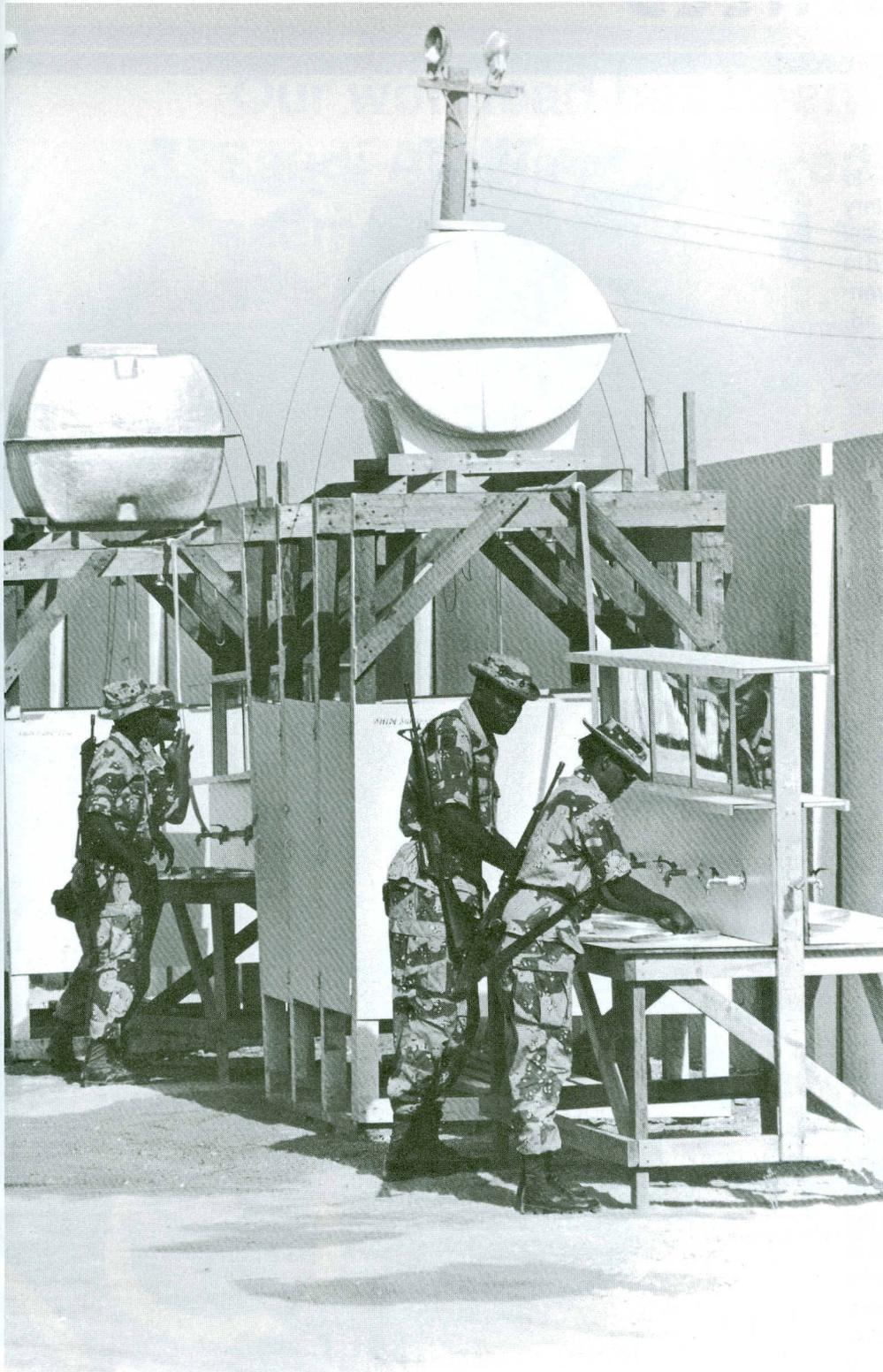
Our contracting actions have centered on leasing equipment and buying goods and services. Local business hours here are 0800 until 1145, then businesses reopen from 1600 until 2000. All businesses in Saudi Arabia close four times

during the business day for prayer call. The business week runs from Saturday through Thursday for most establishments. The majority of businesses close at 1200 hours on Thursday for the Friday religious holiday. Language has not been a problem because most of the businessmen we have worked with speak English. Early in this operation, two local residents were hired to help us.

Our workload has been heavy. Saudi Arabia is at the end of what seems like a very long supply line. Units are obtaining much of what they need from the local economy. The XVIII Airborne Corps Acquisition Section is accessible to corps units and is located close to a major urban area. From 8 Aug through 30 Sept 90, 480 small purchases of less than \$25,000 in value were completed. There were 26 written contracts greater than \$25,000 in value completed during this same period.

We negotiated many leases for equipment since we did not know how long we would be here. Equipment has been leased based on unit demand and the time required to accomplish the mission. The following includes the equipment leased:

- Transportation: large trucks, busses, flatbed trailers, four-wheel-drive vehicles, sedans.
- Refrigerated Vans



Soldiers use washstands and showers (with large tanks on top) that were manufactured to Army specifications under contract with a local vendor in Saudi Arabia.

- Construction Equipment: bulldozers, bucket loaders, graders, dump trucks, and rollers
- Computers
- Forklifts
- Photocopiers
- Water Tankers

We purchased the following:

- Water
- Ice
- Tents
- Beds
- Lumber
- Lights
- Burlap cloth
- Generators
- Latrines
- Cement barricades
- Shaving stands
- Newspapers
- Tables
- Chairs
- Fire extinguishers
- Air conditioners
- Food preparation equipment
- Office supplies
- Recreation equipment
- Cleaning supplies
- Minor construction equipment
- Repair parts

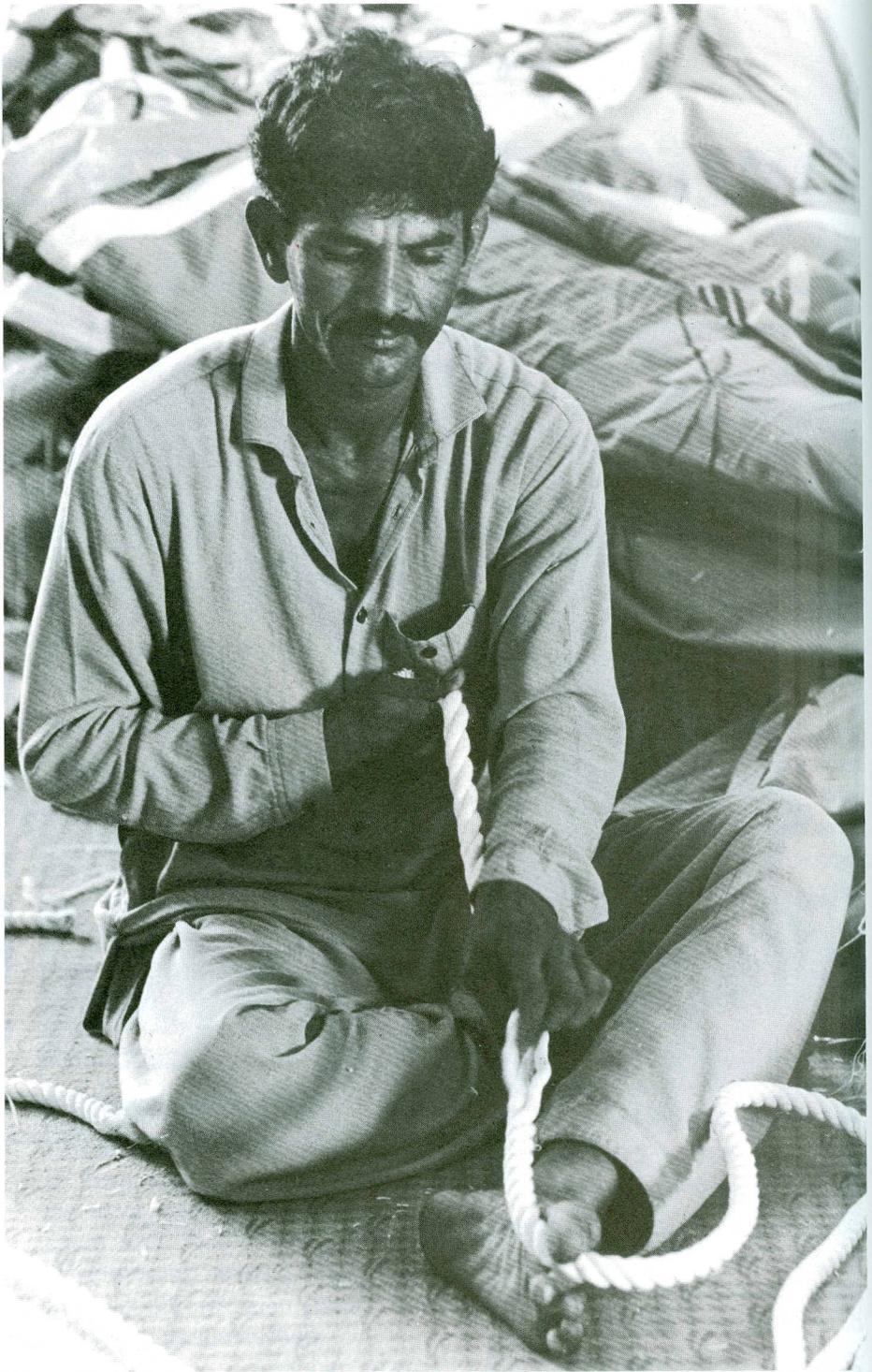
The following services were negotiated:

- Laundry
- Waste removal
- Trash removal
- Catering

DESERT SHIELD

This crisis affected local business, causing some to close and many to lose manpower. The U.S. military has had a big impact on the local economy. Saudi business is used to payment in advance and low inventories, but we are not providing advance payment. Within seven days of submitting an invoice, a vendor is paid. A steady stream of contractors come to our office each day to provide us with information about their companies. We are not required to do business clearance memorandums. Contractors are not being prequalified by this office. Only one contractor has been terminated for default. During negotiations I have noticed that the contractor is concerned with Schedule B, payment provisions, and little else. We have relied upon the DD Form 1155 (Order for Supplies or Services/Request for Quotations) and the Standard Form (SF) 44 (Purchase Order Invoice Voucher) to make most of our purchases. Fortunately, we have been authorized to use the SF 44 for purchases up to \$100,000 with the appropriate justification and approval procedures.

This deployment has not been problem-free in the contracting arena. Because of the urgency, it is not unusual for us to write a solicitation and put it on the street for three days, then open bids, determine the competitive range, conduct negotiations and award the contract in a two-day period. That is a total of five days to complete the acquisition process. There is simply not enough time to follow all the normal contracting procedures. One of the most frustrating situations is the vast amount of incomplete, non-specific, and poorly written purchase requests. For example, I have seen requests for tents that do not contain the essential information



A local employee of a tent manufacturer uses his feet to help braid loops in rope.

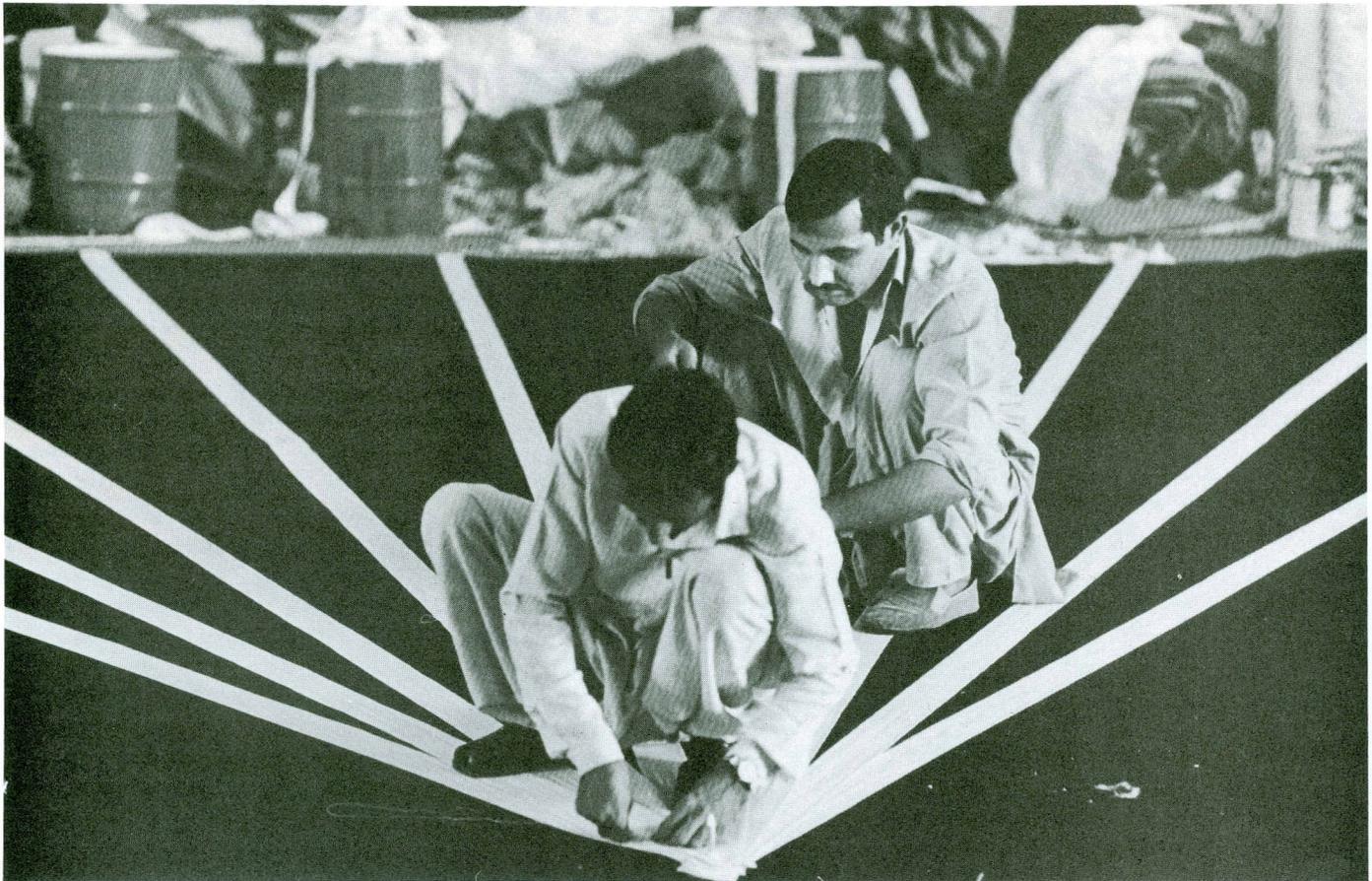
**‘Our workload has been heavy.
Saudi Arabia is at the end of what
seems like a very long supply line.’**



This overview of a tent manufacturing plant in Saudi Arabia indicates stations where employees work by hand.

Photographs by the 49th Public Affairs Detachment (Airborne), Fort Bragg, North Carolina.

DESERT SHIELD



Local employees of a Saudi Arabian tent vendor lay out and sew canvas support strips for a large tent.

of size and delivery location. Requests for refrigerators come in frequently without the voltage required and size needed. I am convinced that the U.S. Army Training and Doctrine Command (TRADOC) should teach how to complete the DA Form 3953 (Purchase Request and Commitment) in the basic and advanced courses for officers and noncommissioned officers. Another area of concern is that the unit ordering officers should be authorized to spend up to \$5,000

instead of the current limit of \$2,500. The purchasing power of the dollar overseas has eroded in recent years.

Operation Desert Shield has presented great challenges to the logistical system. It has pointed out several needs including our Army's need for more sealift, combat service support personnel, and equipment. It has been and will continue to be necessary to rely upon the private sector for support that we should have in-house. 

LTC Douglas B. Byther, Quartermaster, is Chief, XVIII Airborne Corps Acquisition Office, Fort Bragg, North Carolina. Previous assignments include command of Depot System Command Support Activity Far East and Camp Market, Korea, instructor at the U.S. Army Quartermaster Center and School, Fort Lee, Virginia, Quartermaster in Training With Industry, and S3 (Operations and Training Officer) for 2d Supply and Transportation Battalion.

A CAFETERIA IN THE DESERT

Lorraine Netzko

Imagine feeding several hundred thousand troops, three times a day, seven days a week for weeks on end. That is what the Subsistence Directorate at the Defense Personnel Support Center (DPSC), Philadelphia, PA, has been tasked to do for Operation Desert Shield.

The directorate is doing the job and doing it efficiently. "The magnitude and the short time frame of the buildup in Saudi Arabia have taxed our working process and our people to the limits. Our people have responded and continue to respond admirably," said Walt Welsh, chief of the directorate's General Products Branch.

DPSC prepares for this type of task by planning and participating in military exercises, but the process for requirements, approval, and procurement is not designed to allow the type of massive procurements necessary to support Operation Desert Shield. Working with the unknown caused an extra strain on the logisticians at DPSC. The uncertainties add to the complexity of making contracts. DPSC is estimating quantities now, where previously personnel worked with fixed quantities.

From the beginning of Operation Desert Shield in early August until mid-September, the Subsistence Directorate filled over 19,000 requisitions and shipped over 82 million pounds of food worth \$210 million to the Middle East. The directorate's Emergency Supply Operations Center has been fielding urgent requisitions on a 24-hour basis, seven days a week, since the mobilization began. "Throughout our directorate, people have canceled leave on their own and worked beyond normal," said Welsh. "As a supervisor, it has been immensely gratifying." When the call came in for Operation Desert Shield, the Subsistence Directorate contacted each branch of service to pinpoint requirements. Defense depots at Mechanicsburg, PA, Tracy, CA, and Memphis, TN, were geared up to pull stock and palletize it for shipment to the Persian Gulf. Industry's capacity to handle large-volume orders on a quick turnaround time was also assessed.

Over 5,000 tons of food were shipped after the first week of Operation Desert Shield, according to Navy Captain (Select) David Gibbs. By the second week of deployment, over 2 million pounds of hamburger, 15.6 million ready-to-eat combat rations, and 1.9 million tray pack rations were shipped. Tray pack rations are large, sealed metal trays, each containing a set number of servings for everything from main dishes to dessert.

"Transportation proved a challenge at the start," said Navy Captain (Select) Gibbs. "There was not enough

airlift and sealift capacity available either in Europe or in the continental United States to handle the tremendous volume of food that was to be sent. The issue has been solved with dedicated sealift agreements." The pipeline to the Middle East is 8,000 miles from the U.S. East Coast and 12,000 miles from the U.S. West Coast. Supplies are being airlifted out of Dover Air Force Base in Delaware, with a 17-hour flight. The sealift surface pipeline shipping time from Charleston, SC, or Norfolk, VA, to the Persian Gulf is 32-35 days.

Navy Captain John Scudi, a Supply Corps Officer who heads the Defense Logistics Agency's (DLA's) Readiness Support Office, keeps tabs on the performance of DLA supply center and depot operations worldwide.

"Subsistence is always difficult, not because you cannot feed the troops, but because you always want to give them one ration better. We are always trying to get better provisions to the troops as soon as we can. Ready-to-eat meals are our best field ration, but if you get a bunch of young men and women out in the hard desert conditions, you want to give them something to look forward to at mealtime," he said. The DPSC staff is now working with the Department of Army and DLA to provide tray rations and B-Rations (canned foods), and ultimately A-Rations (fresh foods, including fruits and vegetables) for the soldiers in Saudi Arabia.

Everyone's concern when they hear the word "desert" is water. Over 100 companies have been trying to sell water to DPSC, but DPSC is not purchasing bottled water at all. Saudi Arabia has a number of desalination plants, and soldiers are receiving water purification tablets. Water is currently not a problem. However, DPSC is purchasing emergency water packs — small foil bags of water — for use in airplanes or on life rafts.

DPSC has also awarded contracts for 90,000 sundry packs that contain shaving gear, foot powder, lip balm, and other personal items. Holiday requirements for boneless turkey loaves and hams also were filled.

In addition to seeking new contracts, the Subsistence Directorate, along with the U.S. Army Natick Research, Development, and Engineering Center, Natick, MA, have a program to best use the inventory on hand. As DPSC receives requisitions for B-Rations (dehydrated items and foods requiring no refrigeration), the orders are sent to the defense depot at Memphis, TN. Memphis depot, in turn, pulls stock and palletizes it for easy distribution. Pallets of complete lunch and dinner menus are made up to feed 200 service members. Each pallet contains an entree, vegetable, beverage base, dessert, condiments, and

utensils for one complete meal. The expansion of available rations to include unitized B-Rations was initiated to easily distribute complete, hot meals to the soldiers in the field. The lack of combat support units on the ground initially caused difficulties with the delivery and distribution of bulk food items to particular units. Since the beginning of September, the Memphis depot has hired 300 people and added extra production lines to fill orders. Personnel work around the clock to make all the components available. "The unitization of the B-Ration has been a success," said Dave Snyder, chief of inventory management. "It allows for a rapid readiness response, is economical, and easily distributed in the field."

With attention on operations in the Persian Gulf, DPSC still remembers that all service members are equally important. DPSC has been able to supply the soldiers in Saudi Arabia and fill 98.5 percent of all the requisitions for subsistence worldwide.

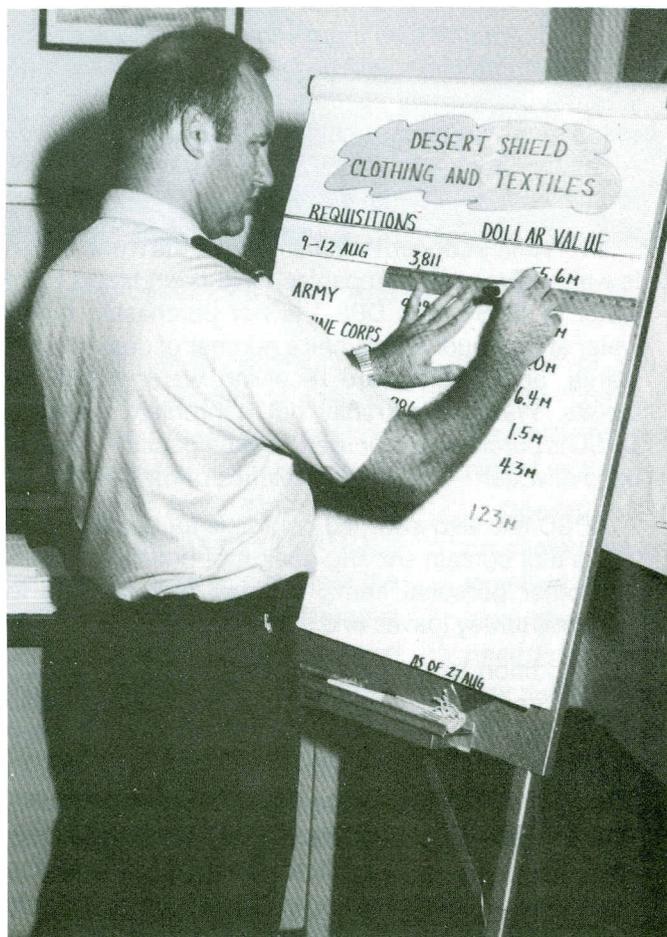
"From meeting all the initial requirements for operational rations, to supporting the holiday meals, the subsistence members of Team DPSC have met every challenge and excelled in ensuring all customer demands are satisfied," said CPT H.E. Kuhns, commander of the subsistence field activities and director of the Subsistence Directorate. 

Lorraine Netzko is the Public Affairs Specialist, Subsistence Directorate, Defense Personnel Support Center (DPSC), Philadelphia, Pennsylvania.

CLOTHING THE SAND SOLDIERS

William Ernst

As 115-degree heat waves ripple across miles of desert sand, America's fighting forces in Saudi Arabia



An Army officer charts emergency supply demands to support Operation Desert Shield.

are facing two enemies, a military threat and the environment. Meanwhile, at the Defense Personnel Support Center (DPSC), Philadelphia, PA, workers in the Clothing and Textile Directorate are processing orders for shipping hundreds of thousands of items to comfort and protect U.S. troops. Battle gear ranging from chemical protective suits, canteens, desert camouflage uniforms, hot weather combat boots, tents, sunglasses, and goggles are just a few of the items being rushed to the Middle East.

Not since the Vietnam Conflict has the clothing activity at DPSC experienced such a tremendous demand for battle dress gear. "Phones have not stopped ringing" said Debbie Maggio, a supervisor in the Clothing Supply Division. "Our workload has tripled since Desert Shield."

DPSC usually averages \$86 million per month in sales to military customers. Last August alone, requests for over \$162 million in merchandise arrived. Maggio said her team of nine item managers keeps a close eye on inventory stock levels. Maggio monitors the military's clothing needs and notifies the DPSC's contracting office before items reach a critical low level so that items can be reordered.

Keith Senior, who supervises four groups of buyers in the Clothing and Textile Branch, said they are awarding contracts in record time. "We awarded two contracts for 450,000 chemical protective suits in only one week," said Marianne Campbell, a contract specialist. These suits will be delivered on a monthly schedule to meet the sudden demand.

Another integral part of the battle gear pipeline that makes the Clothing and Textile Directorate's 500 workers operate so efficiently in these frenzied times is the Emergency Supply Operations Center (ESOC).



An industrial specialist inspects a sample of a chemical protective suit before samples are sent to potential vendors who might be interested in contracts to make the suits.

Since the outset of the Middle East crisis, the ESOC office has been in full swing seven days a week, 24 hours a day. "We've been operating on three shifts," said MAJ Marshall Stephenson, acting chief of the ESOC office. "The support from everyone here has been fantastic." Marshall said many workers from other offices in the Clothing and Textile Directorate have volunteered to work in the ESOC office on night shifts and weekends.

With the overwhelming increase in production of protection gear, such as body armor and chemical protective suits to guard against the threat of chemical warfare, quality is still a top priority. "We are going at full speed," said Frank Piecyk, a quality assurance specialist who ensures that life support clothing items are free from defects. Piecyk, a team leader for a group of quality assurance workers, said his group visits contractors who are supplying critically needed items.

"We need to get the work done by our contractors as quick as possible," he said, "but quality is very important, especially when it involves lifesaving clothing protection items."

In addition to the visual inspections and tests performed by Piecyk's team, extensive testing is being done

'With the overwhelming increase of protection gear . . . such as chemical protection suits . . . quality is still a top priority.'



A chemist in the clothing and textiles laboratory conducts a quality test on material from a chemical protective suit.

by workers in the clothing and textiles laboratory. Joe Jaworski, a chemist in the laboratory, has worked extra hours and a weekend shift to ensure that material being used by contractors meets specifications for chemical protective gear. "What we do is simulate live chemical tests to ensure the absorption in the material of the chemical suits meets specifications," Jaworski said.

In the midst of the biggest mobilization since Vietnam, every worker in DPSC's Clothing and Textile Directorate is operating at high speed. Although it has been hectic at times, personnel are pulling together to provide the best clothing and textile protective gear for America's finest.

William Ernst is the Public Affairs Specialist for the Clothing and Textile Directorate, Defense Personnel Support Center (DPSC), Philadelphia, Pennsylvania.

DEFENSE FUEL SUPPORT FOR OPERATION DESERT SHIELD

From mundane necessities such as sunscreen lotion and foot powder to lifeblood commodities such as fuel, food, and chemical protective gear, the Defense Logistics Agency (DLA) is providing 24-hour support to the men and women deployed to the Middle East as part of Operation Desert Shield.

"A Midwestern town the size of Fayette, IN, including people, their cars, trucks, foodstuff, stocks, and household goods." That is how one Pentagon official sized the movement of support for Operation Desert Shield. Two weeks after President Bush ordered United States forces to Saudi Arabia, 1 billion pounds of materiel was either in the Middle East or en route by sea or air.

One of the Pentagon's major supply arms, DLA at Cameron Station, Alexandria, VA, is responsible for many tons of materiel, including everything from the shirt on the soldier's back to the fuel that carries deploying soldiers, sailors, airmen, and Marines the 7,000 air miles or 9,000 nautical miles (East Coast departure) to their destination.

Navy Captain John Scudi, a Supply Corps Officer who heads DLA's Readiness Support Office, keeps tabs on the performance of DLA supply center and depot operations worldwide. "Every time we have been asked for something, DLA has been able to deliver to the point of departure before the ships or planes have taken off," he said. That was no easy task. By the second week of the deployment, those "needs" had included 2 million pounds of hamburger, 15.6 million ready-to-eat combat rations, 1.9 million of the larger quantity tray pack rations, 50,000 tubes of sunscreen, and 50,000 cans of foot powder. The Philadelphia-based Defense Personnel Support Center, responsible for subsistence, clothing, and medical items, had shipped more than \$150 million worth of materiel specifically for the Middle East. By late August, the DLA supply tally included 100,000 pairs of sunglasses, 400,000 desert camouflage suits, 100,000 goggles, and a vast variety of other provisions. The depots were working at full steam. At the defense depot in Richmond, VA, for example, personnel fielded 10 times the normal volume of high-priority telephone call-ins.

The DLA's other depots reported a similar phenomenal increase in workload. At Columbus, OH, three weeks into the operation, personnel had packed 3,935 containers weighing 3.6 million pounds. The units and sets assembly workers at the defense depot in Mechanicsburg, PA, built a variety of medical sets in support of Operation Desert Shield, including chemical

sets, field trauma sets, field sick-call sets, laboratory resupply sets, optical sets, and personal soldier kits. Each of DLA's depots played a vital support role.

At DLA supply centers the support story was similar. By the third week into the operation, the Defense Personnel Support Center's medical directorate had provided \$28.2 million worth of support; its clothing and textiles directorate, \$124 million in support; and its subsistence directorate, \$137 million worth of support. The personnel support center is located in Philadelphia, PA. The center's clothing factory began work to produce 90,000 jackets and trousers for the desert camouflage battle dress uniform. The factory also accelerated deliveries of fire-retardant flyer's coveralls and began production on an ammunition case and a two-quart canteen cover.

The Defense Fuel Supply Center (DFSC), which procures and stores bulk fuel, quickly found itself in the middle of Operation Desert Shield. Trying to keep up with the requests flooding into DLA, the fuel center, with headquarters in Alexandria, VA, has a field region in Bahrain. Its 10-person staff includes representatives from each of the military services as well as civilian employees. The region typically is responsible for loading seagoing tankers at various contract locations in the Middle East and for quality inspections at civilian airports that contract to support transient U.S. aircraft.

Early last August, that all changed. Working closely with U.S. Central Command personnel, the Bahrain field office obtained fuel requirements, made contact with commercial companies in the area, and matched aircraft and equipment with the fuel supplies needed. The center has been using into-plane contracts in Saudi Arabia and some surrounding countries to support the initial buildup for both jet and ground fuels. These contracts are providing fuel for requirements at remote locations as well as at established airports. Since the start of the operation, usage on some of the contracts has exceeded what was projected for an entire year.

Personnel in the Bahrain field office determine new requirements and solve problems ranging from finding adapters for fuel trucks to loading seagoing tankers to replenish Navy ships in the area.

The Iraqi takeover of Kuwait also directly affected DFSC's usual contract sources. The center has awarded contracts intended to cover 3.5 million barrels of JP5, product needed because of a lost Kuwaiti contract. The product is for locations in Europe, the Western Pacific, and the U.S. West Coast.

Overall, procurement workload at the center has increased at a fast and furious pace in the into-plane, bunkers, bulk, and additive areas. Bunkering contracts are greatly in demand to serve reactivated reserve fleet units. Personnel describe the tempo in the bulk fuels division as "turbo charged." Buyers and contracting officials have issued emergency solicitations worldwide for approximately 8 million barrels (336 million gallons) of jet fuel, both to replace the lost Kuwaiti contract fuel and to provide direct support for the air and sea lifts needed to move personnel. The normal buying cycle has been reduced from six months to two or three weeks. In addition to writing emergency contracts, buyers have persuaded contractors to provide extra volumes of jet fuels on current contracts.

Additionally, DFSC began using "surge" contracts to provide extra fuel required for Operation Desert Shield. In August 1990, a contract was awarded for 1.1 million barrels (46.2 million gallons) of jet fuel. Two more surge contracts were awarded in September 1990 totaling 5.7 million barrels (234.4 million gallons) as extra fuel for Operation Desert Shield in addition to the 3.3 million barrels (138.6 million gallons) normally obtained in September for the following year. DFSC was expecting to get more than 9 million barrels (378 million gallons) during October, November, and December 1990.

At DLA headquarters, chief among the offices that tie all the loose ends together are the Logistics Readiness Center and the Emergency Supply Operations Center. These two offices, along with other headquarters elements, monitor the operation of DLA field activities and resolve major logistical problems. Their procedures are taken from the agency's basic emergency plan. The plan calls for a liaison officer from supply operations to rep-

resent DLA at the J4 (Logistics Directorate), Joint Chief of Staff, Logistics Readiness Center.

Logistics Readiness Center planners continually work with U.S. Central Command planners and employees throughout DLA to determine logistical capabilities and constraints. They also orchestrate DLA's involvement in mobilization exercises, held regularly to anticipate the needs of any contingency. The commodities on the "most-wanted" list for Operation Desert Shield, for example, are often the same commodities that have been "played" by supply centers and depots during exercises.

Logistically speaking, Operation Desert Shield differs from any exercise scenarios that are based on DLA assets being used for long-term sustainability rather than immediate support. In real world operations, military service members have tended to draw initially from DLA stocks rather than the war reserve stocks. "DLA can quickly take the requisitions, break out the stocks, load up the trucks and the troops can have the needed materiel to accompany deployment," explained Captain Scudi. The decision to immediately use DLA stocks has transformed DLA into a dual wholesale and retail role. "DLA was on the front lines from day one," he said.

DLA has enhanced its customer service representative program to ensure the agency is meeting all the needs of deploying units. Since Operation Desert Shield began, DLA representatives have visited commanders of deploying units to see that logistical support is going smoothly. "It may not be something that a general ever knows about, but its reassuring for a deploying commander to know we are there and that we care about what's going on," said Captain Scudi. 

THE BRIGADE SUPPLY AND TRANSPORT COMPANY—SUPPORT FOR AIRLAND BATTLE-FUTURE

CPT Michael P. Gilroy

Background

Radical changes in the world political situation, success in arms control agreements, and rapid advances in technology now mandate a smaller military force. This presents the Army with a significant challenge. How will a smaller force fight and win on the modern battlefield? Perhaps more importantly, how will that force be supported? AirLand Battle-Future, an evolving doctrine, provides the answers. I will address the supply support of a

heavy brigade under the AirLand Battle-Future concept.

At the U.S. Army Training and Doctrine Command (TRADOC) and elsewhere within the Army, the new warfighting doctrine for a leaner force is taking shape. This doctrine, AirLand Battle-Future, recognizes that with fewer forces on the battlefield the premium is on maneuver and speed. AirLand Battle-Future is more a refinement of our current doctrine than a departure from it. On 1 March 1990, a

memorandum from the Office of the Commanding General, TRADOC was sent to all TRADOC commanders and key staff officers. This memo addressed some of the basics of AirLand Battle-Future doctrine and provided a starting point for further discussion.

Central to understanding AirLand Battle-Future is the realization that we cannot afford a battle of attrition with a smaller Army. Therefore, AirLand Battle-Future dictates a nonlinear battlefield where

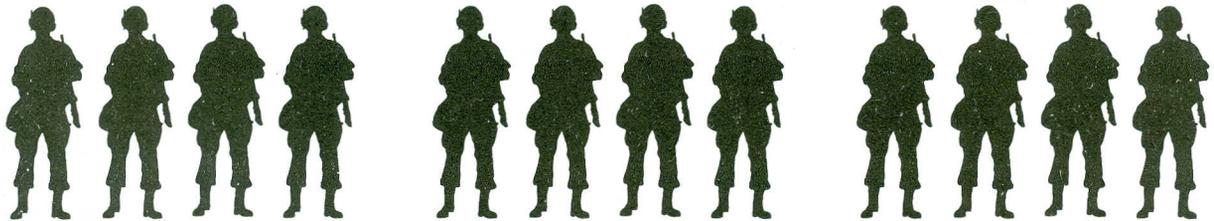
combined arms brigades mass, fight quick and intense battles, redispense, and reconstitute.

Technology plays a large part in this doctrine. Current technology does not allow the Army to execute AirLand Battle-Future now, but the required technology will soon be available. The fielding of new technology makes this doctrine viable. The Army finds itself in an era where giant strides in intelligence

sensor technology and "smart" weapons will soon allow what is now unthinkable. Because of our technological edge, the Army will know with certainty where the enemy **is**, what the enemy is **doing**, and what the enemy **will do** 300 to 500 kilometers (km) from the forward line of troops (FLOT). Combine this with the ability to engage the enemy at ranges in excess of 100 km, and the AirLand

Battle-Future doctrine begins to take shape. AirLand Battle-Future doctrine truly charts a course for the future.

How does AirLand Battle-Future relate to us as logisticians? To achieve the speed and agility required on a nonlinear battlefield, tomorrow's maneuver units will be "unweighted" of their combat service support tails. This means doing more with less. Battalions will lose



BRIGADE SUPPLY AND TRANSPORT COMPANY

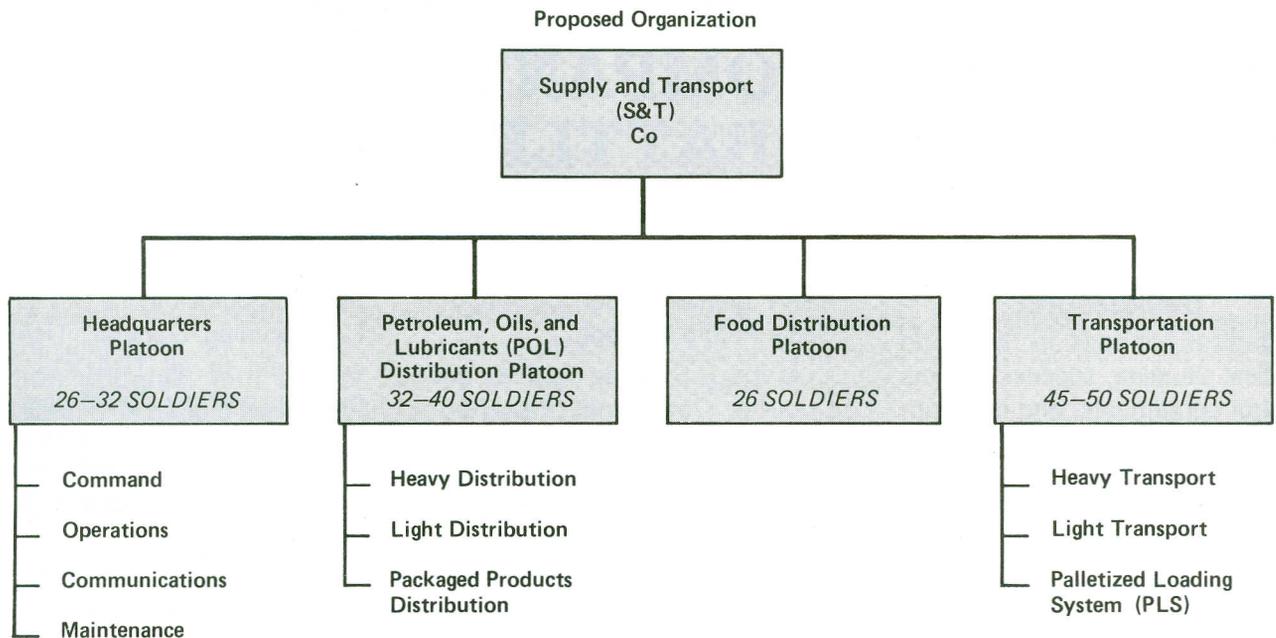


Figure 1. Proposed Organization of Brigade Supply and Transport Company.

their support and maintenance platoons. Direct support combat service support (CSS) units are located further to the rear and quickly task organize as necessary. Corps support battalions and groups assume a greater role as brigade and division CSS functions are removed, relocated, or eliminated. Communications and automation become even more critical.

Brigade Supply and Transport Company

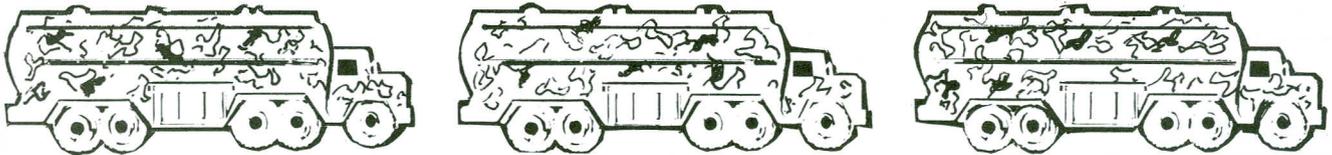
The U.S. Army Quartermaster Center and School is studying several options to support the force. I have focused on one: the heavy brigade supply and transport (S&T) company. This unit is assigned to the maneuver brigade and operates with much the same com-

mand and control links as the current brigade headquarters company. The brigade S&T company is the best solution to supporting a heavy force. It accomplishes the goal of "unweighting" maneuver units, and it also retains critical supply support far enough forward to be responsive.

In this article, I have made several assumptions. First, radical changes in support doctrine must occur. But these changes need only affect maneuver battalions in a small way. The current basics of support doctrine at the battalion level (the logistics package (LOG-PAC) system) work well and can be retained. Second, resupply of the field artillery battalion, commonly direct support to a brigade, is best

left to that battalion's service battery. This is due to the unique nature of artillery organizations and their ammunition resupply. Third, main and forward support battalions will no longer exist. All CSS functions not located within the brigade under Air-Land Battle-Future come from corps. This includes maintenance as well as the majority of transportation assets and supplies.

Located in the brigade support area, the S&T company (Figure 1) assumes all supply functions of maneuver battalion support platoons and some of the functions of the supply company of the forward support battalion (FSB). An austere organization, it does not retain all of the capabilities of the units it replaces (Figure 2). The



COMPARISON OF PROPOSED SUPPLY AND TRANSPORT COMPANY WITH CURRENT SUPPORT PLATOON / A COMPANY FORWARD SUPPORT BATTALION (FSB)

	PROPOSED	CURRENT
Total Dry Tonnage Capacity (Short Tons)	400*	360
Total Bulk Fuel Capacity (Gallons)	74,600	118,400

Based on a brigade of two tank battalions, and one mechanized battalion

**If Palletized Loading System (PLS) section is included*

Figure 2.

company provides rapid resupply to the brigade, focusing on the resupply of Classes I (rations), III (petroleum, oils, and lubricants), packaged III, and V (ammunition). Class II (general supplies) resupply in the field is very limited. Class IV (construction and barrier materiel) resupply is throughput from corps. The company has four platoons: headquarters, petroleum, oils, and lubricants (POL) distribution, food distribution, and transportation. As in current doctrine, battalions receive supply support through LOGPACs. Unit supply sergeants from battalion line companies, attached to the S&T company during operations, control their own company LOGPAC. The difference is that the LOGPACs are organized at a higher level. Unit supply sergeants have the same responsibilities and remain the first point of contact for all classes of supply within their companies.

The Headquarters Platoon

The headquarters platoon is composed of four sections (operations, communications, command, and maintenance) that coordinate resupply of the brigade's companies and coordinate with corps for resupply. The operations section is the heart of the platoon. Operating a logistics operations center from high mobility multipurpose wheeled vehicle (HMMWV)-mounted shelters, this platoon is extremely mobile. The logistics operations center combines the functions currently performed by battalion S4s (Supply Officers) and the supply officer of the FSB support operations section. Requirements for maneuver battalion S4s still exist, but the duties decrease in scope. Without the battalion support platoon, The S4 becomes a logistics liaison officer. To ensure

the battalion is supported, the S4 forms the support plan and coordinates its execution with the logistics operations center. The logistics operations center monitors the supply status of each company and coordinates their resupply. Based on guidance from the brigade S4 and reports from battalion S4s, the logistics operations center organizes and dispatches LOGPACs. Reports and requisitions from companies are sent directly to the logistics operations center. Demands exceeding the capabilities of the S&T company pass to corps. The success of this system depends on the communications section. Equipped with both mobile subscriber equipment (MSE) and frequency modulated (FM) systems, this section maintains links with the brigade, division, and corps. The command section composed of the commander, executive officer, and first sergeant performs the command and control function for the company itself. The maintenance section provides organizational-level maintenance to the company. The possibility of eliminating this section exists by drawing maintenance support from the brigade headquarters company. This plan, however, requires that the brigade headquarters and headquarters company (HHC) be restructured.

The POL Distribution Platoon

The resupply of Class III products to a mechanized force presents the greatest challenge to today's logisticians. The POL distribution platoon of the company must be a flexible unit with a healthy communications capability. Communications with the platoon allows the rapid shifting of fuel assets to cover unforecasted needs and emergency situations. This platoon

contains three sections: heavy distribution (26 M978 Heavy Expanded Mobility Tactical Trucks (HEMTTs)), light distribution (8 M923 trucks with tank and pump units), and the package section (4 M977 HEMTTs). The heavy section supports line companies in the same manner as before - using LOGPACs. The light section supports dispersed organizations such as mortar and scout platoons, tactical operations centers (TOCs), and unit maintenance collection points (UMCPs). The package section restocks the HEMTTs of the heavy section with products after each LOGPAC. It operates only in the company area. This section gives only a modest capability to resupply the brigade with packaged Class III products. Tight coordination with corps and accurate reporting from below will drive packaged Class III resupply.

The Food Distribution Platoon

The food distribution platoon feeds the force. This platoon consolidates all Food Service Specialists (military occupational specialty (MOS) 94B) in one location. Using the Army Field Feeding System (AFFS), this platoon can feed 3,500 soldiers two T-Rations and one MRE (meal, ready to eat) per day. Staffed with 26 soldiers, the platoon operates from the brigade trains and configures each company's LOGPAC in the current manner. Although the platoon retains the ability to feed A-Rations, it could not do so in combat. To keep the platoon as light as possible, it carries only the equipment required to feed 3,500 soldiers T-Rations. In order to feed A-Rations the platoon is augmented by mobile teams from corps.

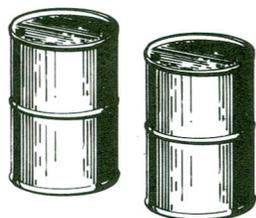
The platoon has no capability to store water for the brigade; corps

fulfills this requirement. Providing the company with 500-gallon, collapsible "pillow" tanks could provide some storage capacity while using minimum assets. These tanks can transport water to units by HMMWV, 5-ton truck, or airlift. Corps, however, must provide the vast majority of the water required by the brigade. A daily drop is required to top off the 400-gallon water trailers of line companies and brigade "slice" elements.

The Transportation Platoon

The transportation platoon provides a short-haul capability (mostly ammunition) to the brigade. Again, current support doctrine at battalion level requires little change. Each HEMTT cargo truck is pre-configured with ammunition loads for the type of company it supports. This "push" package is defined by brigade standing operating procedure (SOP). If changes to a package are desired, the battalion

S4 coordinates the change through the logistics operations center. Corps logistics units then configure ammunition loads into company packages and push the ammunition to the S&T company. The S&T company can also reconfigure ammunition loads itself. Using the M977 HEMTT, which has a materiel handling crane, eliminates the need for materiel handling equipment (MHE) at brigade level. To keep the limited transportation assets of the brigade forward and in continuous



DAILY SUPPLY DEMANDS OF A MECHANIZED BRIGADE (Pounds/Soldier/Day Method)

Class I (Rations)	11.5 Short Tons (STONs)
Class III (Bulk - Petroleum, Oils, and Lubricants)	25,860 Gallons *
Class III (Packaged)	1 STON
Class IV (Construction and Barrier Materiel)	14.8 STONs
Class V (Ammunition)	54.7 STONs
Water	21,000 Gallons

*Ground mobility fuels only

Based on 3,500 soldier brigade in temperate zone in moderate combat

Source: FM 101-10-1 (Staff Officers' Field Manual: Organizational, Technical, and Logistical Data)

Figure 3.

support, the corps push package cannot be limited to high tonnage items. It must also include small arms and demolitions.

The transportation platoon accomplishes its mission with its three sections: heavy truck (26 M977 HEMTTs), light truck (8 M923 5-ton trucks), and palletized loading system (PLS) (6 HEMTTs equipped with the PLS). The heavy truck section resupplies line companies with ammunition. The light truck section provides backup support to the heavy section and can haul limited amounts of other supplies, namely Classes II and IV. Although the PLS section can be eliminated from the structure of the company to save personnel and vehicle costs, it provides a valuable service. With supplies located further to the rear on a nonlinear battlefield, the use of supply caches becomes even more vital. The PLS section gives the brigade the ability to quickly emplace and, if necessary, recover supply caches. This section also provides backup support to the heavy section.

Battlefield Disposition

The S&T company is located 1-15 km from the FLOT, co-located with the brigade rear command post. Note that this is further forward than current doctrine mandates. On a nonlinear battlefield the enemy is anywhere and everywhere. Being closer to the FLOT cuts response time for combat units to assist the S&T company against level I, II, and III threats. Although the company provides a lucrative target by being forward, this is the only way to maintain responsiveness to the brigade on a fast-paced battlefield. With the support platoons removed from maneuver battalions emergency resupply of Classes III (POL) and V (ammunition) becomes more difficult with each kilometer of distance. A possible solution is to leave some

dedicated Class III and V resupply vehicles in the maneuver battalions. This, however, may not be feasible. Also, many of the company vehicles are on the road at any given time, which reduces the signature of the unit in the brigade trains.

Movement of supplies forward remains much the same as current doctrine. LOGPACs are dispatched from the brigade trains to a brigade logistics release point (LRP) where they would be picked up by the battalions. The battalion would then take their LOGPACs to their own LRPs. However, this solution is not very workable when considering that a proper convoy using this method would produce a huge vehicle signature and a convoy almost 10 km long. Perhaps the best solution is to form battalion LOGPACs in the brigade trains. Then each battalion LOGPAC would be led to battalion LRPs by a senior supply sergeant or another battalion representative. The latter method also gives some visibility to each battalion LOGPAC.

Conclusion

The proposed structure of the company is just that - proposed. This unit could probably operate with a much smaller overhead in vehicles. I chose the structure of each platoon, however, based on personal experience and the need to have certain vehicles at the right place and time. Tonnage of supplies required or gallons of fuel required was not the criteria that I used to equip this unit. Although these planning factor computations played a part in the final product, I chose to equip the unit based on having dedicated resupply vehicles for certain units. Oftentimes having the capacity to move supplies does not imply that a unit has the ability to move supplies.

Although the brigade S&T company appears to be an unwieldy organization, I believe it provides the best solution to supply support of the maneuver brigade. Relying on depth in communications systems and understandable SOPs, it would "unweight" the maneuver battalion as well as the brigade of much of its CSS overhead. It remains responsive to the needs of the brigade, giving the brigade S4 a direct link to critical supplies required by the brigade. A company of 150-170 soldiers will still provide effective supply support. In the future, technology may enable us to cut the personnel and vehicle requirements even further. The S&T company allows the battalions to concentrate on fighting. Yet it maintains enough of a tie to the battalion to be responsive. This would not be the case if units were dispatched from corps. In short, the brigade S&T company can meet the challenges posed by Airland Battle-Future.

In writing this article, I accessed the latest information available to the Directorate of Combat Developments at Fort Lee, VA. However, the ideas in this article remain mine, and I am wholly responsible for the content of this article. The opinions expressed are mine and in no way reflect the official position of the U.S. Army Quartermaster Center and School, Fort Lee, VA. 

CPT Michael P. Gilroy is currently the Military Editor of the Quartermaster Professional Bulletin. A 1985 Distinguished Military Graduate of the Reserve Officers' Training Corps (ROTC) program at Providence College, Providence, Rhode Island, he is also a graduate of the Armor Officer Basic, Quartermaster Officer Advanced, Airborne, and Aerial Delivery and Materiel Officer Courses. He was formerly S4 (Supply Officer), 2-34 Armor, Fort Riley, Kansas.

GRAVES REGISTRATION AT THE NTC

CPT Todd A. Mercer

In a recent article in *Military Review*, Major General Peter J. Boylan, Jr., former Commanding General, 10th Mountain Division (Light), lamented the shortcomings of our Combat Training Centers (CTCs): "Battles at the National Training Center (NTC)...are a series of one-day exercises that permit the daily regeneration of combat forces *without a physical or intellectual appreciation of the impact of blows delivered to the combat service support forces...*" (emphasis added). Although MG Boylan assessed the integration of light infantry at the CTCs in his article, his words may have an impact on our own combat service support (CSS) training, in particular, graves registration (GRREG).

Typically, GRREG operations are the most underutilized support function at our CTCs. Often not trained, or inadequately trained, GRREG operations are usually not viewed as a "make or break" area by our units training at the NTC, and are often neglected. Still, GRREG is an area that can tarnish an otherwise perfect support operation and degrade the morale of units. Units that have been to the NTC and experienced problems in casualty collection and GRREG operations often notice a sharp drop in soldier morale as the soldier begins to perceive that he will not be "taken care of." As units improve casualty collection and GRREG procedures over the course of the exercise, the morale rises. But do we foster the "intellectual appreciation" of the impact of the GRREG mission?

The NTC evaluates 14 units each year. Along with maneuver units, support units are also evaluated using the seven battlefield operating systems (BOS) as a guideline. Each unit that rotates

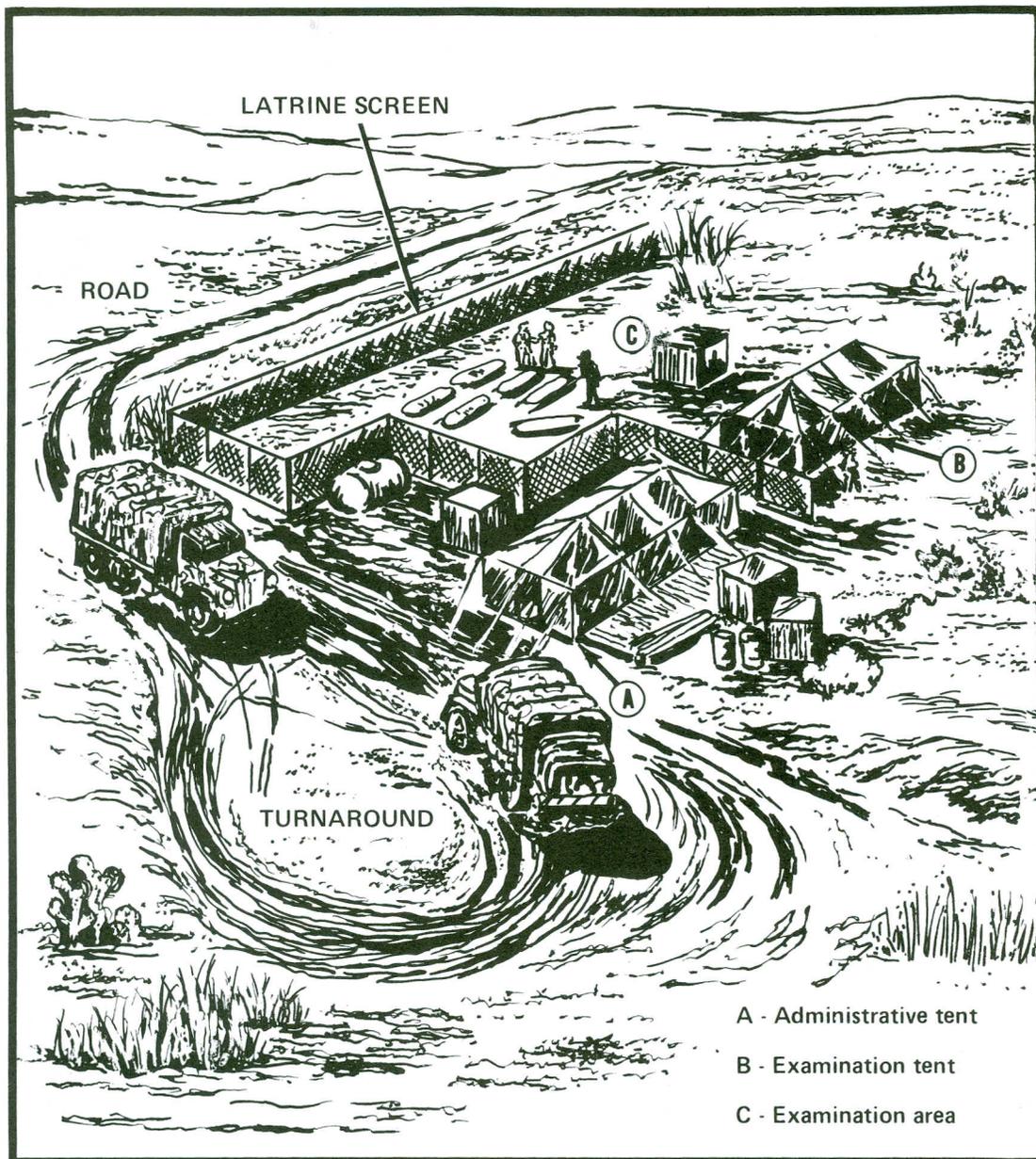
through the NTC receives an after action review (AAR) packet that includes an overview of operations from the observer/controller (OC) point of view. OCs often find that throughout the combat service support planning process GRREG and the collection of human remains is easily forgotten. Lack of prior planning and interest in GRREG operations both at home station and at the NTC quickly take a heavy toll on these operations. There seems to be a lack of knowledge of GRREG operations in forward support battalions (FSBs) and maneuver battalions. The results are quickly obvious and take several forms. In one case, GRREG operations did not start until the battalion commander got personally involved. In another, the move of the GRREG collection point was not planned for in the displacement of the brigade support area (BSA). Due to this oversight, casualties were temporarily abandoned in the old location. One GRREG team was hampered by the lack of casualty estimates from the battalion tactical operations center (TOC). Yet another battalion failed to even mention the GRREG collection point in the operations order, then later expected the collection point to deploy to the ambulance exchange point (AXP). The lesson is that, like all other operations, GRREG cannot be neglected; it must be planned.

Contaminated remains and effects present the greatest challenge to GRREG operations. While most GRREG operations processed chemical casualties in mission-oriented protection posture (MOPP 4) gear to avoid contaminating the living, there was little or no emphasis on segregating contaminated and noncontaminated remains. Additionally, there was not a clear knowledge of the disposition of remains

across the support area. One company commander chose to cremate his chemical casualties. This is not the approved solution. Often, processing chemical casualties slowed an already cumbersome process. Units are responsible for decontaminating the remains and effects of their soldiers before transporting them to the GRREG collection point. Still, the support battalion and the GRREG team must have a plan for dealing with contaminated remains that either occur or arrive "dirty" in the BSA.

Other problems exist as well. These included slow transportation of remains from the BSA to the division support area (DSA), company personnel using the GRREG collection point as a sleeping area, and the GRREG noncommissioned officer (NCO) used in the battalion/company command post instead of at the GRREG collection point. This slowed the operation of the GRREG section and denied complete GRREG support to the brigade.

Battalions that excelled at GRREG operations throughout their rotations established the element of "cross-talk" in the planning and operation of the GRREG section. Cross-talk mandates that all sections keep each other informed of their situation. It is usually an informal process, but it can be codified as part of a staff drill. With cross-talk, the support operations section is aware of the GRREG section's location, status, requirements, capabilities, and limitations. Armed with this knowledge, the support operation officer can plan accordingly. The battalion's unit ministry team (UMT) is an active force in the planning and execution of memorial services. While not a



- A - Administrative tent
- B - Examination tent
- C - Examination area

Sample Layout of a Collecting Point

GRREG function, the memorial service is a direct result of the collection process, and the cross-talk between the chaplain and the GRREG team enhances both operations. The medical company is also involved in planning for GRREG operations and positions, as casualties that die of wounds will be relocated to the GRREG collection point. With all sections communicating with each other, efficiency is increased. A well-run GRREG operation will feed casualty information to the brigade S1 (Adjutant), which serves as an additional check of the personnel situation report (PERSITREP)

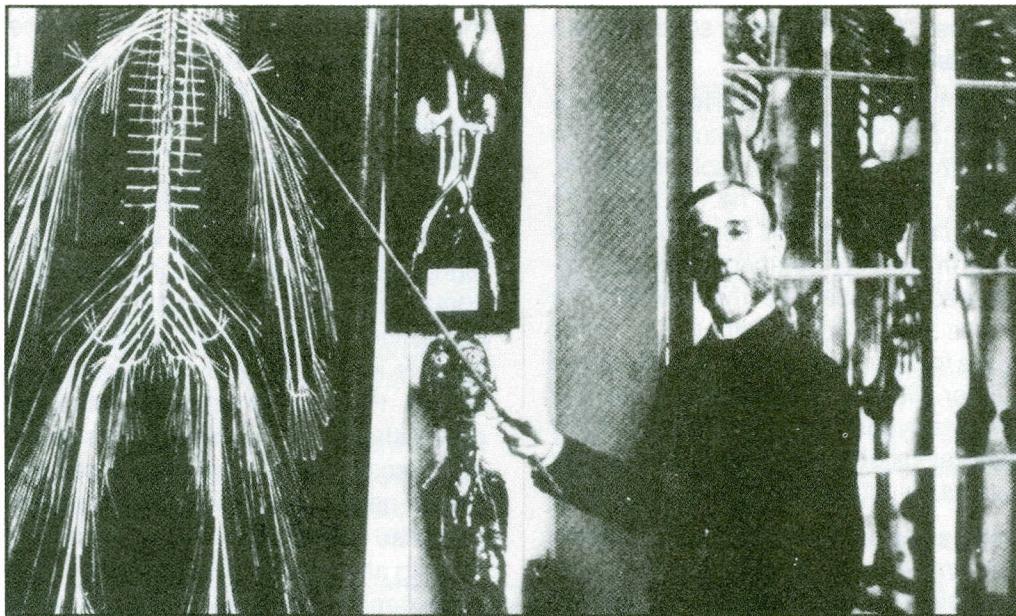
already received. This dialogue is two-way, with casualty estimates flowing down to the GRREG section and actual casualty information flowing back to brigade and to the battalions.

Much needs to be done in the area of educating the field about the importance of the GRREG mission. Although GRREG is the easiest support function to forget about, it becomes critical when the bullets begin flying. To do well at the NTC, or in war, GRREG must be planned with well-drilled standing operating procedures (SOPs) and clear orders. GRREG must be practiced at home station until it is second nature. To do

less, would be an affront to our soldiers who have sworn to give their lives if necessary.



CPT Todd A. Mercer is a 1985 graduate of Bowling Green State University, Bowling Green, Ohio. A graduate of the Infantry Officer Basic, Quartermaster Officer Advanced, Airborne, and Ranger Courses, he has served as Platoon Leader, Executive Officer, and Mortar Platoon Leader with 7-6 Infantry, Bamberg, Germany. He is currently assigned to Division Support Command (DISCOM), 1st Armored Division, Nuremberg, Germany.



Dr. Rufus B. Weaver, who later became famous for his research on the nervous system, directed the disinterment of the Confederate soldiers who had fallen at Gettysburg, Pennsylvania, and who were reburied at Hollywood Cemetery, Richmond, Virginia. *Photograph reprinted with permission of Hahnemann University Archives in Philadelphia, Pennsylvania.*

FROM PICKETT'S CHARGE TO FINAL GLORY: GRAVES REGISTRATION LESSONS FROM GETTYSBURG

CPT Scott T. Glass

For three blazing hot days in July 1863, the armies of Confederate General Robert E. Lee and Union General George G. Meade grappled near Gettysburg. Lee's second northern offensive was stopped and he withdrew his spent soldiers to Virginia. Nearly 17,000 Southerners were killed, wounded or missing in action. The wounded who could be evacuated with the Confederates were loaded on horse-drawn ambulances for the jolting ride south. Those soldiers with more serious or mortal wounds were left in makeshift field hospitals around Gettysburg. The Confederates had time to bury only 500 or so of their dead before moving out.

Quartermaster soldiers in graves registration (GRREG) positions are not able to predict the amount, type or location of casualties that they must process. Mass casualty situations can occur in peace as well as war. To help prepare for these challenges, graves registration soldiers can study the past for useful lessons. One such case study is the relocation of the remains of nearly 3,000 Confederate soldiers in 1871-73. They were moved from battlefield graves at Gettysburg, PA, for reburial in the South.

The Record

The tremendous number of remains at Gettysburg was scattered over a large area, and the hot July sun made quick burials a necessity. Burial squads composed of

soldiers and civilians roamed the battlefield identifying and burying the dead of both sides. Union dead were usually interred singly with crude headboards that had the soldier's name and regiment scratched into a plank. The Confederate dead were often gathered and buried in trenches that were identified only with the number of "Rebels" resting there. The only exceptions were remains that had the rank and weapons of senior Confederate officers. These usually received a separate burial.

Within two months of the battle, the governor of Pennsylvania established a cemetery for the Northern dead. A local wagonmaster, Samuel Weaver, was hired to oversee the disinterment, identification, and movement of all Union remains. Weaver turned out to be a wise choice. He allowed no grave to be opened unless he was present. He dictated that all pockets, garments, and equipment be examined for verification or clues to an individual's identity. Weaver's contract did not direct him to perform the same service for Confederate dead, but he did so nonetheless. He kept meticulous records of the Confederates he was able to identify. At the time,

he estimated that over 7,000 Southern soldiers were buried about the battlefield.

After the close of hostilities, the families and state governments of the Confederate dead wanted to bring them south and lay them to rest honorably. Naturally, Samuel Weaver was contacted, but he died in 1871 before he could begin the project. His son, Rufus, gave in to the pressure from several Southern memorial associations and agreed to undertake the Confederate soldier disinterments. As with his father, Dr. Rufus Weaver would prove to be a wise choice. It is likely that he assisted his father with the 1863 disinterments. He had studied at Pennsylvania Medical College, knew where many of the gravesites were located, and was as devoted to the task as his father had been.

During the Spring and Summer of 1871, Dr. Weaver supervised the exhumation and identification of at least 385 Confederate soldiers from four states. For this and later operations, he probably had access to his father's records from 1863. Some of the remains he shipped directly to the soldiers' families.

In the Autumn of 1871, the Hollywood Memorial Association of Richmond, VA, contacted Dr. Weaver to have the remains of all Virginia soldiers brought to Hollywood Cemetery for proper burial. Before the agreement was finalized, it was decided to include all the Confederates buried at Gettysburg. The association began raising the funds to pay the relocation costs of \$3.25 per set of remains. Work began the following spring. By June 1872, Dr. Weaver had shipped 708 remains to Hollywood Cemetery, 239 of them identified. By the first week of August, Dr. Weaver had shipped another 882 remains. He could identify only 19 of these remains, but was able to match the remains with their units from studying where they were buried on the battlefield.

A third shipment of 683 remains arrived in Richmond in September. Apparently none of these were positively identified. Dr. Weaver knew the names of most of the men from his study of battle records, but the technology of the day would not allow him to match names with remains. A fourth shipment of 333 was sent in the Spring of 1873. Again, apparently none of these remains could be identified with certainty. Dr. Weaver and his laborers had exhumed roughly 2,990 Confederates in about two years. Of these, Dr. Weaver was certain of the identity of 643, or just over 21 percent of the total. It is remarkable that Dr. Weaver could identify one in five given the conditions under which he worked.

The Problems

While the local population was not openly hostile, it was unsympathetic to Dr. Weaver's work. Several factors added to the difficulty of his task. Although the war had been over for about six years, the memories of the devastation of the battle and the men lost in the war were still fresh in the minds of the locals. A few farmers demanded payment for allowing Confederate burials on

their property. In a couple of cases, the remains were looted during the exhumation. Even so, Dr. Weaver had to carefully interview many civilians to find new gravesites. Much of the actual digging was accomplished with local hires as well.

The lack of an identification system hampered Dr. Weaver. The remains had been buried without coffins eight years before. Only bones were left. Mass graves contained numerous bone sets that had to be sorted to determine the number of soldiers buried within. Also, soldiers in the Civil War rarely wore identification disks or tags. Personal effects were often removed from the dead either by fellow soldiers, for shipment to the family, or by scavengers. While most carved or wrote their initials, names, or units on their personal gear, this gear was also in an advanced state of decomposition or missing altogether. Rifles and other accouterments had been removed by other soldiers or the burial teams in 1863. Uniform markings and insignia could be helpful, particularly for officers, but these too were suffering from the effects of being buried about seven or eight years.

The absence of a true historical record also complicated matters. No witnesses acquainted with the dead were available in 1863 or 1871-73. Had Confederate witnesses been available, at least in 1863, the task would have been much easier. However, the only Confederates in the vicinity were seriously wounded prisoners of war. Although the historical record is not clear, it is also possible that some of the Confederate remains were relocated by Samuel Weaver in 1863. This process may have made it more difficult for Dr. Rufus Weaver and his crew to identify remains eight years later. Lastly, events also conspired against Dr. Weaver. In May 1863 Lee's army had achieved a stunning success at Chancellorsville. Vast amounts of Union supplies were captured. The fact that many Confederates were wearing parts of Northern uniforms and carrying Northern equipment could not have made the task any easier.

Why then, against all these obstacles and with the technology of 127 years ago, were the Weavers able to identify 21 percent of the remains? The reasons for their success hold lessons for GREGG soldiers.

The Lessons

Dedication: Both Samuel and Rufus Weaver were dedicated and involved in their work. Both were reverent in their work and doubtless appreciated what their work meant to the families of the deceased. This led them to involve themselves in every aspect of the task. *All too often, the training for GREGG soldiers is put on the "back burner," if it is on the stove at all. The Army now has much more sophisticated techniques for identifying remains, but these techniques are worthless unless soldiers understand them and execute them properly. Commanders must ensure that their GREGG soldiers are trained and GREGG systems are exercised during training events.*

Medical Training: Dr. Rufus Weaver was a trained physician, and this medical knowledge was invaluable in sorting through and numbering remains. *While it is impractical to train every soldier in the GRREG field to be a licensed mortician, medical physiology and orthopedic training are vital. This training can range from classes at the team level to consolidated major command programs to exchange programs with local hospitals, morticians, or coroners. Training assistance and advice are available from the U.S. Army Quartermaster Center and School at Fort Lee, VA.*

Research: In Dr. Weaver's second shipment of remains were 469 unidentified sets. However, Dr. Weaver did establish that 325 of these were members of Confederate General George Pickett's division who died in Pickett's Charge on the last day of battle. Both Weavers used civilian interviews and Dr. Rufus Weaver added official records study to supplement the interviews. Numerous Confederates had died of wounds at makeshift field hospitals, but both Weavers knew the locations of the hospital burial grounds. In addition, both understood the placement and level of engagements between fighting units, and they used this understanding to locate more burial sites. *Army GRREG supervisors must be familiar with the battle area to coordinate successful searches. This is possible only by studying reports and interviewing participants and civilians. The importance of careful research grows exponentially with the passage of time.*

Local Population: Both Weavers had to deal delicately with the civilians around Gettysburg. Many did not approve of the relocation of the Confederate dead. Besides regional feelings that had persisted since the end of the war, the digging disrupted the planting and harvesting of crops. Still, the farmers' assistance was

needed for labor and information. *Team leaders must assess the local population's attitude, knowledge of the battle, and potential for helping the GRREG operation. Interpreters could be needed to assist in information interviews and hiring local labor. Leaders must also watch their soldiers' behavior to prevent any incidents that could alienate local residents.*

The Cost

Despite total involvement in their work, the Weavers doubtless misidentified some remains. They probably also missed identification clues on some they failed to identify. However, both Weavers used every means at their disposal to get the job done.

The Quartermaster Corps maintains a GRREG effort backed by the best technology available. That technology, however, is worthless without dedicated, highly-trained soldiers and leaders who understand GRREG systems and procedures. These systems should be stressed during every training exercise. One hundred and twenty years ago, a 21 percent identification rate was outstanding. Today, GRREG soldiers cannot settle for less than 100 percent. Are we ready for that challenge? 



Matthew Brady's photograph, taken about 1865, shows newly filled and hastily marked graves of Confederate soldiers at Hollywood Cemetery. Photograph reprinted with permission of the Library of Congress, Washington, D.C.

CPT Scott T. Glass is an Assistant G4 (Assistant Chief of Staff, Logistics) Plans Officer, 82d Airborne Division, Fort Bragg, North Carolina. A 1984 Distinguished Military Graduate of the University of Georgia, he is also a graduate of the Armor Officer Basic, Mortar Platoon Officer, Quartermaster Officer Advanced, Airborne, and Rigger courses. He was previously assigned as S3 (Operations and Training Officer), 201st Forward Support Battalion, 1st Infantry Division (M), Fort Riley, Kansas. A Civil War reenactor, his great-great grandfather is buried at Hollywood Cemetery, Richmond, Virginia.

PRIORITIES —

STATING THE COMMANDER'S INTENT MAKES A DIFFERENCE

CPT Dean M. Robinson CPT Michael P. Gilroy

As leaders and trainers in a profession with many important missions and a duty to respond to sudden changes, we have a duty to clarify priorities. Although few units in the Army have the luxury of complete planning months in advance, the failure to adequately plan even simple missions often stymies compliance with a commander's intent. This lack of planning and its accompanying lack of focus, rob our units of effectiveness. If unit commanders could prioritize training and support missions from the very beginning, would it help? If training schedules still made sense in the midst of last-minute changes would our units be more effective? The answer to both questions is an unqualified "yes."

The process of prioritizing important missions demands courage and trust in your soldiers. In many cases, even priorities established by standing operating procedure (SOP), policy letter, or training guidance, do not tell soldiers at the lowest levels where to focus their efforts. A unit without focus is a unit in trouble. Company commanders can use a short-hand system in their published training schedules to indicate the priority of each training event. The code can be as simple as numbering the events for that day, in priority, on the schedule. When last-minute taskings and missions appear, as they inevitably will, they leave the soldiers wondering where these new events stand in relation to training already planned. There-

fore, a standard priority code, such as this, proves useful:

A—Top priority/focal event.

B—Second priority, but do not cancel without commander's approval.

C—Third priority. Cancel only if unable to resource with personnel, equipment or time.

D—Opportunity training. Have trainers, objectives, and a plan to execute on short notice if resources and personnel become available.

Use of this system for new taskings or events will tell soldiers immediately where they stand in relation to previous plans.

The numbering system assumes that company commanders receive adequate priority guidance from battalion level. Company commanders who find their training schedules clogged with un-resourced priority "A" missions are not leaders. They are messengers in a sea of ambiguity. Their soldiers are left hoping that they guess correctly on what is checked, instead of executing the commander's intent. In an environment where priorities are not clear to company commanders, the numbering system on training schedules is a method for them to align their priorities with the battalion's priorities when training schedules are turned in.

The linchpin of the entire numbering system is the soldier. Unit commanders with trust in their soldiers and faith in their own leadership abilities will not fear abuse of the system by their soldiers. Commanders can easily ensure that soldiers do not interpret "C" and "D"

priorities as meaning "ignore" when the resources are available. The commander must, however, confirm that the correct interpretation is clear to all of his soldiers. By using the coding system, commanders will discover that their soldiers accomplish their intent more often now that the goal is understood. Generally speaking, soldiers seek to comply with orders. Without clear priorities, soldiers can achieve high levels of mission compliance and still be less ready to fight. Just because missions are accomplished within a unit does not imply that the unit is better trained. The mission accomplishment must relate to warfighting skills. The priority coding system ensures that soldiers are trained first on soldier skills, not pet projects. If a commander is forced to set his priorities every time he turns in a training schedule, then he will think about what is important to his unit **every** time he turns in a training schedule. Supporting the force while surviving are the combat service support (CSS) commander's priorities. The priority coding system can also be used in more detail to assist trainers in resourcing missions based upon function. For example, suffix codes can indicate the type of training (ISS = individual skill sustainment, CSW = collective skill weak, [requires training]). The possibilities are limitless, but coding further than "A" through "D" detracts from the simplicity that makes the training priority clear to every soldier. Further coding does, however, have a promising application in training plans above company level.

173 QM CO (Petrl)

DATE: 23 May 19XX

TIME	PERSONNEL	EVENT	REFERENCE	PRIORITY
0830 - 0845	COMPANY	FORMATION/POLICE CALL	CO SOP/FM 22-5	A
0845 - 1000	TERMINAL PLT	CONSTRUCT INDIVIDUAL FIGHTING POSITIONS	STP-21-1-SMCT	B
1000 - 1130	TERMINAL PLT	EMPLOY CLAYMORE MINE	STP-21-1-SMCT	B
0845 - 1000	PIPELINE PLT	FIRST AID ON SNAKE BITES	APPLICABLE FM	B
1000 - 1130	PIPELINE PLT	FIRST AID ON SPLINTING A FRACTURE	APPLICABLE FM	B
0845 - 1130	MAINT PLT	VEH/GEN CHECKS AND SERVICES	APPLICABLE TM'S	A
0845 - 1130	COMMO PLT	PMCS	APPLICABLE TM'S	A
0845 - 1130	ORD RM	ADMINISTRATIVE PROCESSING	APPLICABLE REGS	C
0845 - 1130	SUPPLY PLT	SUPPLY PROCESSING	APPLICABLE REGS	D
1130 - 1300	COMPANY	LUNCH	FM 10-23	
1300 - 1630	COMMO PLT	PMCS	APPLICABLE TM'S	B
1300 - 1630	SUPPLY PLT	SUPPLY PROCESSING	AR 710-2-1	B
1300 - 1630	ORD RM	ADMINISTRATIVE PROCESSING	CO SOP	B
1300 - 1630	MAINT PLT	VEH/GEN CHECKS AND SERVICES	APPLICABLE TM'S	B
1300 - 1400	TERMINAL PLT	USE M8 DETECTOR PAPER TO ID CHEMICAL AGENT	STP-21-1-SMCT	A
1400 - 1500	TERMINAL PLT	EXCHANGE MOPP GEAR	STP-21-1-SMCT	A
1500 - 1630	TERMINAL PLT	PUT ON AND WEAR MOPP GEAR	STP-21-1-SMCT	A
1300 - 1530	PIPELINE PLT	TA-50 INVENTORY/WALL LOCKER INSPECTION	CO SOP	C
1530 - 1630	PIPELINE PLT	CORRECT DEFICIENCIES	CO SOP	C
1640 - 1700	PIPELINE PLT	TA-50/WALL LOCKER RE-INSPECTION	CO SOP	D

Sample Training Schedule

This system is not a "cure-all" for the training challenges of the CSS commander. It requires constant planning, analysis and spot checking. If we are leaders who can clearly state our intent, then our soldiers will accomplish any mission. If we are leaders with courage who trust our soldiers, then we will not make all of our priorities the top priority. The coding system is a tool that can help keep our priorities aligned at all levels. It encourages initiative and "bottom-up" execution. The numbering system demands that commanders plan and resource adequately all levels, but it can assist the soldier in accomplishing those missions that have a critical impact on the success of the unit. It allows the

commander to get the most out of his most precious resource - his soldiers. In short, the priority coding system maximizes time and effort and makes good units great. 

CPT Dean M. Robinson is no longer in active service. A 1983 graduate of the United States Military Academy, West Point, New York, he served in leadership and staff positions from platoon to regiment. Most recently he had served as Commander, C Company, 2-34 Armor, Fort Riley, Kansas.

CPT Michael P. Gilroy is currently the Military Editor of the Quartermaster Professional Bulletin. A 1985 Distinguished Military Graduate of the Reserve Officers Training Corps (ROTC) program at Providence College, Providence, Rhode Island, he is also a graduate of the Armor Officer Basic, Quartermaster Officer Advanced., Airborne, and Aerial Delivery and Materiel Officer Courses. He was formerly S4 (Supply Officer), 2-34 Armor, Fort Riley, Kansas.

2d CORPS SUPPORT COMMAND WATER PURIFICATION DURING REFORGER '88 AND '90

MAJ Harold D. Koutz

Potable water, an essential life support requirement that most everyone takes for granted during training, is a precious commodity on the battlefield. Producing and providing large quantities of water requires extensive planning, preparation, and operations.

The 2d Corps Support Command (COSCOM) provides direct water support (on an area support basis) to nondivisional units and backup support to divisional units in VII (U.S.) Corps. To meet the mission of supplying potable water, 2d COSCOM has 24 truck-mounted, 1,500 gallon-per-hour water purification units (Engineer Research Development Laboratories known as ERDLATORS) under control of 7th Support Group. The 7th Support Group is composed of four battalions. The battalions are 1st Maintenance, 13th Supply and Service (S&S), 71st Maintenance, and 87th Maintenance. Within each of these battalions is an S&S company with one water platoon. That platoon is authorized 25 personnel and six ERDLATORS.

However, with this large capability comes the responsibility for planning, training, and managing the operations needed to effectively employ these resources in the corps area of operations. Over the past few years, the Return of Forces to Germany (REFORGER) has provided an excellent opportunity to conduct large-scale training in water production and supply operations.

Planning water production and supply training/operations for REFORGERs 1988 and 1990 was a unique challenge. The Quartermaster Corps took over the water mission from the Corps of Engineers in 1984, and 2d COSCOM received the equipment and per-

sonnel for water purification operations in 1986. REFORGER 1988 was the first time the COSCOM ran a large-scale water support operation. Along with the new experience came the challenge of coordinating the use of land for training in the exercise maneuver box. There were numerous environmental concerns and restrictions written in our own maneuver damage standard operating procedures (SOPs) about operating next to streams, rivers, and lakes. Needless to say, a lot of questions and details had to be worked out to plan and provide support for REFORGER.

Ramp-Up 1

Ramp-Up 1 was a VII Corps' Command Post Exercise (CPX) held to practice tactical options in war games and plan logistic support for REFORGER. Since all major VII Corps units participated, this was an outstanding opportunity to coordinate water requirements with our customers. Initially, Assistant Chief of Staff, Services, Field Services Division personnel met with each major unit logistic planner to obtain their support requirements. Information and requirements were gathered on each unit, including:

- Points of contact (POCs) and telephone numbers for additional coordination.
- Required water support.
- Estimated troop strength.
- Initial unit locations.
- Projected moves during the exercise.
- Special water requirements.

From this information areas of troop concentrations were identified where water support would be needed. During Ramp-Up 1 in 1988, 7th Support Group assigned

a Logistical Task Force (LTF) to provide water support to each area. An LTF is a battalion-sized unit composed of supply, maintenance, transportation and other support assets tailored to logistically support a slice of the corps.

Then 7th Support Group held a water coordination meeting, and customer unit POCs met with LTF representatives to further define support requirements and procedures. The procedure for REFORGER 1990 was a little different. Each LTF was assigned a sector of the maneuver box to support. This approximated our real wartime support plan.

During both REFORGER exercises, forward jump sites were selected to allow water teams to move and support units during the attack. Water units displace one at a time moving forward to support the corps in the attack. Thus, some water teams are producing water while others are moving to new locations. Water sites were also located near our field ration breakdown points (FRBPs) to provide a one stop pick-up of water and rations. The S&S company operating the FRBP placed a forward area water point supply system (FAWPSS) at the FRBP if a suitable water site was not nearby. The FAWPSS provides for limited aerial or ground resupply to isolated units. The system consists of six 500-gallon collapsible water drums, a 125 gallon-per-minute (GPM) water pump, and connecting hose assemblies and nozzles.

Water Site Selection

Selecting good water sites is one of the most difficult and time-consuming tasks performed by the water platoon in each S&S company. First, S&S company representatives and the LTF staff

made a map reconnaissance of their assigned areas to select probable water sites. Then, Water Treatment Specialists (military occupational specialty 77W) conducted an actual ground reconnaissance to check site suitability and choose the best sites. Maneuver restriction and watershed areas on the REFORGER maneuver restriction maps were off-limits. The maneuver box for REFORGER 1990 had extensive watershed areas. The restricted areas somewhat limited our operating space, so customer support required extra planning.

Our principal considerations for selecting sites were the following:

- Water source - sufficient quantity and quality for purification.
- Road net and access to the site, including bridges capable of handling the weight of customer vehicles.
- Adequate turnaround area for customer vehicles.
- Suitable operational space for the ERDLATOR, equipment trailer, water tanks, and tentage.
- Concealment.
- Good drainage.

Alternate water sites were selected near each primary site to provide a backup location in case the primary one could not be used for any reason. Hard-surfaced areas and gravel or paved parking lots provided excellent sites and helped prevent maneuver damage.

Host Nation Site Approval

Approval for use of the water sites by host nation authorities was a key task in preparing for



Soldiers adjust a 125 gallon-per-minute pump to prepare for using the forward area water point supply system (FAWPSS).

REFORGER. The Verteidigungskreiskommando (VKK) provided invaluable assistance in obtaining host nation and local approval. The VKK are the lowest echelon of the German Territorial Army who provide host nation support to North Atlantic Treaty Organization (NATO) forces in Germany during war. They work directly with battalion-level units and have an excellent knowledge of civilian resources in their geographic areas. During REFORGER the VKK provided units assistance to obtain use of facilities and land.

After the units selected proposed water sites, the COSCOM field services water noncommissioned officer (NCO) telephoned the local VKK in each area. The NCO provided a description of what we were going to do, the size of our operations, the grid coordinate location, and any other pertinent information that was requested. Then the NCO arranged initial coordination for use of the site. When possible, a face-to-face meeting at the site with all concerned was best.

This included representatives from 2d COSCOM Field Services, 7th Support Group, the LTF, the water teams, VKK, and local water officials.

The VKK assisted in coordinating with water officials to determine if the water at the site was suitable for purification. If the site was not usable because of pollution or environmental considerations, the VKK suggested alternative sites. The VKK also helped negotiate with the owner if the site was on private property or with the mayor or burgermeister if the site belonged to a city. After this formal process, changing sites or adding new ones was usually accomplished over the telephone.

Preventive Medicine Approval

The REFORGER preventive medicine (PM) team checked and approved all water sites. This was usually the last step in the process of obtaining a water site. The best method for site checks was a joint water team and PM team chief site visit. This gave the PM chief a

chance to talk with our water purification specialists and explain his policies and procedures. Also, group site visits ensured that PM personnel knew the exact location of the water sites. During REFORGER the PM chief worked directly for 30th Medical Group which is a major unit in 2d COS-COM. This was a plus for coordinating assistance during the exercise.

Operations During REFORGER

Within the 7th Support Group, two ERDLATORS are normally assigned to each water site: one in operation (production) while one provides backup. This concept has several advantages. First, fewer sites means more soldiers to provide security and 24-hour operations. Second, it is easier to command, control, and provide life support to a smaller number of "out-posts" that are as far away as 15 miles from their parent company. Third, the water team can easily jump or "leap frog" forward, establishing a new site with one ERDLATOR while one continues to supply water from the original location. Fourth, ERDLATOR maintenance is easier when one system can be pulled off line and replaced by another. Finally, team training improves with two teams at one location.

Water purification teams deployed before the exercise for equipment setup, water production, and PM approval for issue before customer demand. The PM teams must incubate a sample of purified water for 24 hours to ensure that chlorination has killed all harmful bacteria. Portable bathrooms were located at each site for field sanitation. Hot meals were provided from corps units located near the water sites or transported in insulated food containers from the company

field kitchen to the site. Showers were obtained at local German facilities, or personnel were rotated back to the company shower point.

Customer units called their supporting LTF to get the locations of the nearest water sites. After initial contact with the water team,

customers coordinated schedules and times for pickup directly with the water team chief. Units in the area drove from their bivouac sites to fill their water trailers at the water points and returned to their units.

To enhance training and support forward, water teams often



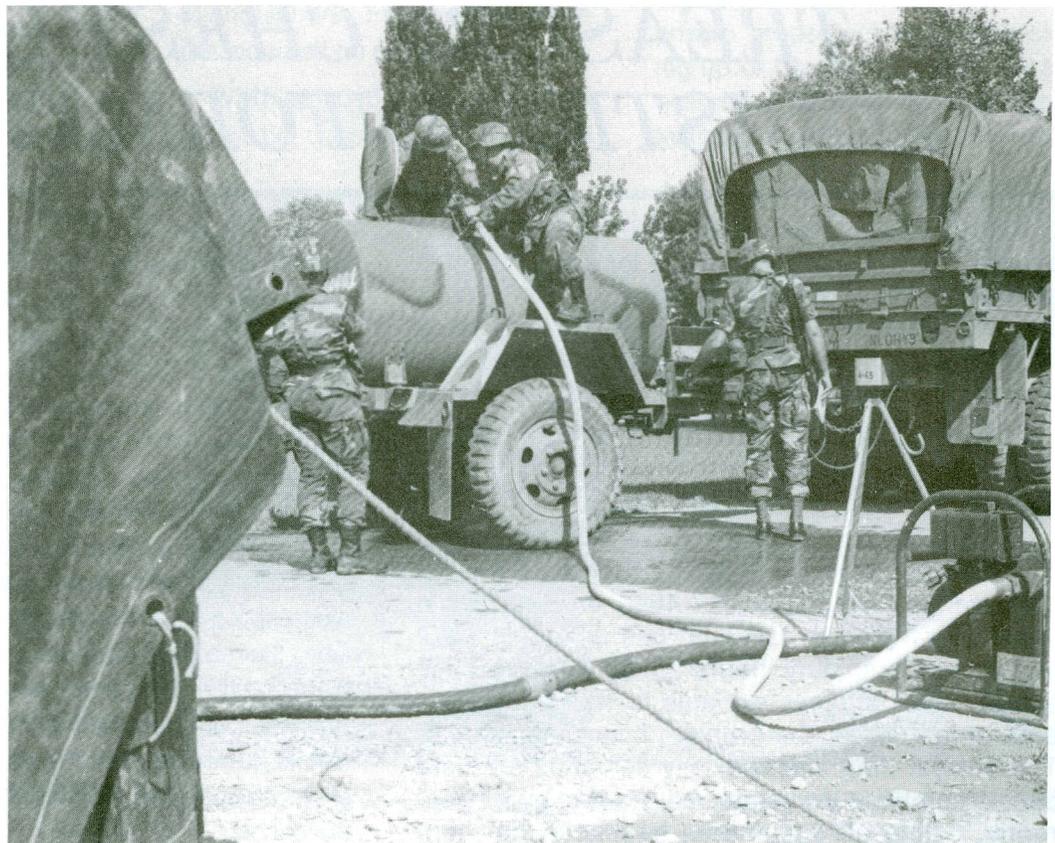
A soldier with the 2d Corps Support Command adjusts a pump used to draw water from the Kochner River during REFORGER water purification training and operations.

delivered water by helicopter using CH-47 Chinooks to airlift the 500-gallon FAWPSS water drums to a customer's predesignated point. A water point was quickly set up and the customer's water trailers were filled.

Cold weather operations during REFORGER 1990 in January did not prove to be too challenging. Temperatures cold enough to freeze water were only experienced the first week. Usually, water was recirculated to prevent freezing. However, metal hose fittings tended to freeze quickly which created a plug between the water source and dispensing hose. However, one team from the 493d S&S Company developed a unique way to prevent freezing. They placed their stove tanks on pallets and forced hot air underneath the tanks with a duct heater. In addition, metal hose fittings were insulated with sandbags or Meals, Ready to Eat (MRE) cartons filled with dirt to prevent freezing.



Water treatment specialists pump purified water from one of the three 1,500-gallon stove tanks into a customer's 'water buffalo' for transport during REFORGER exercises.



At the watersites, Water Treatment Specialists prepared Department of the Army (DA) Forms 1713-R through 1716-R to track production, distribution and inspections. PM checks were performed on a routine basis throughout the exercise. All this information was funneled through the parent units to 2d COSCOM Headquarters where the information was tracked and briefed during daily command and staff meetings.

During the REFORGER 1988 exercise Certain Challenge, 24 sites were selected and approved although all were not used. Eleven sites were operational the first week and 12 the second week of the exercise. At the REFORGER 1990 exercise Centurion Shield, 11 sites were operated during both weeks.

Lessons Learned

The following are a few suggestions from experience:

- Units should begin planning early to complete the extensive peacetime approval requirements.
- Good communications during planning and execution with customer units is essential. Support procedures are not as clear during limited peacetime training as they would be during a continuous wartime relationship. Providing exact locations of water points and operating schedules is imperative to good customer support.
- Good life support planning is essential. Water teams are at remote locations. Planning and providing life support such as food, showers, heat, and sanitation at numerous remote sites requires constant attention. The key is competent first-line NCO team leaders.

Training and developing these team leaders with the know-how and motivation to care for soldiers, under all conditions, deserves the highest emphasis.

Conclusion

Both REFORGER exercises provided valuable and extensive experience to 2d COSCOM water personnel and staff at all levels of command. However, with the advent of the "training smart" concept of using computers to save dollars, every opportunity to train in actual water operations must be maximized. 

MAJ Harold D. Koutz is Staff Engineer for the Assistant Chief of Staff, Services, Headquarters, 2d Corps Support Command (COSCOM), Nellingen, Germany. Unique to 2d COSCOM, he was acting Field Services Officer during both REFORGER '88 and '90.

TREASURE CHEST OF LOGISTICS INFORMATION

The Defense Logistics Studies Information Exchange (DLSIE) exists to provide logistical research information. The DLSIE, located at the Army Logistics Management College, Fort Lee, VA, has more than 85,000 logistics studies, models, management references, and related documents in its data base that are available to researchers and action officers throughout the Department of Defense and other government agencies.

The DLSIE Provides access to the information in the data base in several ways. Most frequently, the customer will call DSN 687-4546 or commercial (804) 734-4546 and talk with one of the DLSIE's analysts during duty hours (0730-1630 eastern time). The customer explains to the analyst the area of interest or the problem being researched. The analyst then electronically searches the data base to produce a customized, hard-copy bibliography, listing all documents available that con-

tain information about the subject. The bibliography, which summarizes the information contained in each document referenced, is usually mailed to the customer the next day. The customer selects from the bibliography the documents wanted. Call the DLSIE microfiche section at DSN 687-2240 or commercial (804) 734-2240, and give the operator the list of documents numbers (LD numbers). Customers who are overseas or in an inconvenient time zone should call DSN 687-4546 or commercial (804) 734-4546 and place a request by phone recording. They must give their name, official mailing address, phone number, and a description of the information or the service they need. If using the recorded message service, they should jot down the information they need to give and have it in front of them. After the brief, recorded instructions, customers have 3 minutes to describe their request; but if there are 15 seconds of silence on the line, the message service will automatically disconnect.

TRAINING PERSONNEL TO PREVENT ACCIDENTS

Frank R. Hartman



Students become familiar with controls before operation.

Equipment generally is designed to perform specific functions. For example, materials handling equipment (MHE) will safely handle a specified maximum load, travel a maximum speed, ascend or descend a maximum grade, and operate safely under specified conditions. However, when the operator is not properly trained, a potential hazard can be created.

The Storage Training Branch, Supply and Professional Development Department, U.S. Army Quartermaster Center and School, Fort Lee, VA, trains 76V (Material Storage and Handling Specialist) and 76X (Subsistence Supply Specialist) students to operate MHE in a safe manner. Students are introduced to the different types of forklifts: 2,000-pound electric, 4,000-pound conventional, 4,000-pound rough terrain (RT), and the 10,000-pound RT. Other types of MHE, such as hand trucks and conveyor belts, along with personnel are identified. Instructors stress operating the equipment well within its capabilities.

Before allowing students to drive the vehicles, instructors teach proper preventive maintenance checks and services (PMCS) procedures and the proper use of fire extinguishers. Fire extinguishers are mounted on all vehicles.

With 40 to 60 inexperienced drivers per class and 20 to 35 pieces

of equipment rolling, safety must be stressed. The following safety precautions have proven effective for instruction:

- One instructor for every six vehicles.
- Instructors continuously roaming the training area with mobile public address systems.
- A stationary public address system.
- One-way communication with the drivers.
- Students receiving extensive knowledge of the vehicles' capabilities before operation.
- Hearing protection worn at all times.

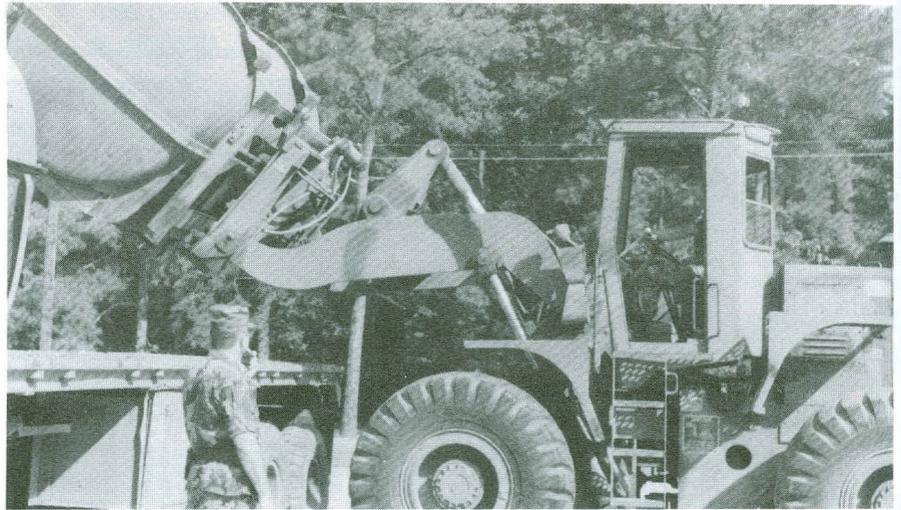
Most important is communication with equipment operators to ensure proper techniques for picking up or depositing a load and to ensure the safety of the operators, instructors, and student observers.



Students receive step-by-step instructions during the hands-on phase.

With no mishaps or injuries to date, the Storage Training Branch instructs 3,000 students per year logging thousands of driving hours. The branch's safety record speaks for itself and the importance of training MHE operators on safety. 

Frank R. Hartman is Chief of the Storage Training Branch, Supply and Professional Development Department, U.S. Army Quartermaster Center and School, Fort Lee, Virginia.

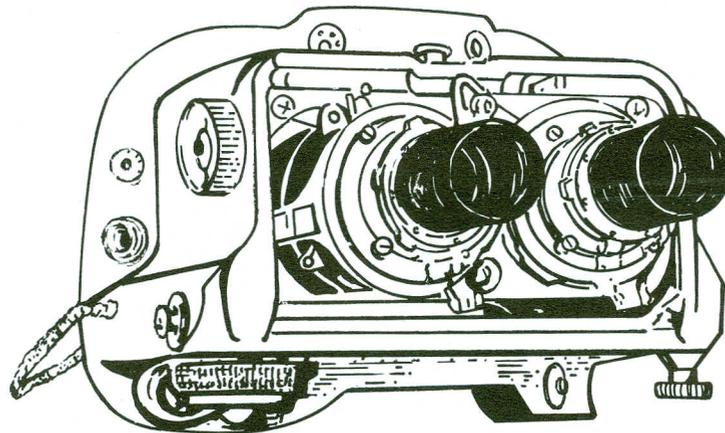


Students work under the watchful eyes of the instructors.

THINK SAFETY WHEN OPERATING NIGHT VISION DEVICES

LTC George C. Knapp, Jr. CPT Larry L. Starr, Jr.

We plan to own the night during the next battle, which means night vision devices (NVDs) are mission-essential combat equipment. In the Quartermaster Corps, the type of NVD used most often is the AN/PVS-5 (night vision goggles). The number of night vision goggles required in forward support battalions (FSBs) has increased dramatically. In the H series table of organization and equipment (TOE), the supply and transport (S&T) battalion of an armor division requirement was 117 AN/PVS-5s. In the J series TOE, the FSB of a heavy division requirement was 208 night vision goggles. In the current L series



TOE, the FSB of a heavy division requirement is 294 AN/PVS-5s. From the J to the L series TOE in the main support battalion, AN/PVS-5 requirements have risen from 198 to 302. According to the NVD project management office, over 86,000 NVDs (AN/PVS-5 and

AN/PVS-7) have been fielded. Initial fieldings were almost exclusively to combat units. However, now NVDs are being issued to combat service support units. Additionally, in FY 91 another 10,000 AN/PVS-7s will be produced and fielded. More and more Quartermaster soldiers must become trained on and familiar with the shortcomings of this equipment.

In the past, very few Quartermaster Army motor vehicle accidents were attributed to night vision devices primarily because of NVD equipment shortages. Current statistics are starting to indicate an upward trend in accidents involving AN/PVS-5s. Recently, in one heavy

**Specific
Conditions**

**Impact on
Night Vision Devices**

Countermeasures

**Less than 100%
illumination.**

**Less bright picture
Grainy picture.**

**Conduct detailed
daylight reconnaissance,
reduce convoy interval,
slow speed, and scan
screen by moving head
and eyes to increase visual
cues.**

Weather.

**Clouds, fog, rain, and
snow reduce clarity
and brightness of night
vision device picture.**

**Vary scanning techniques,
use overlapping sectors,
and vary between rapid
and slow scanning. Ensure
vehicle interior lights are
dimmed or off. Increase
crew coordination and
cross-talk (cannot be
overemphasized!).**

**Shadows due to
woods, holes, tank
wallows, and
drop-offs.**

**Depth perception
limited. Cannot tell
how deep holes are.**

**Conduct detailed daylight
reconnaissance, increase
crew coordination, slow
speed, and dismount
ground guide.**

**Best range for depth
perception is 20 - 500
feet.**

**Night vision devices
decrease depth
perception at
distances less than
20 feet or greater
than 500 feet.**

Gas masks worn.

**Increased distortion.
Vehicle and terrain
feature identification
difficult.**

**Conduct detailed daylight
reconnaissance, increase
crew coordination, slow
speed, increase eye
movement, and increase
crew coordination.**

**Field of view – 40 degrees
compared to 200 degrees
unaided.**

**Night vision device
in use.**

**Peripheral vision severely
reduced.**

**Practice disciplined
scanning and eye
movement. Increase crew
coordination.**

**Bright lights,
gun flashes.**

**Picture temporarily
washed out. Night
vision device may
temporarily shut off.**

**Slow down, anticipate and
look away from bright
lights; other crew
members be prepared to
help driver. Disciplined,
practiced crew
coordination cannot be
overemphasized.**

division, six soldiers were injured in two separate Army motor vehicle accidents during tactical vehicle operations using night vision devices. One accident occurred when the driver was blinded by an oncoming emergency vehicle with lights on. The other driver struck a berm constructed across a firebreak. He was driving too fast for conditions. These accidents often occur because soldiers fail to understand or recognize the limitations of NVDs. NVDs do not turn night into day. Although NVDs greatly enhance the ability to fight at night, they do have limits. (Refer to the chart listing some of the limiting conditions and proposed countermeasures.)

Soldiers who use night vision devices would know what a good view is. Most users accept whatever they see through the night vision device as a correct picture. However, it might not be. The best case of visual acuity for a driver with 20/20 vision is 20/50 (AN/PVS-5). To determine if it is the best view possible, use of a resolution chart is recommended.

Set up the resolution chart on a fence or wall somewhere in the motor pool or unit area with enough room to position a soldier 50 feet from the chart. If the white square pattern is clear and in focus, the system is good to use.

The driver is the key to safe vehicle operation using night vision devices. When drivers cannot see well enough to operate a vehicle, they should do the following:

- Tell the vehicle commander.

- Stop the vehicle.
 - Use ground guides.
 - Use a light source with the night vision devices or provide sufficient light, such as infrared or blackout drive, to operate the vehicle.
- Perform preventive maintenance, by the book, before and after each use. The user must make sure that:
- Equipment is free of dirt and grease.
 - Equipment is stowed properly when not in use.
 - Caps are in use on the cables and receptacles.
 - Batteries are removed during storage.
 - Protective cover is in place except during operation.
 - Each tube is inspected for faults.

The following unacceptable faults make driving with night vision devices unsafe:

- Shading. Both tubes should show a perfect circle. If shading is present, the wearer will not see a fully circular image.
- Edge glow. Edge glow is a bright area in the outer portion of the viewing area. To check for this defect, block out all light by cupping a hand over the lens. If the bright area is visible, turn in the night vision device to direct support (DS) maintenance.

- Bright spots/white dots. This condition is caused by a pinhole in the phosphorous screen. Spots may flicker or may appear constant. Check by cupping a hand over the lens to block out all light. If bright or

white spots appear, turn in the night vision device to DS maintenance.

- Flashing, flickering, or intermittent operation. The night vision device may appear to flicker on and off, or the output may flash. This can occur in one or both tubes. If the wearer sees more than one flicker, consult the troubleshooting chart in the operator's manual.

The following are acceptable faults for driving with night vision devices:

- Dark spots/black spots. Black marks which may look like spots or streaks are acceptable as long as the marks do not interfere with the mission.

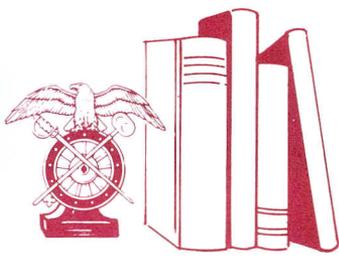
- Fixed pattern noise/honeycomb. A faint honeycomb pattern occurs most often in levels of high light. This condition is acceptable as long as the pattern does not interfere with the mission.

Proper use of night vision devices is a perishable skill. Soldiers cannot maintain proficiency unless they use night vision devices regularly. Proper training and use can increase mission capability without compromising safety.



LTC George C. Knapp, Jr. is the Director of the Office of Evaluation and Analysis, U.S. Army Quartermaster Center and School, Fort Lee, Virginia.

CPT Larry L. Starr, Jr., Quartermaster, is Chief of the Quartermaster Branch Safety Office, Office of Evaluation and Analysis, U.S. Army Quartermaster Center and School, Fort Lee, Virginia.



PROFESSIONAL READINGS

Supplying War: Logistics from Wallenstein to Patton

Martin Van Creveld, Cambridge University Press, New York, 1977

A classic text on logistics and its importance in war since the Middle Ages. Battles are examined from a logistics viewpoint. Supply is shown as the pivotal factor in historical victories and losses of armies worldwide.

Guns and Butter, Powder and Rice: U.S. Army Logistics in the Korean War

James A. Huston, Susquehanna University Press, Selinsgrove, PA, 1989

With the 40th anniversary of the beginning of the Korean War last June came a surge of works on the Korean Conflict. Huston's book is very well researched and provides reams of information on the logistic support of the war. This is sure to become a reference shelf "must." One leaves this book with an appreciation for the challenges facing modern logisticians, as well as the cost of unpreparedness.

Challenge of Command

Roger H. Nye, Avery Publishing Group Inc., Wayne, NJ, 1986

For those in command or preparing for it, Colonel Nye has written the perfect primer. Many sources offer the "how to" of being a commander, but Colonel Nye looks at the underpinnings of a successful command. In this brief and insightful book, he views the commander from several vantage points: as moral arbiter, as tactician, warrior, strategist and mentor.

A reading list is offered at the end of each chapter to encourage further study.

Lee's Lieutenants: A Study In Command (3 volumes)

Douglas Southall Freeman, Charles Scribner's Sons, New York, 1942

The classic study of command during the Civil War, these volumes chronicle the service of officers in General Robert E. Lee's Army of Northern Virginia. This definitive study of leadership may be the most detailed look at the actions within the Confederate Army ever written. These volumes are another "must read" for the military-minded.

A General's Life

Omar N. Bradley, Simon and Schuster, New York, 1983

An autobiography worth reading, General Bradley chronicles his life and career. Along the way he offers his views on other notables of World War II. Fans of General Patton may be disappointed by Bradley's comments.

On Strategy: A Critical Analysis of the Vietnam War

Harry G. Summers, Jr., Dell Publishing, New York, 1982

If there were only one book to read on why we failed in Vietnam, this should be it.

Using Peter Paret's very readable translation of Clausewitz' **On War** as a baseline, Colonel Summers analyzes our experience and failures in Vietnam. Concise and extremely well-written, this book serves well as a stand-alone study of the war or as a complement to more serious study.

Team Yankee and Sword Point

Harold Coyle, Berkley Books, New York, 1987 and 1988

Although fiction, these two novels offer some valuable insight into modern mechanized combat. In **Team Yankee** Major Coyle, an Armor officer, provides a realistic look into the lives of tankers and mechanized infantrymen in Europe during the opening stages of World War III. **Sword Point** offers a Middle Eastern scenario. Both of these novels read extremely well and provide some background to those unfamiliar with heavy force operations.

TRAINING AND DOCTRINE

FY 91 QUARTERMASTER RESERVE COMPONENT OFFICER ADVANCED COURSE

The FY 91 resident phase schedule of the Quartermaster Reserve Component Officer Advanced Course follows:

Phase	Dates	Phase	Dates
I	9-23 Mar 91	III	2-14 Jun 91
I	20 Apr-4 May 91	III	20 Jul-2 Aug 91
I	17-31 Aug 91		

For further information, phone MAJ Joosse or Mr. Clemons at DSN 687-5167/5452 or Commercial (804) 734-5167/5452.

AIRBORNE AND FIELD SERVICES

AIRDROP RIGGING MANUALS

Listed below are airdrop rigging manuals that have recently been published in either interim or final form.

- FM 10-500-2 Rigging Airdrop Platforms (final)
- C1, FM 10-515 Rigging Armored Reconnaissance Airborne Vehicle (final)
- C2, FM 10-523 Rigging Air Force Communication Control Vehicle (interim)
- C2, FM 10-527 Rigging 155-mm Howitzers (interim)

RIGGER EVENTS

The Rigger Ball and the Quarterly Malfunction Review Board are postponed until further notice.

ARMY CENTER OF EXCELLENCE, SUBSISTENCE

FIELD TRAINING EVENTS

Both military occupational speciality (MOS) 76X (Subsistence Supply Specialist) and 94B (Food Service Specialist) field training changed 9 Oct 90 at Fort Lee, VA. A multi-echelon training exercise (METX) now integrates the field training of Quartermaster Officer Basic Course, Advanced Noncommissioned Officer Course (ANCOC), Basic Noncommissioned Officer Course (BNCOC), and advanced individual training (AIT) classes. The 76X field training lengthened from three days to five days and four nights. The 94B field training for BNCOC and ANCOC lengthened to five days and four nights, the same as the AIT field training. The METX provides realistic training and reinforces the common and technical training previously taught.

U.S. ARMY RESERVE SPECIALLY CONFIGURED PACKAGES

The U.S. Army Reserve Component specially configured packages (SCPs) for MOS 94B (Food Service Specialist) and 76X (Subsistence Supply Specialist) at the 10, 30, and 40 skill levels will be revised under civilian contract during FY 91. The revised SCPs will be available 1st Quarter FY 92.

BASIC DAILY FOOD ALLOWANCE

Beginning 1 Oct 90, the basic daily food allowance (BDFA) includes a 10.5 percent increase in the surcharge which covers overhead costs in the Defense Logistics Agency. This results in average BDFAs in excess of \$4.00 per soldier per day for Active Army and in excess of \$4.50 per soldier per day for U.S. Army Reserve Component soldiers. Requisitions submitted before 30 Sep 90, but processed after 1 Oct 90 still receive the additional surcharge.

GRAVES REGISTRATION

VIRGINIA STATE MEDICAL EXAMINER'S OFFICE SUPPORTS GRREG TRAINING

The Graves Registration (GRREG) soldiers have a difficult and what is considered by many an undesirable job. The soldiers must deal with remains from war and peacetime tragedies. The goal of the Graves Registration Center at Fort Lee, VA, is to prepare soldiers to perform these important duties.

Due to the excellent relationship between the civilian and military community and also the support of the Virginia State Medical Examiner's Office, the Graves Registration Center can provide realistic training. Each student enrolled in the 57F (Graves Registration Specialist) advanced individual training (AIT), Basic Noncommissioned Officer Course (BNCO), Advanced Noncommissioned Officer Course (ANCO), and the Graves Registration Officer's Course has an opportunity to experience the handling of deceased personnel. Students fingerprint and prepare anatomical and dental charts. This provides an opportunity to employ all of the senses during the training program because the soldiers are able to see, feel, and smell remains. This is very similar to what the soldier will experience handling remains during war and peacetime tragedies.

During this process, students have an opportunity to look deep within themselves to see if 57F is really the military occupational speciality (MOS) for them. Simultaneously, the instructor can assess and evaluate the student and the student's potential for the skills and knowledges required GRREG work. This results in career adjustments early during a soldier's career.

DIVISION GRREG NONCOMMISSIONED OFFICERS

The division Graves Registration (GRREG) noncommissioned officers (NCOs) perform a key role in providing GRREG support. Each division may have up to four GRREG NCOs within the forward support battalion (FSB) and the main support battalion (MSB). The support provided by the GRREG NCO ranges from cross training personnel in the FSB, MSB, and the brigade to operating a collection point.

Neither the FSB nor the MSB include equipment assets to operate a GRREG collection point. This function is performed by the supply and service (S&S) company of the MSB augmented by a GRREG platoon which is COMPO 4 (required but not resourced). However, the GRREG NCO is normally assigned the duty of running the collection point until the GRREG augmentation arrives.

Department of the Army (DA) Pamphlet 10-2-C002 (Perform Unit Graves Registration (GRREG) Functions (Non-GRREG Personnel)) Training Support Package (TSP) is an excellent resource which outlines the procedures for non-GRREG NCOs in handling of deceased personnel. For this pamphlet, write to the U.S. Army Quartermaster Center and School, ATTN: ATSM-GR, Fort Lee, VA 23801-5033.

WINNER

**Army Reserve 1990
MTOE Battalion**

1st Battalion, 158th Aviation Regiment
Grand Prairie, TX
(Fifth Army)

**Army National Guard 1990
MTOE Company**

1022d Medical Detachment
Cheyenne, WY
(Wyoming National Guard)

**Army National Guard 1990
MTOE Battalion**

2d Battalion,
20th Special Forces Group
Jackson, MS
(Mississippi National Guard)

**Army National Guard 1990
TDA Company**

HQ Detachment,
State Area Command
Richmond, VA
(Virginia National Guard)

RUNNER-UP

**Army Reserve 1990
MTOE Battalion**

854th Engineer Battalion
Combat Heavy
Newburgh, NY
(First Army)

**Army National Guard 1990
MTOE Company**

257th Military Police Company
Cottage, MN
(Minnesota National Guard)

**Army National Guard 1990
MTOE Battalion**

1st Battalion,
115th Field Artillery
Winchester, TN
(Tennessee National Guard)

**Army National Guard
TDA Company**

HQ Detachment,
State Area Command
Charleston, WV
(West Virginia
National Guard)

THE FORCE ALIGNMENT AND BRANCH DETAIL PROGRAMS: ROUNDING OUT THE CORPS

CPT Richard J. Behrens

One out of every four Quartermaster officers in the rank of captain and below came from a different branch. How do these officers fit into Quartermaster Branch, and where do they come from? Twenty-seven percent come from voluntary branch

transfers through the Officer's Assignment Preference Statement (DA Form 483). The remaining 73 percent come to the Corps through the Force Alignment Program (FAP III) and the Branch Detail (BD) program. (See Figure 1. One-Fourth

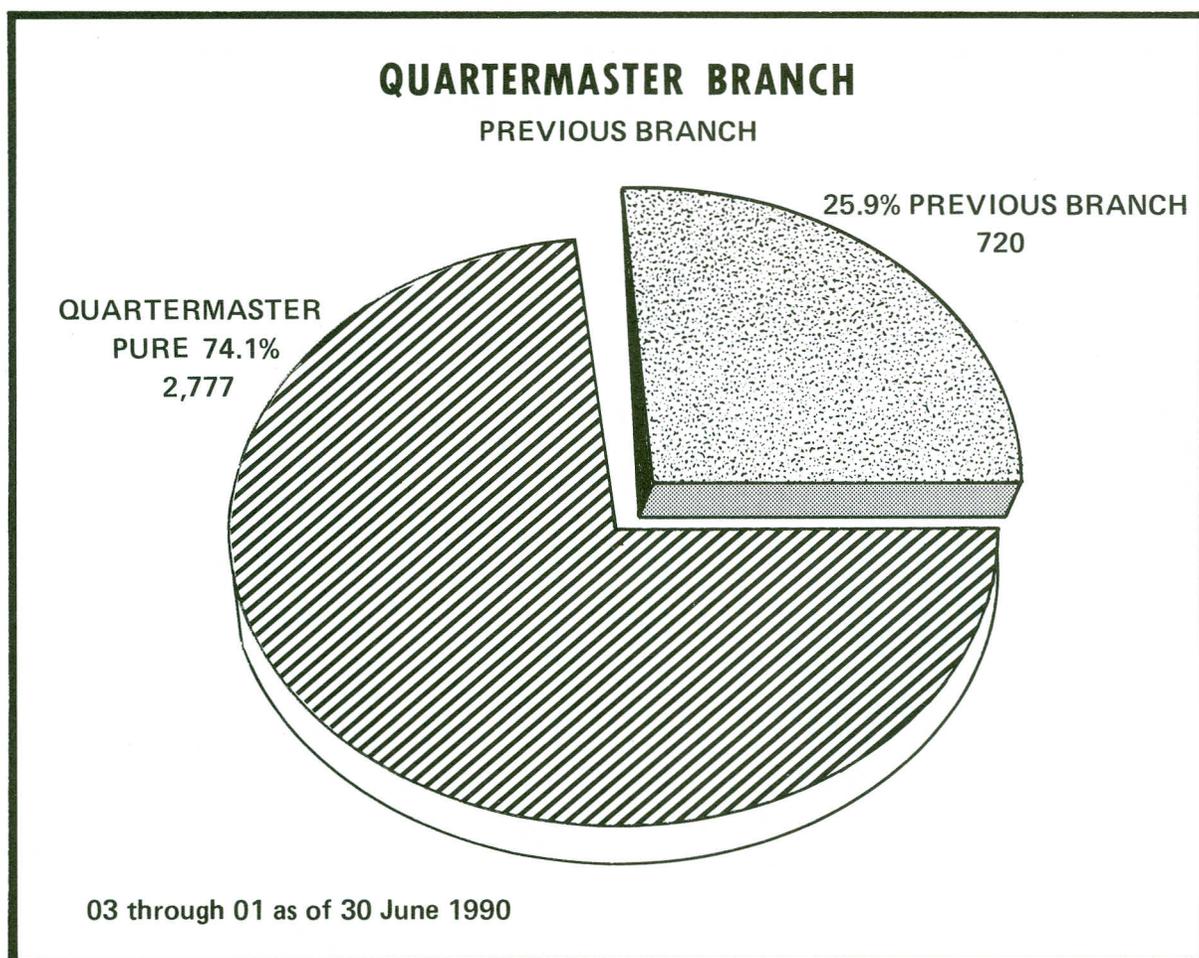


Figure 1. One-Fourth of All Quartermaster Officers
Come From Another Branch

CAREER NOTES

of All Quartermaster Officers Come From Another Branch and Figure 2. Breakdown of Company Grade Officers Coming to Quartermaster Branch.)

FAP III was approved by the Chief of Staff of the Army in March 1984. It is a realignment program to meet authorization structures that vary significantly between branches. The combat arms branches have many lieutenants to fill combat platoon leader slots. These lieutenants grow to become captains with fewer captain slots available. The opposite is true in the combat services/combat service support (CS/CSS) branches. The CS/CSS branches have a small lieutenant base, yet have a large requirement for captains and above (Figure 3. Difference in Officer Requirements Between Combat Arms and Combat Support/Combat Service Support). The solution is to take the excess lieutenants in the combat arms

branches just before they make captain and transfer them to the CS/CSS branches where they are needed. The FAP III program does this.

FAP III coincides with the Conditional Voluntary Indefinite (CVI) process. The CVI process is mandatory for Other Than Regular Army (OTRA) officers who desire to remain on active duty past their initial term. Application for CVI occurs between 24 and 27 months of active federal commissioned service. Included with the application is a statement from the officer that the officer understands the requirement to accept rebranching in a branch corresponding to the Army's needs, in exchange for continued active duty. During the CVI process the officer lists three understrengthened branch preferences should a mandatory branch transfer become necessary.

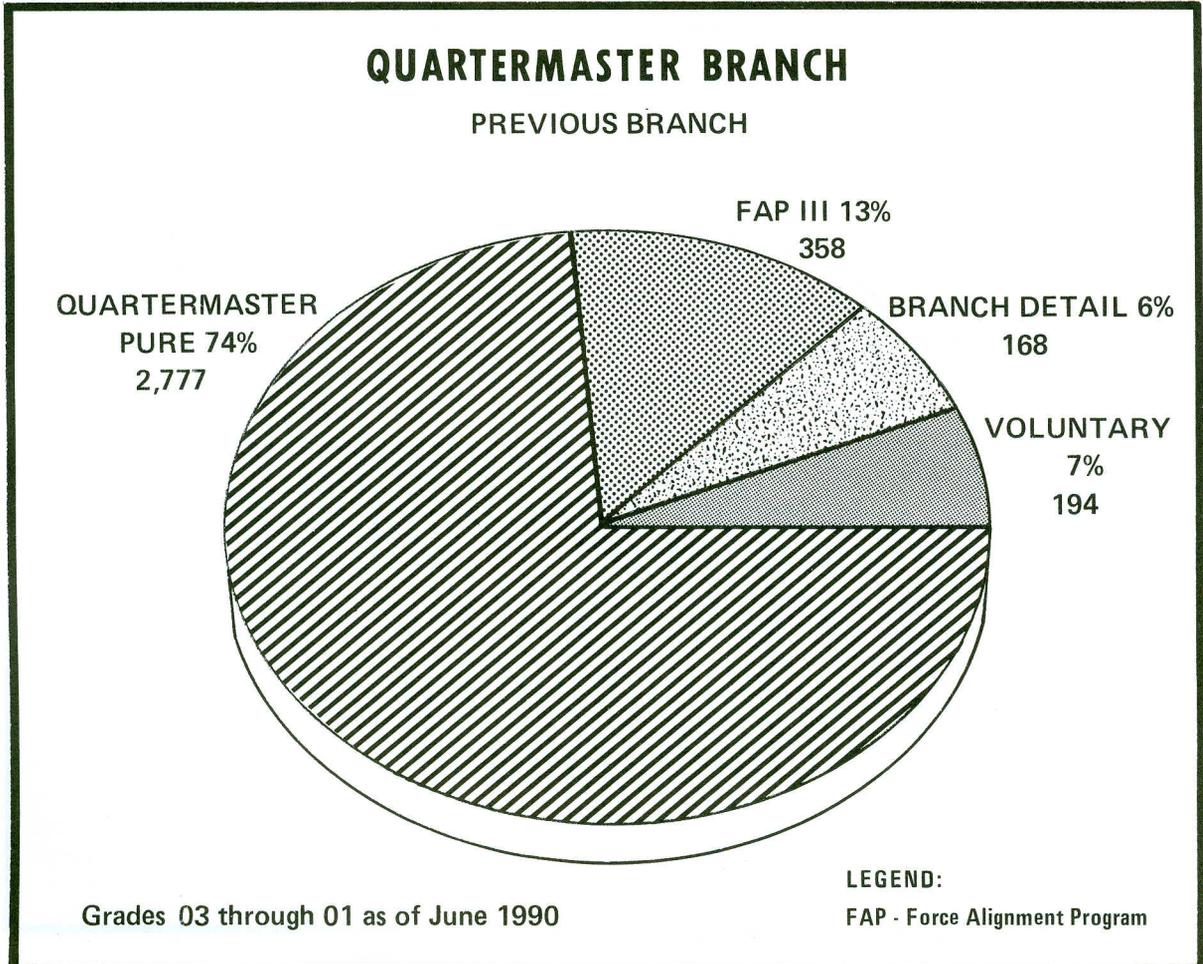


Figure 2. Breakdown of Company Grade Officers Coming to Quartermaster Branch.

CAREER NOTES

An officer, before eligible for a branch transfer, must be accepted into CVI status.

Realignment requirements depend upon retention rates, authorizations, year group size, and the projected inventory alignment of each branch. Using Department of the Army planning guidance, the year group inventory is projected by branch to the captain promotion point. The branch's projected inventory is compared to a target inventory needed to fill captain requirements. Currently, overstrength branches are Infantry, Armor, Air Defense Artillery, and Field Artillery. Shortage branches include Quartermaster, Transportation, Ordnance, Signal, and Military Intelligence.

The realignment board includes proponent representatives from the overstrength and under-

strength branches. During rebranching, the board designates a proportional number of officers ranked in the top, middle, and lower thirds of the applicant CVI list for transfer from overstrength to shortage branches. Quartermaster proponent board members consider each officer's preference, performance, and education in the rebranching decision.

The branch transfer becomes effective when an officer is promoted to captain or 180 days after approval of the board's recommendation, whichever is later. Upon notification of force alignment to the Quartermaster Branch, the officer should inform the chain of command and look to improve his logistical background with a logistics-related job while waiting to attend the Quartermaster Officer Advanced Course. The officer's

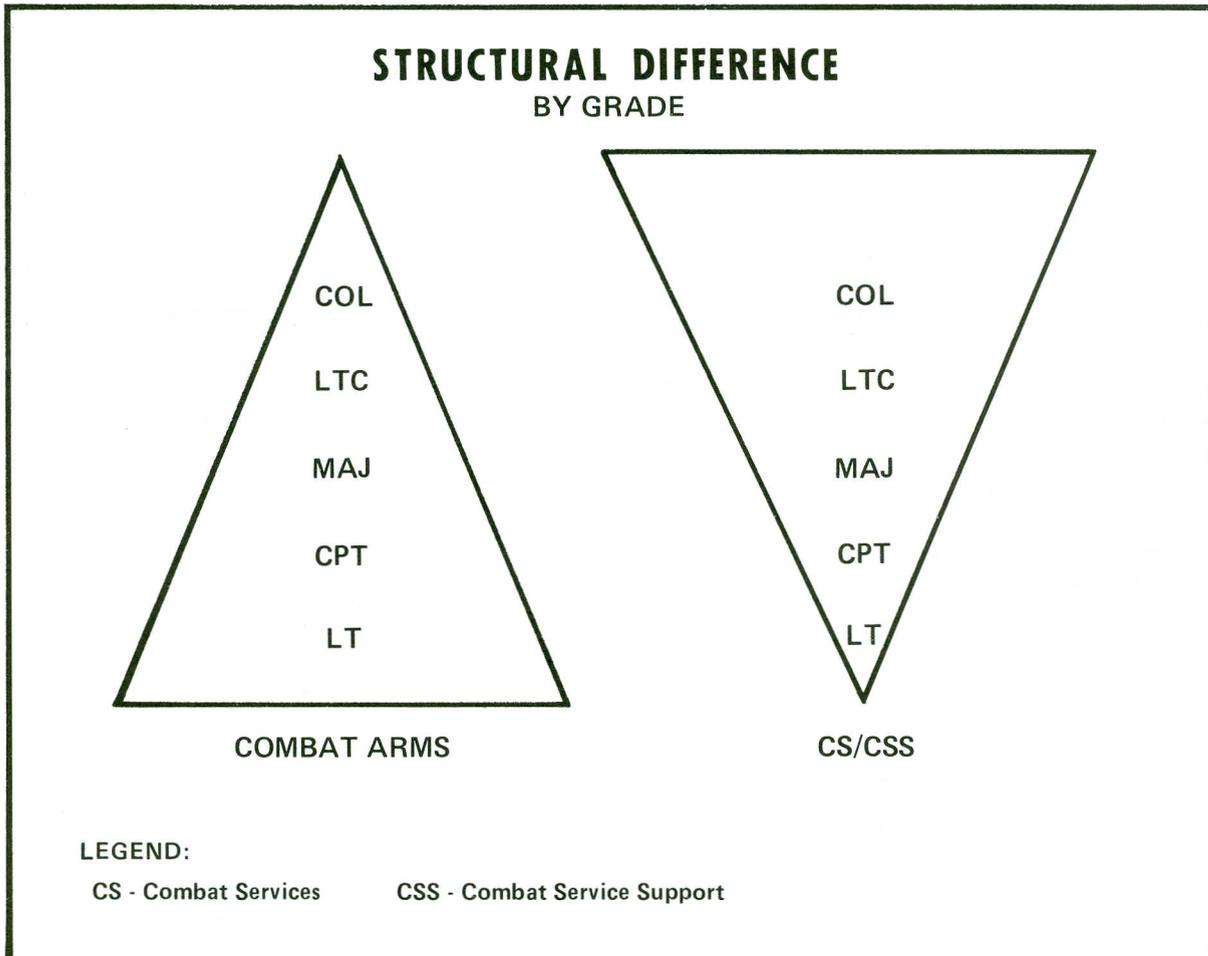


Figure 3. Difference in Officer Requirements Between Combat Arms and Combat Support/Combat Service Support.

**CAREER
NOTES**

chain of command should assist the soon-to-be Quartermaster Officer in placement in a logistical environment. Positions such as support platoon leader, assistant S4 (Supply Officer), or work within a division support command are desirable. The officer should also consider taking the Quartermaster Officer Basic Course through correspondence. Once the insignia of the Quartermaster is pinned on a new captain, all who see the Quartermaster emblem will look to the captain for logistical expertise.

This new Quartermaster Officer brings the combat arms perspective to the Corps and a rich background of experience. The 27 percent of previously branched Quartermaster Officers within the Corps help the Army's premier logistical branch continue its proud heritage. These officers provide a depth of understanding within the branch and help create an expertise that crosses all branches. From the findings of a survey of 63 FAP III officers, some distinct conclusions can be made. The reception of FAP III officers into the Quartermaster Corps as a whole has been outstanding. The FAP III officer stands out and, thus, is given more attention. Battalion and brigade commanders of combat support and combat service support units Armywide appear to be welcoming these combat arms transferees, expecting a disciplined, experienced leader. The Quartermaster Corps itself welcomes the FAP III officer for combat arms experience. The attitude in the command sector appears to be "send us more FAP III officers."

Currently, a host of high-ranking CSS officers began their careers in the Combat Arms. The tradition of welcoming FAP III officers is a long and continuing one. Also, from a review of records and discussions with the U.S. Total Army Personnel Command, it can be asserted that previous branch personnel within the Quartermaster Branch have done well.

The FAP III officer was restricted with location in assignment preference in the previous branch. This is especially true with officers formerly in the Armor Branch because locations with tanks are limited. The Quartermaster Branch is diverse and has locations worldwide. Along with assignments, the Quartermaster branch has success in obtaining commands for FAP III officers. The fact that the FAP III officer understands both the world of combat arms as well as the world of logistics helps the FAP

III Quartermaster Officer find a command. In regard to promotions, historical records show that previous branch officers do well. The bottom line, though, is not where the officer comes from but on-the-job performance.

In November 1986, the Deputy Chief of Staff for Personnel approved a Branch Detail Program. This program began in 1987 and will replace FAP III by 1991. Figure 2 and Figure 4 (Force Alignment Program III/Branch Detail Program Fill Quartermaster Slots) show how many officers have been branch transferred by both the FAP III and BD programs. BD accomplishes the same as FAP III in easing the force structure imbalance in the CS/CSS branches. However, the BD process takes place before the commissioning and eliminates the uncertainty and consternation of a forced branch transfer.

During the commissioning process, identified OTRA officers are commissioned into a branch with a detail. (Regular Army officers may volunteer for detail, and they currently fill over 50 percent of the detail requirements.) The officers attend the detail branch Officer Basic Course, wear detail branch insignia, are controlled by the detail branch, and are combat arms officers until promotion to captain. Upon selection for promotion to captain, the officer reverts to Quartermaster Branch control and is scheduled for the Quartermaster Officer Advanced Course.

During the time when the detail officer is serving in the combat arms, the officer should not seek logistical jobs. The officer should cherish this time as an opportunity to be a combat arms officer and learn to excel in combat arms positions. The officer should try to be a platoon leader and then an executive officer and, above all else, be a combat arms officer. During the officer's last year before attending the advanced course, the officer can seek placement in a logistical environment just as the FAP III officer does once notified of impending transfer. To seek the Quartermaster jobs during the first three years would be to waste the valuable time the officer has within the combat arms. For officers who have the opportunity to be detailed, they have the best of both worlds. Their outlook on the total Army system will be whole. Their firsthand experience in the combat arms arena will serve them well throughout their military careers. This soldier, coupling combat arms experience with logistical expertise, will be

CAREER NOTES

a valuable asset in the Airland Battlefield of tomorrow. This soldier will know the availability and proper functioning of materiel, resources, and systems to maintain and sustain operations on a fluid, destructive, and resource-hungry battlefield.

After completing the advanced course, the FAP III and BD officer, along with the pure Quartermaster Officer, will aggressively seek company command to enhance professional development and complement this with staff experience.

Regarding promotions, assignments, and treatment, the officer who has come from another

branch will be on equal footing with the officer who has always been with the Quartermaster Branch. Both types of officers will be evaluated not from where they came from, but on their performance.

CPT Richard J. Behrens is a graduate of the Quartermaster Advanced Course at Fort Lee, Virginia. He was realigned from Armor Branch by Force Alignment Program III. Previously, he served as Commander, Headquarters and Headquarters Company, Division Support Command, 2d Armored Division, Fort Hood, Texas.

QUARTERMASTER CORPS

FAP III

FY86 (YG 82) 7 OFFICERS

FY87 (YG 83) 33 OFFICERS

FY88 (YG 84) 176 OFFICERS

FY89 (YG 85) 142 OFFICERS

BRANCH DETAIL

FY88 (YG 84) 60 OFFICERS

FY89 (YG 85) 108 OFFICERS

LEGEND:

FAP III - Force Alignment Program

YG - Year Group

FY - Fiscal Year

Figure 4. Force Alignment Program III/Branch Detail Program
Fill Quartermaster Slots.

**CAREER
NOTES**

UPDATES FROM THE U.S. TOTAL ARMY PERSONNEL COMMAND (PERSCOM)

Chief's Update

QUARTERMASTER OFFICER BRANCH

LTC James Colvin

We have had an almost complete turnover of personnel here at the Quartermaster Branch in the past few months. As the new Branch Chief, I look forward to the challenges ahead, especially serving you - the customer. As it stands now, your new Quartermaster Branch team should remain intact for at least the next 12 months. Striving to balance the needs of the Army with the needs and professional development of the individual officers and their families is what we are all about.

Although only here a short time, I have had the opportunity to observe several selection boards. The composition of each board is different and selection guidance to the board may vary, but there is always a common theme among the critical items in your board file. Those items are your official photograph, your Officer Record Brief (ORB), and your microfiche containing your efficiency reports and other data. Since we all would like to advance in our careers, an understanding of how board members view each of these items would be very valuable information. In the future, I will discuss each of these items in detail. This time: the official photograph.

Your picture is normally the first thing a board member will see when opening your board file. Needless to say, initial impressions are extremely important. For purposes of simplicity, let me break this down into three areas: actions you can take before the photography session, during the photography session, and upon receipt of your photograph.

First, actions before your photography session should be planned backwards. That is to say that you should know if your previous photograph is current (every five years) and when you will be considered by the next selection board. Even though your photograph may be current according to the regulation, the more current it is, the more favorable impression it is likely to have on the board member.

Assume that you will be considered by a selection board in six months and you need a new photograph. Contact your servicing photography laboratory to determine waiting times for appointments and developing times after the photograph is taken. Backward planning starts now. Make the appointment and get started.

CAREER NOTES

Pull out your Class A uniform to make sure the "greens" fit properly. Have your chain of command look at you in your uniform for such details as fit, trouser length, and sleeve length. Make sure of any necessary alterations, and then have the uniform cleaned and pressed. Awards and decorations that you wear should be documented on your microfiche. Wear Quartermaster brass, not general staff or aide-de-camp brass. Finally, a day or two before your photography session, make sure your hair and mustache, if applicable, are well within established standards. Borderline hair length will turn off board members. I would not have my picture taken with a mustache. Even through mustaches are authorized, some board members do not like them. Now, on to your appointment.

The best advice for your photography session is to take a buddy with you to critique your appearance. Some photography laboratories may not give the attention to detail we deserve. If possible, take your uniform to the session and change into it there. If necessary, carry tape and clips to take out the folds and creases in your uniform. Do not wear your rings and watch because they tend to distract from the photograph. Finally, be sure to

stand in the proper position of attention. You would be amazed to see how some soldiers add their own interpretation to FM 22-5 (Drill and Ceremonies). Now, you look good, the picture is taken, and you are awaiting the results.

There are only two things to do now that you have your photograph. First, make sure that your photograph is "suitable for framing." Ask your chain of command to critique your photograph and help you determine if it is ready to forward. Remember, the general philosophy among board members is that if you look fat, you are fat. Finally, assuming your photograph is good to go, provide a copy to your military personnel office (MILPO) and also mail a copy directly to your assignment officer. In closing, I hope this provides some insight into your official photograph. We are here to help you. Please give us a call at DSN 221-8119/8123.

LTC James Colvin has been Chief of the Quartermaster Branch at the U.S. Total Army Personnel Command, Alexandria, Virginia, since March 1990. His previous assignments include battalion command in Sinai, Egypt, and numerous other command and staff positions.

Quartermaster Branch

FUTURE READINESS OFFICER

MAJ Dean G. Delis

As currently organized, a separate Professional Development Branch no longer exists in the Combat Service Support Division, Officer Personnel Management Directorate, U.S. Total Army Personnel Command (PERSCOM), Alexandria, VA. However, each branch now has a Future Readiness Officer responsible for several professional development programs such as Advanced Civil Schooling (ACS), Training With Industry (TWI), United States Military Academy instructors, the Logistics Executive Development Course (LEDC) alone or with the Florida Institute of Technology (LEDC/FIT), and the Army Acquisition Corps (AAC).

All of these programs are nominative. Typically, this means interested officers need an under-

graduate grade point average of 2.8 or above, appropriate Graduate Record Examination (GRE) or Graduate Management Aptitude Test (GMAT) scores for acceptance into graduate programs (ACS and, on a case by case basis, LEDC/FIT), and an extremely strong performance record. Thus, the most qualified officers available are selected based on the Army's needs.

The application process for most of the professional development programs is covered in AR 621-1 (Training of Military Personnel at Civilian Institutions). Officers should submit applications for professional development programs to Quartermaster Branch no later than 1 October of each year for training which starts the following August/September. Requests for the AAC should

CAREER NOTES

arrive at branch by September annually. The best time to apply for professional development training is after branch qualification and when eligible for a permanent change of station move.

The Quartermaster Branch receives many questions about the Army Acquisition Corps. In January 1990, the Secretary of the Army announced the creation of the Army Acquisition Corps. The AAC's objective is to develop highly trained military and civilian acquisition experts to perform duties in critical acquisition management positions. Officers are selected for the AAC based on military performance, technical background, and academic records by PERSCOM Army Acquisition Boards (PAABs).

Quartermaster Officers are accessed into functional areas 51 (Research, Development and Analysis), 53 (Systems Automation), and 97 (Contracting and Industrial Management). It is not mandatory to hold one of these functional areas before application for the AAC, but it helps.

Generally, officers who enter the AAC will have limited opportunity for duty assignments in

their basic branches. Of particular note, beginning with the FY 91 Lieutenant Colonel (LTC) Command/Product Manager boards and the FY 92 Colonel (COL) Command/Project Manager boards, AAC officers will only be eligible for Product (LTC)/Project (COL) Manager selection. Therefore, an officer who enters the AAC will not be considered for battalion/brigade command.

Entering the AAC is a big career decision. Weigh the alternatives and make the right decision based on career plans and aspirations. Talk with your chain of command. To request accession into the AAC, send a memorandum to Quartermaster Branch stating your desires and identifying the functional areas that you want the board to consider.

MAJ Dean G. Delis is the Future Readiness Officer at the U.S. Total Army Personnel Command, Alexandria, Virginia. He is a graduate of Command and General Staff College at Fort Leavenworth, Kansas.

Majors

COMMAND AND STAFF COLLEGE OPTIONS

MAJ John Angevine

For Army majors, preparation for attendance and completion of Command and General Staff College (CGSC) must begin early. Effective 1 October 1990, year group 1979 officers and later must have completed Combined Arms and Services Staff School (CAS3) before attending resident CGSC.

It is critical that every officer complete Military Education Level-4 (MEL-4) training before entering the primary zone for lieutenant colonel (LTC). There is little chance of being selected for LTC without being a MEL-4. The following are the three methods available for obtaining MEL-4 credit:

- **Resident Attendance:** Officers are selected for the resident course by a Department of Army Selection Board. The *Quartermaster Professional Development Guide* details the selection process. The majority of officers who are selected attend one of the sister service colleges (Navy, Marine, or Air Force Command and Staff Colleges). Additionally, one Quartermaster Officer is selected each year to attend the School of the Americas, Fort Benning, GA. This officer must be able to read, speak, and write Spanish with a level-two proficiency. The Armed Forces Staff College is no longer a MEL-4 producing school.

CAREER NOTES

- Reserve Course: U.S. Army Reserve schools conduct CGSC classes at over 350 locations around the world in cooperation with the School of Corresponding Studies. Classes are conducted in small groups of 15-20 students per instructor. Its great advantage is the interaction and information shared between students.
- Correspondence: The correspondence course is divided into six phases. Each phase is composed of several subcourses. The course must be completed within 48 months. It can easily be completed in 24 months. The great advantage of the correspondence course is that you can make the course fit your schedule and time constraints.

It is important to plan well in advance to allow sufficient time to complete CGSC before the

Captains

FOLLOW ON ASSIGNMENTS

CPT Rhonda Jakubik-Workman

Follow on assignments for "branch qualified" officers generate many questions. Number one, you may ask: "How do I know if I am branch qualified?" If you have successfully commanded and completed Combined Arms and Services Staff School (CAS3), Fort Leavenworth, KS, in residence, then you are branch qualified as a company grade officer. Number two, you may ask: "Is there life after company command?" Yes, but other requirements make it unlikely that you will be able to go back to a troop unit.

The Quartermaster Branch, as do many of the other branches, has a high "bill" to pay to the 01A (Branch Immaterial), 03A (Logistics Immaterial) and functional area accounts...in plain English that means the three Rs: Readiness Group, Reserve Officer Training Corps (ROTC), and Recruiting Commands. Recruiting commands are the most frequent jobs that we have to fill which require branch number. Readiness Group and ROTC requisitions do not come in great numbers, but we also get requirements for them. Very few people go to Advanced Civil Schooling, Training With Industry or as instructors at the United States Military Academy at West Point, NY, because we get limited requirements each year for those areas.

primary zone for LTC. If you do not believe you will be selected for resident attendance, I strongly recommend enrolling in the correspondence course as early as possible. As competition grows for the tough jobs, completion of MEL-4 training takes on a greater significance.

MAJ John Angevine is the Majors' Assignment Officer of the U.S. Total Army Personnel Command, Alexandria, Virginia. He is a graduate of the Command and General Staff College at Fort Leavenworth, Kansas, and has held numerous staff positions including division support command (DISCOM) S4 (Supply Officer) and battalion S3 (Operations and Training Officer).

One program of which you may not be aware is the personnel exchange program which is a nominated position in an overseas location. There are, however, only a limited number of positions. We have two positions at the company grade level. They are both in Australia. One is for a 92B (Supply and Materiel Management) and the other for a 92D (Aerial Delivery and Materiel). They come open every two years, and we have already projected replacements for 1991. The next time these positions will open is in 1992 with a report date in 1993. We nominate the year before exchange positions become open.

We frequently get requirements for Spanish speakers, so if you have a language proficiency, please ensure that you have it noted on your Officer Record Brief (ORB).

Is there a best time to call and find out about assignments? Yes, an understanding of our assignment process will help you know when to call. We get all of our requirements in cycles. Overseas requirements are known approximately eight to nine months before the requested report month. Continental United States (CONUS) requirements are known approximately six months before the requested report month. For example, if you are

CAREER NOTES

interested in a CONUS tour with a June 1991 report month, then you should call around December 1990 or January 1991. If you are interested in an overseas tour with a June 1991 report date, then you should call around September/October of 1990. Again, for you branch qualified officers, one of the three "Rs" will be our priority of fill, with the greatest number in recruiting command. One important note is that we cannot send promotion risks to the U.S. Army Recruiting Command (USAREC), so only top files will go. The company commands are for 30 months and the staff officer jobs are for 48 months as with any normal CONUS tour.

Make sure you tell me if you have an exceptional problem or compassionate reason for not going to a particular assignment. Please tell me up front, not

afterwards. It will help me to help you. Not liking the weather or location does not qualify for exceptional or compassionate reasons. Our job is to assign the right officer to the right job at the right time. However, we will do our best to match officers needs to Army requirements.

CPT Rhonda Jakubik-Workman is the Captains' Assignment Officer at the U.S. Total Army Personnel Command, Alexandria, Virginia. Her previous assignments include Company Commander, Headquarters and Headquarters Company, 23rd Quartermaster Brigade, and Instructor at the U.S. Army Quartermaster Center and School, Fort Lee, Virginia.

Lieutenants

CONDITIONAL VOLUNTARY INDEFINITE (CVI) PROCESS

CPT Eugene Reeves

Recent changes in the Conditional Voluntary Indefinite (CVI) selection process require all lieutenants, Regular Army (RA) and other than Regular Army (OTRA), to compete in the CVI Selection/RA Probationary Board. The CVI Board decides the officers best qualified to remain on active duty, regardless of branch. This criteria makes all early, documented Academic Evaluation Reports (AERs) and Officer Evaluation Reports (OERs) critical to retention selection. Since lieutenants normally have one to three OERs when they are considered, each OER takes on greater importance. A "complete the record" OER can mean the difference between selection and nonselection. The next CVI Board is currently scheduled for February 1991. All officers in the zone of CVI consideration will be automatically extended on active duty past their obligated volunteer (OBV) date, to 31 July 1991, in order to receive board consideration.

After selection for retention by the CVI Board, the officer must sign a memorandum stating acceptance of CVI status and forward it to the U.S. Total Army Personnel Command (PERSCOM),

Alexandria, VA, through the Military Personnel Office (MILPO). Next the officer must prepare for the September 91 captains' board. Being selected for retention does not automatically mean selection for promotion to captain. This board is also conducted using the "best qualified" process but is a tougher cut than CVI. The "best qualified" process used by board members involves the close review of a lieutenant's official photograph, performance microfiche, physical fitness, and Officer Record Brief.

Officers with questions about CVI Boards should phone PERSCOM at DSN 221-8119/8123.

CPT Eugene Reeves is the Lieutenant's Assignments Officer at the U.S. Total Army Personnel Command, Alexandria, Virginia. His previous assignments include Commander, Headquarters and Headquarters Troop, Combat Support Squadron, 11th Armored Cavalry Regiment (ACR) and Regimental Property Book Officer, 11th ACR, Fulda, Germany.

SUBMISSION GUIDELINES FOR QUARTERMASTER PROFESSIONAL BULLETIN

TO ASSIST YOU IN PLANNING YOUR ARTICLES, WE OFFER THE FOLLOWING GUIDELINES:

- Submit articles in the form of typewritten, double-spaced drafts, consisting of no more than 10 pages to :

**COMMANDER
U.S. ARMY QUARTERMASTER CENTER AND SCHOOL
ATTN: ATSM-QMG-B (MILITARY EDITOR, QMPB)
FORT LEE, VA 23801-5032**

- Ensure that all articles relate to and support the mission of the Quartermaster Corps. Articles should address technological developments, tactics, techniques and procedures, "how to," practical exercises, training methods, historical perspectives, and viewpoints.
- Per TRADOC guidance, the *Quartermaster Professional Bulletin (QMPB)* cannot publish personal notices (to include routine notices of promotions, assignments, and graduations); personality oriented articles (except for those with historical significance); and routine news items.
- The target audience for the *QMPB* is Corps-wide. It includes junior enlisted soldiers, noncommissioned officers, warrant officers, commissioned officers and DA civilians within the Quartermaster Corps. The reading level of articles submitted should reflect this. (The editorial staff will provide you with assistance if you have any questions).
- If graphics are desired to support your article, please let the staff of the *QMPB* know in advance of submission. They will then have the time to develop the artwork, allowing you to review it for accuracy before the final camera-ready mechanicals are sent to the printer.
- When submitting photos or art, please provide clear, original prints or negatives whenever possible. Black and white photos are preferred. All photos and artwork will be kept on file at this office unless otherwise requested.
- When preparing your articles, please recall that the *QMPB* is more interested in content than in style. Our staff is here to help you during the writing process, if you need it, and is responsible for editing your submissions for grammar, syntax, and format. Our basic requirement from you is information.
- POCs for the *Quartermaster Professional Bulletin* are CPT Michael P. Gilroy, Linda B. Kines, and Judy A. Charlotte, DSN 687-4382/4741, Commercial (804) 734 - 4741/4382.

The *Quartermaster Professional Bulletin* welcomes submissions by its readers on all topics pertinent to the past, present or future of the Quartermaster Corps. In order to provide the most complete information available on all materials submitted, please use the following form and enclose a copy of it when you send us any items intended for future publication. If you find that you require more space, use a piece of plain paper and follow the guidelines on the form to provide additional information.

Author's Name: _____
Last, First, M.I., Rank/Grade

Address: _____ Phone: _____

Organization/Activity: _____

Branch/MOS: _____ Duty Title: _____

Military and Civilian Education/Duty Assignments:

Date the article was written/revised: _____

Approving Official: _____ Phone: _____
(If Command/Local Authority requires approval for submission.)

Note: Ensure material is unclassified.

If the article appeared in another publication

Date: _____ Name of Publication: _____

Photo/Art Credits

Please label and provide the following information for each piece submitted:

Description of events or process: _____

Personnel (Name, Rank if known): _____

Equipment (Nomenclature): _____

Location: _____
Specific Site, Town or City, Country

Date: _____ Exercise: _____

Activity/Organization/Unit: _____

Photographer/Artist: _____

COMING UP IN THE QUARTERMASTER PROFESSIONAL BULLETIN

Spring 1991 -- Quartermasters and the Future

Summer 1991 -- Supporting Contingency Operations

Autumn 1991

Deadline for Articles and Supporting Graphics	10 May 1991
Highlight Subject	Supply Support at Brigade

For our reading audience, the *Quartermaster Professional Bulletin* is now being distributed individually to Active Duty personnel at the grade of E-8 or higher. Unit distribution will continue at the battalion level for other Active Army personnel. In the Reserve Components, distribution will continue at the company level.

DEPARTMENT OF THE ARMY
U.S. ARMY QUARTERMASTER CENTER
AND SCHOOL
ATTN: ATSM-QMG-B
FORT LEE, VIRGINIA 23801-5032

BULK RATE
POSTAGE & FEES PAID
PETERSBURG, VA
PERMIT NO. 30

OFFICIAL BUSINESS

P I N :

0 4 6 0 9 4 - 0 0