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PETROLEUM-
Echelons Above Corps

Headquarters, Department of the Army

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U.S. ARMY QUARTERMASTER CORPS

Key To Logistics

THE QUARTERMASTER GENERAL

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FAREWELL TO THE QUARTERMASTER CORPS

MG WILLIAM T. McLEAN

My final address to the Quartermaster Corps as the Quartermaster General shall not dwell on the past, but rather look to the future. As I approach my retirement from active duty, I look with envy at the young soldiers and leaders of today. The future of the Quartermaster Corps is sure to be exciting, dynamic, and challenging.

The Quartermaster Corps mission of the future is great. Our global interests and responsibilities demand a potential for successful land warfare at all levels of intensity in various regions of the world. This requires tailored and often unique support. Deterrence of war in Europe requires armor-heavy forces; the need to be prepared to deploy quickly to trouble spots anywhere demands lighter forces. Our forces have predominantly been oriented toward deterring a general global war. However, we will probably find ourselves involved in regional, low-intensity conflicts and contingencies. Whatever the probabilities of the levels of conflict, we must be prepared to support every type of operation - from terrorist attacks to strategic nuclear warfare. The task is great, and I am confident that Quartermaster soldiers will continue to meet the challenge worldwide.

As we near the end of the 20th Century, we face several key challenges:

- Diverse Missions and More Demanding Deployment Requirements.

In efforts to give Army combat commanders the greatest amount of flexibility and maneuverability with their weapon systems, we have created ever more demanding deployment requirements. Recent deployments to Central America (Honduras in 1988 and Panama in 1989) demonstrate the need for Quartermasters to be innovative and flexible in providing support. To sustain forces worldwide, we must continue to develop the means of providing fuel, food, water, and supplies in environments ranging from desert to arctic to jungles and to the woodlands of Europe.

- System Sophistication and Rapidly Advancing Technology.

As a nation, our technology is advancing so rapidly that sometimes we have trouble keeping up with ourselves. Nowhere is this trend more evident than in today's Army logistics. Advanced data processing equipment and sophisticated support systems are the tools of the Quartermaster Corps. The challenge is twofold. First, we must field equipment to meet the needs of the rapidly changing battlefield. Secondly, we must pair this advanced technology with adequately trained soldiers.

- Increasing Competition for Resources.

Within the military we once again find ourselves in the unenviable position of doing more with less in terms of acquisition, support, and personnel funding for FY 89. The next few years do not look much better. Quartermaster leaders must be innovative in their use of existing resources and aggressive in pursuing funds to ensure sustainment of our forces. Our continued challenge is to find better, inexpensive and more efficient ways of supporting military operations.

- Training.

Quartermaster soldiers and leaders require increasing levels of technical and tactical knowledge. The Quartermaster Corps mission is extremely diverse and requires personnel knowledgeable in the areas of general supply, petroleum and water, food, and airdrop. These support requirements all differ in basic procedures and techniques. Additionally, our leaders will increasingly find themselves in multifunctional logistic units, requiring them to be proficient in maintenance, transportation, and medical service support.

Further, understanding tactics is crucial to understanding the combat commander's intent and providing support at the right time and place. As we support the AirLand Battle concept, it is imperative that Quartermaster leaders be tactically proficient. The logistics support structure is increasingly vulnerable, and our units must depend heavily on their own defensive capabilities.

To further test our abilities we must also be prepared to support joint contingency requirements. The 1986 Department of Defense Reorganization Act states that we must develop intensive awareness and expertise in our officers and provide our best talent to joint staffs.

These training requirements will continue to place a heavy burden on our schools and unit training programs and to challenge our Quartermaster professionals.

The leaders of the Quartermaster Corps who must meet these challenges are serving in the force today. The sergeant major of the year 2,000 is a squad leader today, the Quartermaster General is a major, and their successors are just entering as recruits and cadets. My final salute is to Quartermaster soldiers of the past, present, and especially to those of the future. Good luck, Godspeed, and best wishes to each and every one of you.

MG William T. McLean is the 39th Quartermaster General.

PETROLEUM DISTRIBUTION, ECHELONS ABOVE CORPS

COL RICHARD P. DACEY

The spring issue of the Quartermaster Professional Bulletin focuses on the distribution of bulk petroleum at the corps level and below. This issue focuses on the units and systems that provide bulk petroleum to the corps area.

Brigadier General James E. Bickford, commander of the **Defense Fuel Supply Center** (DFSC), Cameron Station, Alexandria, Virginia, explains the organization and critical mission of the "World's Largest Refined Fuel Purchaser" in his article. BG Bickford stresses that DFSC's sole mission is to "provide the right fuel, in the right quantity, at the right time, at the right place, and at the right price" for military services worldwide.

The article "**Lifeline to Sustainment: The European Military Pipeline System,**" by MAJ Raymond L. Rodon provides an excellent insight into the most complex system of pipelines and terminals in use by U.S. Forces anywhere in the world. This system is a case study of the resources that can be made available for the receipt, storage, and issue of bulk fuels in the developed theater. Implicit in the article are the major problem areas of maintenance of this size system, the costs of maintenance and operation, and the need for highly qualified technical personnel for the myriad of tasks in a multinational environment.

The article "**Pipeline and Terminal Operations at the 240th QM Battalion,**" by CPT Jeffrey Schmidt describes the 240th Quartermaster Battalion (Petroleum Operating) -- the other end of this spectrum of petroleum support operations. This unit's mission is to operate the echelon above corps system in an undeveloped theater. With the Army's newly developed Inland Petroleum Distribution System (IPDS), the 240th can rapidly respond to deploying force's fuel needs.

The article by CPT Jerome C. Brinker discusses the **Training With Industry Program** that enables the Army to place specially qualified officers with industrial organizations. Officers learn industry's state-of-the-art techniques that apply to the military in the field. Not only does this program enhance the professional development of selected participants, but it also helps to keep the Army abreast of changes in material and techniques.

The article by SPC Keith D. Butler entitled "**Trans-Korea Pipeline**" describes the life that petroleum handlers often face in a remote pumping station along a pipeline. In places such as Camp Libby on Korea's Southeast Coast, the petroleum handlers and laboratory technicians of the Army improve their technical skills in support of all U.S. Armed Services. The spirit of technical competency, tactical proficiency, and cooperation at such remote sites is probably best summed up by SSG Steve E. Bailey when he says "we have a worldwide reputation to uphold."

The article "**Operation PLUTO,**" a reprinted article from a 1945 issue of The Quartermaster Review, recounts the wartime challenge of the British pumping petroleum from England directly to Allied troops landing at Normandy beachhead.

The articles, "**Korean Storage Facility Thrives**" and "**Reforger 88,**" provide insight into two more areas of Quartermaster petroleum activity. Handling packaged petroleum products is a vital mission to support requirements for both packaged fuels and for the oils and lubricants demanded by a modern military force. Moving large volumes of bulk petroleum through the wholesale resupply system via pipelines, barges, rail tank cars, and tank vehicles is the essence of the mission in the echelon above corps areas.

The Quartermaster Petroleum Team of officers, noncommissioned officers, enlisted soldiers, and Department of the Army civilians has a proud heritage of outstanding support to the U.S. Military. It could be argued that the fodder supplied to General Washington's horses was the precursor to the fuel supplied to the modern machines of war. This issue of the Quartermaster Professional Bulletin and the previous one are dedicated to the men and women of the Department of the Army who serve in worldwide assignments providing our forces the petroleum, oils, and lubricants which are so vital to the sustainment of those forces. YOU GOTTA BE TOUGH TO WORK ON A PIPELINE!

COL Richard P. Dacey is the Director, Liquid Logistics and Field Services Department, U.S. Army Quartermaster Center and School (PROV), Fort Lee, Virginia.

DEFENSE FUEL SUPPLY CENTER
World's Largest Refined Fuel Purchaser

BG JAMES E. BICKFORD

Some consider the Defense Fuel Supply Center (DFSC), Cameron Station, Alexandria, Virginia, the "Defense Department's Oil Company."

DFSC ranks as about the 12th largest oil company in the world and as the largest single purchaser of refined fuel in the world. Daily, DFSC purchases from commercial suppliers and provides to the Armed Services worldwide about 500,000 barrels (21 million gallons) of fuel.

However, there is a major difference between DFSC and commercial companies. Our sole mission statement is clear: provide the right fuel, in the right quantity, at the right time, at the right place, and at the right price.

DFSC, a subordinate unit of the Defense Logistics Agency (DLA), is one of its 25 primary-level field activities. DFSC headquarters is collocated with DLA at Cameron Station. DFSC's staff numbers 800 people worldwide. DFSC is organized with five regional headquarters in the Continental United States and three overseas regions.

DFSC is the supplier, or wholesaler, to the military services. DFSC purchases and delivers fuel to the post or base boundary. The military services then store and issue the fuel to the operational forces.

DFSC also obtains and stores the off-base or wholesale war reserves for the commanders-in-chief of the unified and specified commands. We currently have more than 90 million barrels (3.78 billion gallons) of fuel stored in more than 200 storage locations around the world.

We get the quality we pay for and the military services get the quality of fuel they require.

DFSC also purchases, based on the military services' requirements, the heating and mobility fuel required for operating posts, camps, and stations worldwide. This fuel is also purchased for federal agencies, such as the U.S. Postal Service and the General Services Administration. DFSC purchases fuel for the U.S. Navy's ships that need to refuel in commercial ports under our Bunker Program, as well as jet fuel for the U.S. Air Force's airplanes that require fuel at commercial airports under our into-plane contracts.

A large part of our mission is quality. We have a large staff whose mission is to make sure we get the quality we pay for and that the military services get the quality of fuel they require to perform their missions. These quality assurance personnel are our front line troops, and they perform their duties all over the world in places such as Kuwait, England, Australia, and Indonesia. Generally working alone, our front line troops accept for the government cargoes worth more than $5 million each time a tanker loads fuel.

DFSC has outstanding people who do a very big job. We are a joint activity and have officers and enlisted personnel from all the military services. We also have dedicated and highly qualified civilians who make the right things happen.

BG James E. Bickford is Commander of the Defense Fuel Supply Center, Cameron Station, Alexandria, Virginia.

LIFELINE TO SUSTAINMENT:
The European Military Pipeline System

MAJ RAYMOND L. RODON

...The battle is fought and decided by the Quartermasters before the shooting begins. The bravest men can do nothing without guns, the guns nothing without ammunition; and neither guns nor ammunition are of much use in mobile warfare unless there are vehicles with sufficient petrol to haul them around...Field Marshal Erwin Rommel

The essence of today's AirLand Battle tenets were captured by Field Marshal Rommel almost 50 years ago. Today, these tenets are fully integrated into combat service support doctrine as espoused in FM 100-10, Combat Service Support. The sustainment of combat operations is the primary mission of all logisticians.

The Army's ability to sustain itself is as important today as ever. In Europe, U.S. Army Quartermasters work hand-in-hand with other logisticians from the U.S. and our NATO allies to operate and manage the systems that provide peacetime petroleum support in the European Theater with rapid transition to wartime. These systems include leased commercial storage activities, Defense Fuel Support Points (DFSPs), NATO depots, U.S. depots and the pipeline, water, road, and rail systems that connect them.

The organization tasked to manage the distribution of bulk fuel is the Directorate of Bulk Fuels (DBF), 200th Theater Army Materiel Management Center (TAMMC) located in Zweibruecken, West Germany. In addition, DBF provides the interface between the pipeline and other transport systems and the U.S. Army, U.S. Air Force, Canadian Military Forces in Europe and other NATO allies.

Department of Defense (DOD) Directive 4140.25 charges the Army to provide bulk fuel support to all land based forces of all DOD components. United States European Command (EUCOM) has designated the DBF as the Area Petroleum Management Office with support responsibility for Germany, France, Belgium, Netherlands, Luxemburg, Italy, Greece, and Turkey. The DBF's responsibilities include requisitioning, inventory management, accountability, reporting, and quality surveillance functions in addition to bulk fuel distribution. The DBF has also managed the petroleum Foreign Military Sales Case since 1971, supporting all Canadian Forces in Europe.

This article will focus on the petroleum distribution systems in central Europe. The two key military pipeline systems used for bulk distribution of U.S. bulk fuel in Europe are the Donges-Metz Pipeline System (DMPS), located in France, and the Central European Pipeline System (CEPS). (Other military pipeline systems in Europe, including the Northern European pipeline located in Northern Germany and Denmark, the Greek pipeline, two Turkish pipelines, and the Northern Italian Pipeline system, will not be specifically addressed.)

Key to U.S. bulk fuel sustainability is the U.S.-owned, French contractor-operated Donges-Metz Pipeline System. This 390-mile (627 kilometer) mainline system, which traverses France from the port city of Donges northeast to Metz, was built 1956-58. It consists of a mainline connected to 14 tank farms and eight high pressure pumping stations. The pipeline from Donges to Chalons, a distance of 318 miles (509 kilometers), is 12-inch nominal diameter; the remainder is 10-inch nominal diameter. A steel-welded construction throughout, the pipeline is cathodically protected against corrosion. Total capacity of the system is approximately 6.6 million barrels. Currently, 5.6 million barrels of those are used by the U.S. and about one million barrels are leased for French use.

Fuel normally enters the system by either Military Sealift Command-owned or chartered tanker and from in-country refineries. Tankers up to 672 feet in length and 34 feet in draft can be discharged at the "A" tank farm jetty, located on the Loire River at Donges. Tankers up to 750 feet in length and 52 feet in draft can be discharged at the off-shore mooring facility at the "D" tank farm located at Piriac. This off-shore mooring facility is connected to the "D" farm via a 24 inch diameter submarine pipeline approximately 1.5 miles long. Fuel from commercial refineries can be introduced through direct pipeline connections into the DMPS.

As the product enters the system, it can be directed through the high pressure multiproduct pipeline to any one of the 14 connected U.S. bulk fuel tank farms located in the terminal districts of Donges, Melun, Chalons, and Metz. In addition to the primary connection to the NATO CEPS at Vilcey, France, the U.S. system is also connected to the NATO pipeline in the vicinity of Chalons and Mentarah, France. The civilian pipeline, Le Havre-Paris, connects at two locations, one up and one downstream from Melun. See Figure 1.

The French Company TRAPIL has the contract to operate the DMPS under an international agreement signed by the U.S. and French governments in 1967. Under the terms of the contract, TRAPIL is responsible for receiving product into the DMPS, inventory control, pipeline movements, storage, maintenance of the system, and security. Through a long-

term improvement project, the capability of the DMPS has improved significantly in recent years.

One of the major improvements has been the automation of the system. The entire pipeline can be operated from the central control room in Avon, France. Tank farm manifolds, mainline valves, the low pressure pumping stations within the tank farms, and the high pressure pumping station operations can all be operated from one central location. The system can also revert to manual operations if required.

The key major pipeline system for U.S. fuel resupply effort in Central Europe is the NATO CEPS. Operated by the Central Europe Operating Agency (CEOA), it is the largest pipeline system in Europe. The CEOA is located in Versailles, France, and is subordinate to Headquarters, Allied Forces Central Europe (AFCENT).

The CEPS consists of over 6,535 kilometers of variously sized high-pressure buried pipeline and hardened high pressure pumping stations located in France, Germany, Belgium, the Netherlands, and Luxemberg. This system connects to NATO hardened storage depots, commercial refineries, National depots, civilian depots, and air bases. See Figure 2.

The CEPS operates on a concept similar to a banking system. Any one of the eight user nations can deposit a metered quantity of fuel at any one of the entry points. They then receive CEPS credits equal to the amount deposited. That user nation can then withdraw fuel at any of the CEPS discharge points up to the amount which has been credited to that nation's account.

User nations fund the operation of the CEPS. This is accomplished through the reimbursement of CEOA for the storage cost, pipeline transportation costs, and charges for uplifting the fuel at one of the depots. For the U.S. portion, DBF is responsible for costing the annual program, obtaining the funding through the Army budgeting system (currently funded by USAREUR), and validating the monthly invoices.

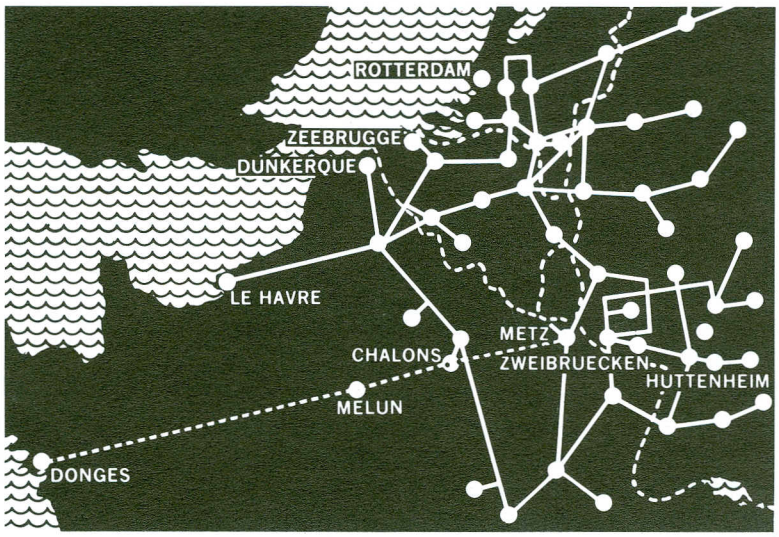


Figure 1. Donges-Metz Pipeline System (DMPS)

An area of the CEPS line that is especially crucial to U.S. interests is "Bitburg Loop," a 6-inch nominal diameter pipeline. The Bitburg Loop supplies the daily fuel requirements for six of the seven U.S. air bases in Germany. The pipeline was originally built by the French in the early 1950s and has shown considerable wear over the last few years. Central Europe Operating Agency has made the restoration of this line its number one priority, and some repair and upgrade work has already begun. The long-range plan is to eventually replace the entire pipeline with a new pipeline of larger diameter.

During peacetime operations, the pipeline systems are used to move bulk fuel from entry points to U.S. leased storage facilities or to CEPS depots. The fuel must then be moved to a DFSP located in one of the corps or Theater Army Area Command (TAACOM). For this portion of the mission, DBF manages an extensive network of barge, rail, and truck assets in coordination with other U.S. and host nation organizations.

Commercial barges are used extensively to fill leased storage facilities in Germany from procurement contracts on the continent. Barges are also used for the movement of fuel during training exercises. Directorate of Bulk Fuels is currently working on a project that will employ barge-over-the-shore operations. This will allow barges to be off-loaded at any location along a river during emergency operations.

The DBF manages a fleet of 600 rail tank cars (RTC) leased from a German transportation company. There are 300 15,000-gallon capacity RTCs used on a daily basis to resupply the DFSPs in the corps areas. The remaining 300 RTCs have a 10,000-gallon capacity and are used for the prepositioning of

fuel forward in the corps for emergency use.

The highway assets used by DBF include both military and commercial trucks. There are three forward stationed medium truck companies located in central Europe. Each company is authorized sixty 5,000-gallon tankers. One company is assigned to and supports V Corps; another, VII Corps; the last supports the 21st TAACOM and theater level organizations.

The V and VII Corps directly task their supporting tanker company for daily commitments. DBF has direct tasking authority over the company supporting the TAACOM, theater units, and the U.S. Air Force. For those areas of central Europe where military trucking is not available or not cost effective, commercial carriers are utilized. The DBF transportation section uses a standard military freight tariff that allows any member of the German Highway Association to deliver bulk fuel to customer units.

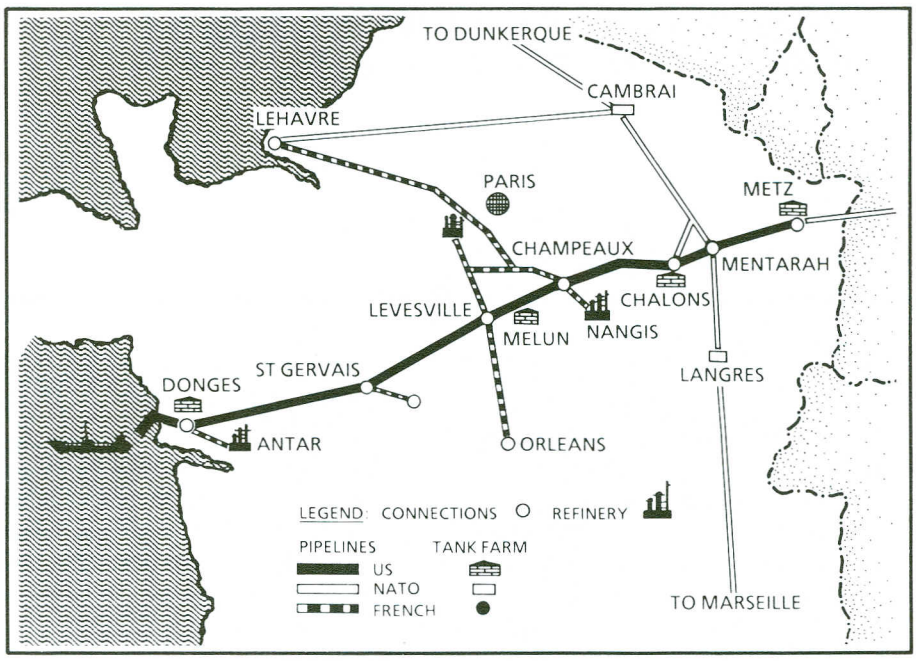


Figure 2. Central European Pipeline System (CEPS)

The mission of combat service support, as indicated in FM 100-10, is to facilitate the commander's ability to generate combat power at the decisive time and place. The petroleum systems in Europe are continuously being updated and upgraded through improved facilities, evolving doctrine, and increased distribution capabilities to support that mission. Field Marshal Rommel's well-used but accurate statement concerning the critical nature and availability of supply items such as petroleum is still valid and can be the margin for victory on today's modern battlefield. The European Military Pipeline System remains our Lifeline to Sustainment.

MAJ Raymond L. Rodon is the Chief, Fuels Operation Branch, Directorate of Bulk Fuels, 200th Theater Army Materiel Management Center, Zweibruecken, West Germany.

PIPELINE AND TERMINAL

OPERATIONS AT THE 240TH QM BATTALION

CPT JEFFREY SCHMIDT

MISSION

The 240th Quartermaster Battalion (Petroleum Operating) located at Fort Lee, Virginia, is the Army's only active duty Pipeline and Terminal Operating Petroleum Supply Battalion. Its wartime mission is to provide command and control of an operation of up to 450 miles of multiproduct pipeline and provide storage for up to 20 million gallons of fuel in support of a theater of operations.

This mission is accomplished by employing up to five Petroleum Operating (PO) companies within the battalion. Each company is responsible for operating a 90,000-barrel (3.78 million gallons) storage facility and up to 90 miles of pipeline, as currently configured.

As a seagoing petroleum tanker arrives in the theater of operations, one of the 240th's PO companies will be stationed at the base terminal, normally located at a port facility or along a coast. There the PO company will receive fuel through the Offshore Petroleum Discharge System (OPDS). The company will store the petroleum products in a Tactical Petroleum Terminal (TPT). The TPT consists of 18 Bulk Fuel Tank Assemblies (BFTA), each capable of storing 5,000 barrels (210,000 gallons) of fuel.

Based upon the theater fuel requirements, the battalion Petroleum Operations Section will direct the flow of products into the theater utilizing the Inland Petroleum Distribution System (IPDS). The IPDS is designed to move product quickly from the theater rear as far forward as possible, normally into the corps rear. This is accomplished by using a six inch aluminum pipeline and mainline pumps operating at a rate of up to 600 gallons per minute (GPM) or 720,000 gallons per day.

From the terminals located along the pipeline, receiving units pick up bulk petroleum for distribution throughout the theater. The receiving units usually consist of Petroleum Supply companies, Petroleum Truck companies, or Supply and Service companies. Additionally, pipeline spurs can be constructed directly to airfields for use by the Air Force.

The peacetime configuration of the 240th Quartermaster Battalion (Petroleum Operating) is very diverse. It has six subordinate units: the Headquarters and Headquarters Company, the 16th Field Services Company, the 54th Quartermaster Company (Graves Registration) (GRREG), the 109th and 267th Quartermaster Companies (Petroleum Operating), and the 555th Military Police Company.

The Headquarters and Headquarters Company supports the battalion headquarters and also has control of the 22d and 23rd Petroleum Laboratory Detachments. The 22d Laboratory Detachment, a mobile laboratory, provides quality surveillance and quality assurance during training exercises as it would in war. The 23rd Laboratory Detachment, designed as a base laboratory, would be capable of more detailed analysis of petroleum products than the mobile laboratory. However, this unit requires a fixed facility that must be constructed in the theater of operations.

The 16th Field Services Company is capable of providing bakery, laundry, light textile renovation, and graves registration support for up to 16,000 soldiers. This unit is highly requested to support numerous exercises, to include OCONUS exercises such as

Soldiers of the 109th QM Company deploy a BFTA at Yakima, Washington, in 1986.

Display Determination, Bright Star, and exercises in Central America.

The 54th Quartermaster Company (Graves Registration) is the Army's only active duty graves registration company. It provides corps-level graves registration and mortuary affairs support. It is currently scheduled to participate in a graves registration exercise in conjunction with the 246th Quartermaster Battalion (Graves Registration) (Puerto Rican Army National Guard) at Camp Santiago, Puerto Rico from 15-29 July 1989. The exercise will consist of search and recovery missions, establishing a temporary cemetery, and performing extensive graves registration in an NBC environment.

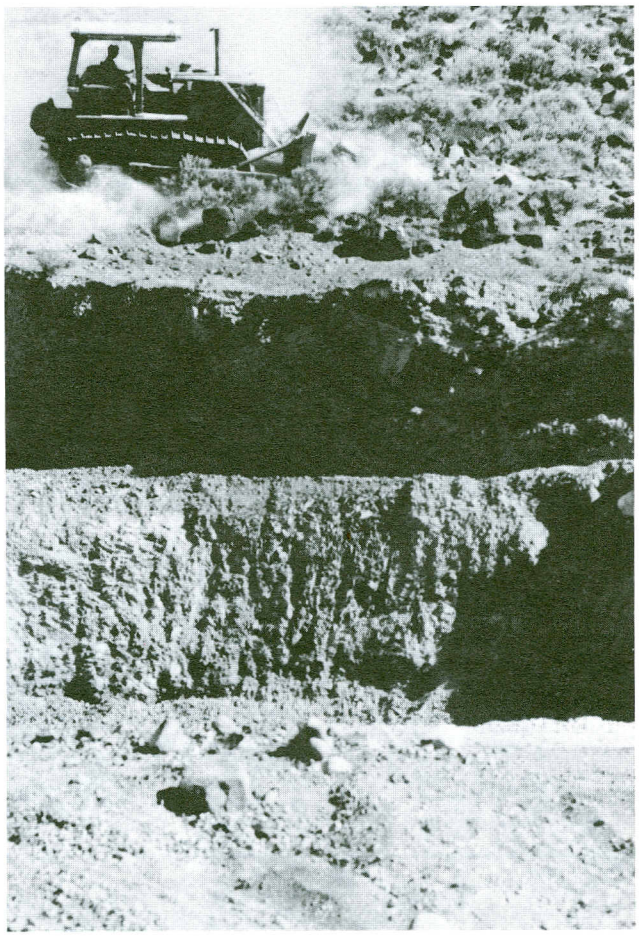
The 109th and 267th Quartermaster Companies (Petroleum Operating) each have the wartime mission to operate a TPT and 90 miles of pipeline. The equipment for this mission is stored at Pueblo Army Depot in Colorado and will be deployed to the theater of operations upon initiation of hostilities. The pipeline would be constructed by engineer units prior to operation by the quartermaster units.

The peacetime mission of the 109th and 267th Quartermaster Companies includes post support, numerous support missions for worldwide exercises from the Far East to the Middle East to Central America to Europe.

The 555th Military Police Company provides the bulk of the Military Police support to Fort Lee as well as supporting exercises. This company has recently returned from a support mission for Joint Task Force Bravo in Honduras.

TRAINING

In the past, tactical pipeline training for PO units was limited to Command Post Exercises as no facilities were available for training. In 1986, the 240th Quartermaster Battalion (Forward), consisting of the 515th Engineer Company, the 109th Quartermaster Company, the 16th Field Services Company, and the 555th Military Police Company, constructed and operated a 35-mile pipeline and a TPT for testing at the Yakima Firing Center in Yakima, Washington. As a result of this exercise, the 240th Quartermaster Battalion received the Army Superior Unit Award.



Engineers from the 515th prepare a pipeline trace at Yakima, Washington, in 1986.

The pipeline problems noted during this three-month test deployment were corrected by the manufacturer. A follow-up test was conducted in 1987 by the 515th Engineer Company and the 267th Quartermaster Company. The success of that exercise led to activation of the FORSCOM Petroleum Training Module (FPTM) at Fort Pickett, Virginia. Additionally, an engineer pipeline construction training module will be located at Fort Leonard Wood, Missouri. Quartermaster petroleum training equipment will be located at both Fort Lee and Fort Story, Virginia.

On 1 April 1989, the 515th Engineer Company began training and construction of the FPTM at Fort Pickett. The system consists of two-thirds of a tactical petroleum terminal, four pump stations, and approximately 21 miles of pipe. The pipeline trace will follow the southwestern border of Fort Pickett, Virginia. For environmental reasons, the product used will be water drawn from the Nottaway River. This water will be pumped through the system and then returned to the river from the head terminal.

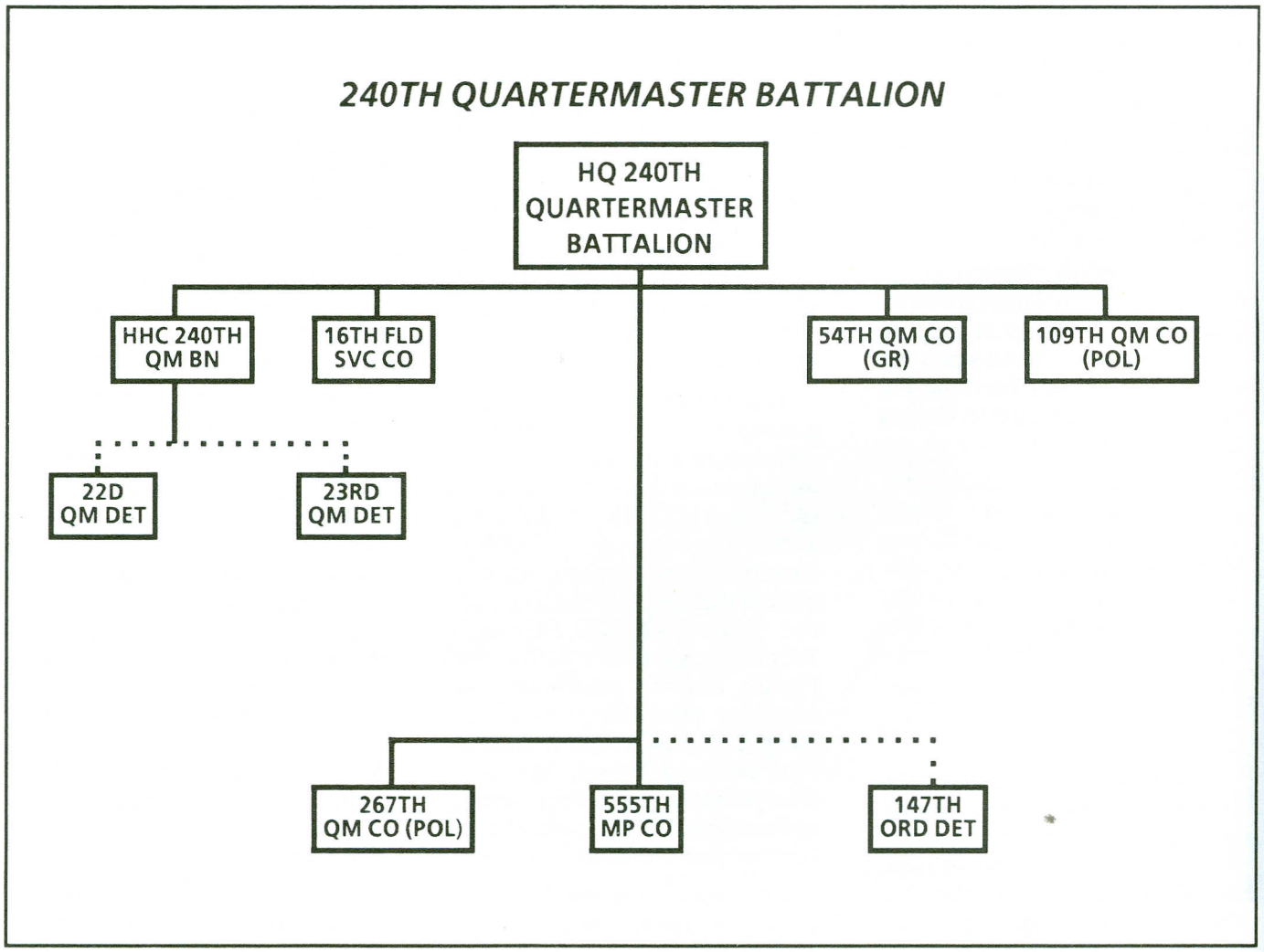
During the remainder of FY 89, every active and reserve Pipeline Construction company and Petroleum Pipeline and Terminal Operating company will receive two weeks of training on the IPDS equipment from the systems integration contractor, Wilbros Butler Engineering Inc. Each unit will receive approximately three days of classroom training followed by supervised hands-on training before performing sustained operations of the system.

The FPTM is designed to be set up, operated, and recovered annually. In this manner, the unit training knowledge will not disappear

over time with the rotation of soldiers. Future training on the FPTM can incorporate Petroleum Supply companies and Petroleum Truck companies for well rounded Echelons Above Corps (EAC) petroleum distribution training.

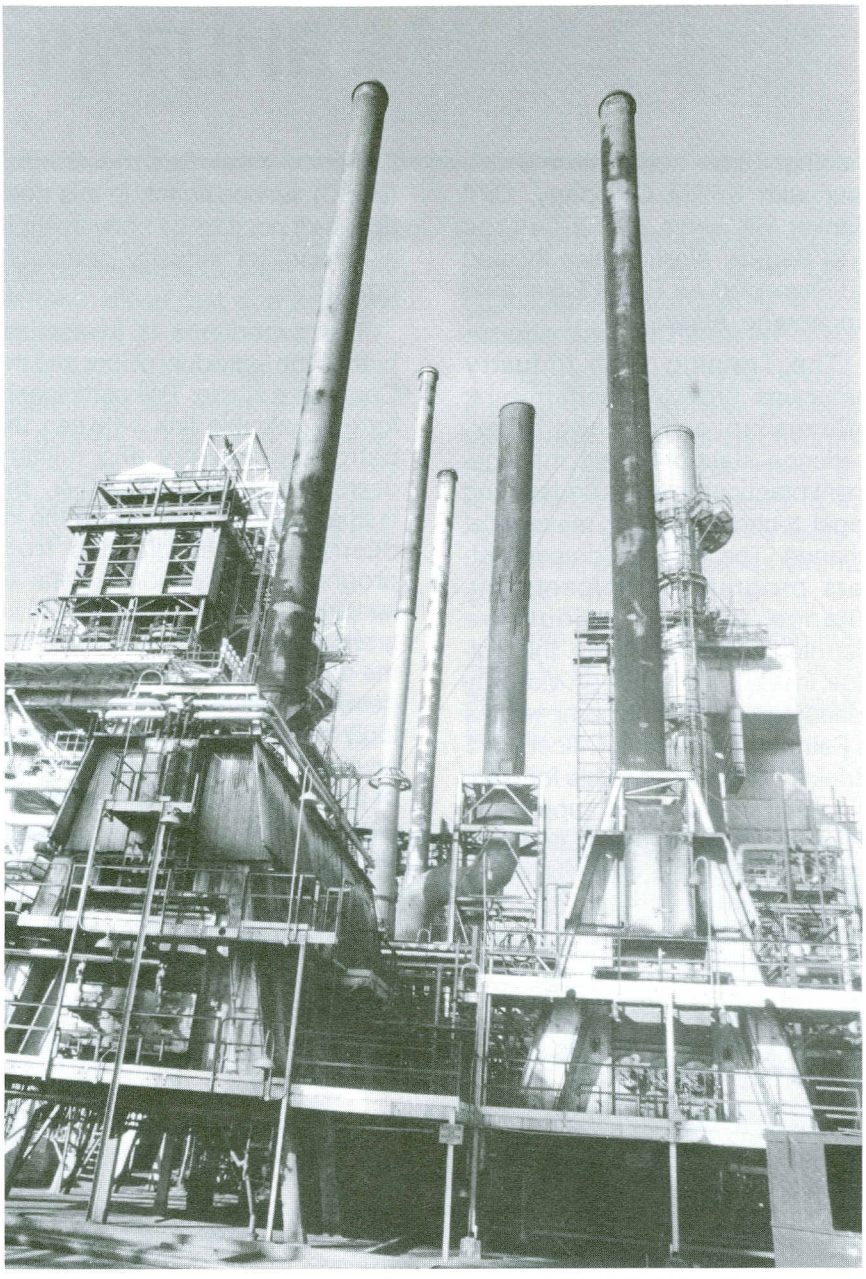
CPT Jeffrey Schmidt is the Petroleum Operation Officer, S3 Shop, 240th Quartermaster Battalion, U.S. Army Quartermaster Center and School (PROV), Fort Lee, Virginia.

Soldiers of the 267th Petroleum Company train on the FPTM at Fort Pickett, Virginia.



TWI SUN REFINING

CPT JEROME C. BRINKER



Since September 1988, CPT Jerome C. Brinker has been taking a crash course in the civilian petroleum industry as practiced by Sun Refining and Marketing Company (SR&M).

CPT Brinker is the latest of 15 career Quartermaster officers who have taken part in the Training With Industry (TWI) Program with Sun since 1975. Through the TWI Program military personnel spend one year with a given company in industry to acquire hands-on experience. Of over 120 U.S. corporations involved, Sun is the only petroleum company that participates in the program.

Sun Refining and Marketing Company's main office is located in Philadelphia, Pennsylvania. The company has five petroleum refineries which process crude oil into an extensive line of products in the categories of fuels, lubricants, and commodity petrochemicals. These products are sold to wholesale, commercial, military, industrial, and retail customers. Sun's wholesale storage and distribution system employs terminals, pipelines, cargo ships, barges, railcars and tank trucks. Retail sales of gasoline, primarily under the "Sunoco" and "DX" brands, are largely through service station outlets operated by independent dealers and jobbers in a 27-state marketing area in the eastern half of the United States.

CPT Brinker began his training by spending six`weeks in Marcus Hook, Pennsylvania, at one of Sun's five refineries. During this time, CPT Brinker was exposed to the full spectrum of refinery operations from crude oil processing to the manufacture of various fuels, chemicals and lubricants. He also observed the refinery laboratory's quality assurance procedures for meeting the specifications on a government JP-4 contract. This spring he will train six weeks with Sun Pipe Line Company, where he'll study scheduling and dispatching procedures, Sun's computerized system, pipeline protection systems, pump station operation and maintenance, terminal operations, tariff rate structures, billing procedures, and budget applications. CPT Brinker will also ship out on a Sun Transport tanker and visit one of Sun's marine terminals located in Nederland, Texas. This trip also includes an orientation on the Strategic Petroleum Reserve in Louisiana.

Other key areas of study include: (1) Supply and Distribution Management for Crude Oil, Fuels, Chemicals and Lubricants; (2) Marine Tanker Chartering; (3) Risk Management; (4) Planning and Economics; and, (5) Materials and Services Management.

Officers participating in TWI assignments incur a three-year obligation before being eligible for discharge. The follow-on "utilization tour" which takes place after the TWI period is structured to best enable the Army to benefit from the

training. Upon completion of this tour with SR&M Company, CPT Brinker will serve at the Defense Fuel Region, Alaska office located on Elmandorf Air Force Base, near Anchorage, Alaska.

The Training With Industry programs provide Quartermaster officers an opportunity to experience state-of-the-art management practices in areas undergoing rapid technological or managerial change. The SR&M Company offers program participants the chance to learn about the petroleum industry from the unique, inside perspective provided by a leading U.S. refining company. As a Petroleum Logistics Officer, CPT Brinker will be responsible for planning and coordinating supply and distribution of petroleum products within Alaska. He'll maintain liaisons between the military services and industry and act as a Defense Fuel Supply Center (DFSC) service agent. In this position, he'll need to be conversant in all phases of industry petroleum operations.

The experience is invaluable, both to the individual officer and the Corps as a whole: TWI participants form a valuable link between the petroleum industry and military users in the field. Moreover, the firsthand knowledge of how the industry operates gleaned from program participation is vital to keeping abreast of advances in an arena that is constantly evolving. As the mission requirements faced by petroleum officers become increasingly complex, the value of hands-on experience at industrial sources of petroleum supply cannot be underestimated.

Selection for participation in TWI is competitive. Officers applying to the program must be branch qualified, to include a successful company command and should have a strong overall performance record. Figure 1 outlines the positions available. Applications to the TWI program should be submitted by October 1989 for slots opening in August of 1990. Applicants must have two years on station in CONUS before PCS to a TWI position, or must have completed the entire term of their assignment OCONUS .Officers interested in the program should contact the professional development officer at U.S. Army Personnel Command in Alexandria, Virginia. POC is CPT Lou Cocker, AV: 221-8119/8123.

CPT Jerome C. Brinker is a Petroleum Logistics Officer, currently attending training with the Sun Refining and Marketing Company, Philadelphia, Pennsylvania.

QM TRAINING WITH INDUSTRY POSITIONS- 1990

PROGRAM	INDUSTRY	LOCATION	AOC/GRADE
Clothing/Textiles	Hertling	Brooklyn, NY	92B/O3
Commissary Mgt	Super Valu	Minneapolis, MN	92G/O4
Food Service Mgt	Mariott	Washington, DC	92G/O4
Petroleum Mgt	Sun Oil	Philadelphia, PA	92F/O4
Supply Mgt	Proctor & Gamble	Cincinnati, OH	92B/O4
Supply Mgt	Walmart	Bentonville, AK	92B/O4

Figure 1. Additionally, approximately eight 1990 Procurement (97A) slots will be filled by Quartermaster Officers.

TRANS-KOREA PIPELINE

SPC KEITH D. BUTLER

Their mission starts about two miles off the Republic of Korea's eastern shore in the sometimes ferocious, churning Sea of Japan.

Petroleum tankers sail in and Army divers get the "green light." The constant waves impede their initial dive, but a second try brings success. They moor the ships to 24-ton floating buoys and hook up the fuel lines beneath the murky greenish-black water.

Here begins the team's unique mission.

The team, the 20th Quartermaster Company, 2d Quartermaster Group at Camp Libby, is first to handle petroleum products that U.S. Forces use throughout the Republic of Korea (ROK). The team receives, stores, secures and issues the bulk fuel entering Pohang, the start of the 283-mile Trans-Korea Pipeline.

"Our community team is small," said CPT Dan D. Jennings, 20th Quartermaster Company Commander. "But that just means we're more personally concerned about the job."

The isolated 19th Support Command group, who believe teamwork is essential, was recognized with the 1988 Eighth U.S. Army Community of Excellence Award. One Department of the Army civilian, eight Korean Service Corpsmen (KSC), 50 Korean Nationals, 50 security guards and 58 American and Korean Augmentation to U.S. Army (KATUSA) soldiers operate and supervise the petroleum operation. Another 50 members monitor the 20th Quartermaster Company's Waegwan terminal.

When the petroleum tankers roll in, the laboratory testing crew moves into action first to test their cargos for quality. Fuel samples are brought ashore to the laboratory. There they are gravity-tested to ensure fuels are not mixed, are free of dirt and water, and meet military specifications. Incoming petroleum products including Jet A-1, JP-4, MOGAS, diesel fuel, and kerosene are tested.

"Quality control reflects in the mission so we must meet strict standards," said Sin Man-ok, laboratory supervisor. "We're not bringing in crude oil; were bringing in fuel. Bad fuel could hamper missions up the pipeline."

A "thumbs up" from the lab crew means the divers can start hookup and fuel movement on the two underwater A and B lines. The lines, valves and buoys, secured to 600-foot chains, are maintained by the "hard hat" divers.

Unserviceable gear corroded by ocean current and salt water is repaired by Korean Nationals in the maintenance branch on shore.

Mission reins are then turned over to control room personnel once the petroleum is brought into storage reservoirs in the "Tank Farm," which can hold more than 21 million gallons of fuel. Some fuel is off-loaded and transferred to local commercial Tank Farms in Pohang.

The control room crew monitors the flow of the different products, transfers between the fuel tanks and overall pipeline operations 24-hours-a-day. Fuel pumped to the dispensing area two miles away is loaded on tanker vehicles and rail cars.

Some of the control room crew claim to be the "heart beat" in the 20th Quartermaster Company operation.

A laboratory technician tests a fuel sample brought from a petroleum tanker offshore of Camp Libby, Pohang.

"We've got a lot of things to keep an eye on here," said SSG Steve E. Bailey, control room dispatcher. "But we get a lot of valuable experience. We have a worldwide reputation to uphold."

The Pohang crew also oversees turbine functions and the Trans-Korea Pipeline flow operation 80 miles west to the next pump station

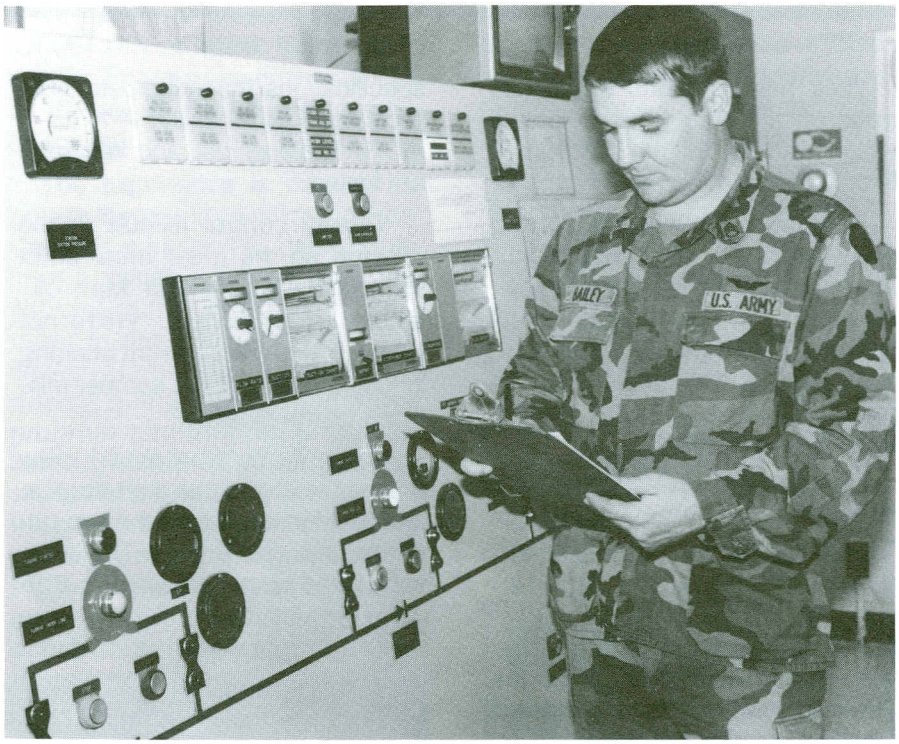
at Waegwan, where their counterparts take over.

They watch over dials for falling pressure levels, which might signal a line break, and coordinate surveillance of any trouble that may occur. Eight ways to communicate, including a field phone, computer and direct line, allow for speedy checks.

The end of a long day does not mean the community team effort ends. Soldiers and KSCs worked together to fix up their Camp Libby aid station and reenlistment office recently, Jennings said. "Every one is tight-knit and very loyal," he said. "When we make things better here by pitching in, we know it directly affects us and our friends."

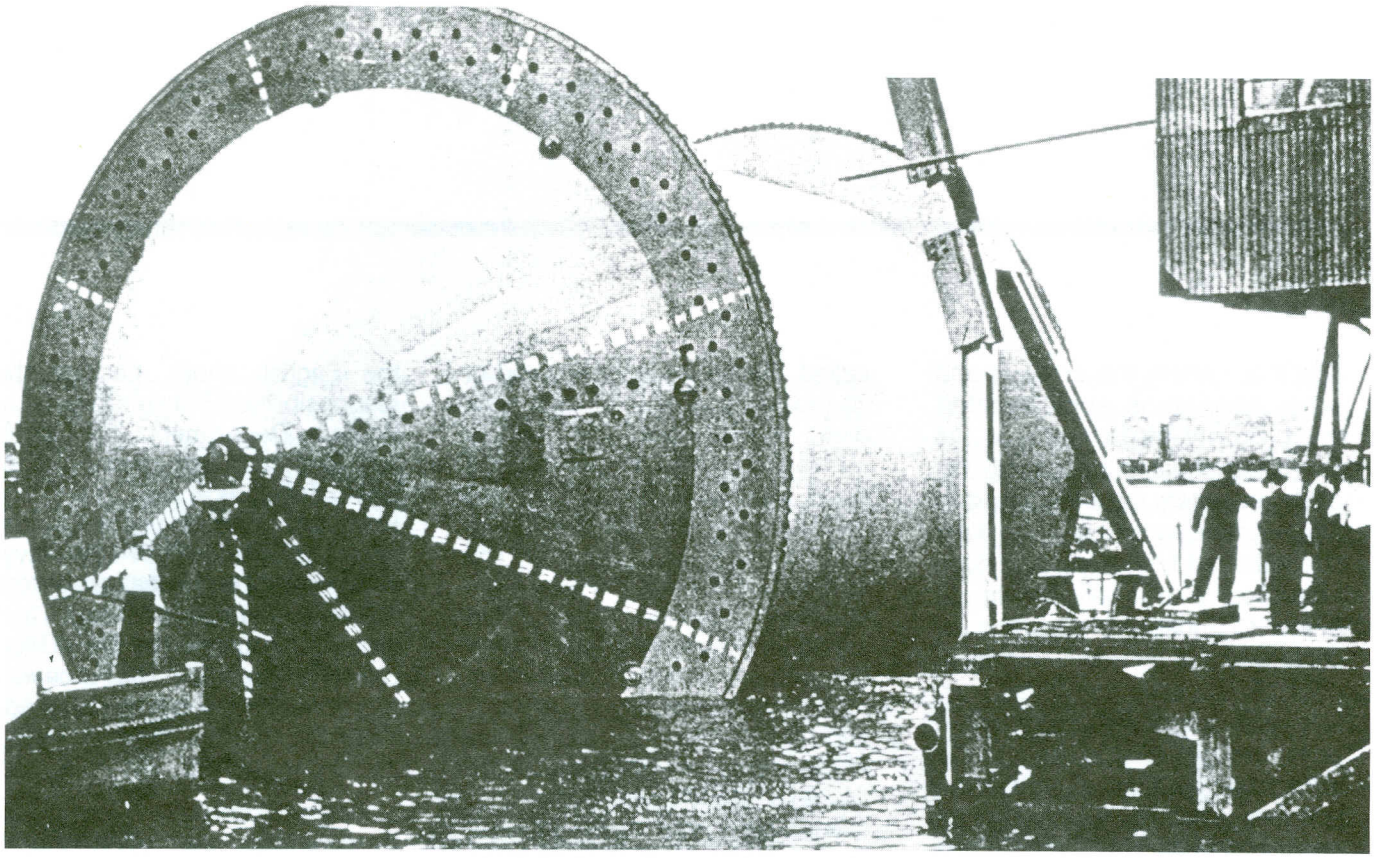
The isolated camp does not even receive an AFKN signal to watch American television. However, the commander said they still boast a 26 percent extension rate among the U.S. soldiers.

SPC Keith D. Butler is the Associate Editor of the Southern Star Magazine, 19th Support Command.



The control room dispatcher at Camp Libby monitors turbine gages while fuel is being pumped into the Trans-Korea Pipeline's starting point offshore of nearby Pohang Beach.

MG William T. McLean, the Quartermaster General, inspects an Army diver ready to hook up fuel lines of petroleum tankers in the Sea of Japan.



A 'Conundrum' is moved into position for loading the 70-mile length of steel pipe.

OPERATION PLUTO: THE STORY OF THE CHANNEL PIPELINE

Editor's Note: Operation PLUTO -- Pipe Line Under The Ocean -- was a British project to pump petroleum from England directly to Allied troops landing at Normandy beachhead. The nearly 70-mile line to Cherbourg broke under pressure and was soon abandoned. A dozen small-diameter lines laid across the English Channel at its narrowest point, near Dover, in December 1944, proved more successful. By the spring of 1945, this pioneering system was able to deliver from England to France nearly a million gallons of petroleum a day. This article is reprinted from the July-August, 1945, issue of The Quartermaster Review, Volume XXV, Number 1.

From August 12, 1944, to May 8, 1945, about 120,000,000 gallons of gasoline reached the Anglo-American armies in Europe via the pipeline system laid under the English Channel by British engineers, in cooperation with the British Navy. One million gallons daily still reach France by way of twenty undersea pipelines. Sixteen of these run from Dungeness, on the southeast coast of England, to Boulogne, and four from the Isle of Wight to Cherbourg. Thence gasoline is carried via high-pressure lines to the Rhine. This vast engineering feat guaranteed uninterrupted delivery of bulk petroleum (which usually requires a special harbor and extensive storage facilities), making it invulnerable from air, surface, or submarine attack, and completely independent of the weather.

While the British Pluto project was under way the U.S. Army was working on a similar idea. After discussions between the respective authorities, it was agreed that efforts should be concentrated on Pluto, and U.S. authorities gave their full cooperation.

It was Lord Louis Mountbatten, then head of Combined Operations, who, in April 1942, envisioned the laying of an oil pipeline across the Channel. The experts were doubtful, but A.C. Hartley, Chief Engineer of the Anglo-Iranian Oil Company, who had used three-inch high-pressure pipelines in Persia, suggested a pipeline something like a submarine electric power cable, without cores and insulation, which could be laid in a few hours from cable-laying ships.

Technicians of the firm of Siemens and Henleys completed the full-scale order for several hundred yards of this pipeline to be laid in the Thames. The results were so successful that Prime Minister Churchill gave the scheme his blessing, and two 30-mile lengths of cable were ordered to the original two-inch diameter, so that full-scale trials could be held in Bristol

Channel, where the currents and other conditions approximated most closely those found in the English Channel. Subsequently the cable diameters were increased to three inches, and the walls were strengthened for extreme working pressures. With a gale blowing in Bristol Channel, the experimental cable was laid by H.M.S. Holdfast, originally a coaster, which had been fitted with special gear for this purpose, and gasoline was delivered from Swansea to Ilfracombe. The fact that the cable was hollow increased the difficulties, since it had a tendency to kink and so stop the flow of oil. The cables were therefore laid full of water, which kept them inflated. This pipeline was called the HAIS (Hartley-Anglo-Iranian-Siemens).

Production of the HAIS cable presented difficulties never before encountered. Cables had been previously manufactured for an internal pressure of from ten to fifteen pounds per square inch. The new line demanded pipes which could withstand working pressures in excess of 1,200 pounds per square inch. Hence new methods of manufacture had to be set up at a moment's notice. Mr. Hartley came to America to collaborate with engineers in this country in reconverting their plants and retraining their technicians. Four American industrial plants were given the job. American workmen and engineers, many of whom, because of secrecy orders, did not know what they were working on, contributed their skill and technical know-how to the accomplishment of this modern engineering wonder.

Meanwhile another pipeline was invented by B.J. Ellis, Chief Oilfields Engineer of the Burma Oil Company, and H.A. Hammick, Chief Engineer of the Iraq Petroleum Company. This second pipeline, called "Hamel," was composed of 20-foot lengths of three-inch steel pipe which could be welded automatically into any length and could be wound onto a drum like thread on a spool if the drum were thirty or more feet in diameter. The Admiralty's Director of Naval Construction designed H.M.S. Persephone, converted from a hopper barge to a craft with a great wheel rotating in trunnions on her deck and capable of carrying many miles of the three-inch Hamel pipe and paying it into the sea. From this a second idea was developed -- a floating drum capable of carrying the full length of pipe which might be required for the Channel crossing, and which could be towed by tugs like a large bobbin, paying off the pipe as it went.

Within a few months a special factory at Tilbury, in the Thames Estuary, was equipped for welding 20-foot lengths of the Hamel pipe into 4,000-foot lengths at a rate of ten miles daily, with facilities for storing the lengths to a total of 350 miles a day. Shortly afterwards a duplicate factory was established in case the first should be bombed.

The floating drums, called H.M.S. Conundrums (or "Conuns" for short) were moored in deep water at the end of the pipe-racks, so that the 4,000-foot lengths might be welded into a continuous length of thirty or more miles and wound onto the Conuns while they rotated. A Conun is 90 feet long, over 50 feet in diameter, and, when fully wound, weighs 1,600 tons -- the weight of a destroyer. It can carry seventy miles of pipeline. The drum around which the pipe is wound is 40 feet in diameter and 60 feet long.

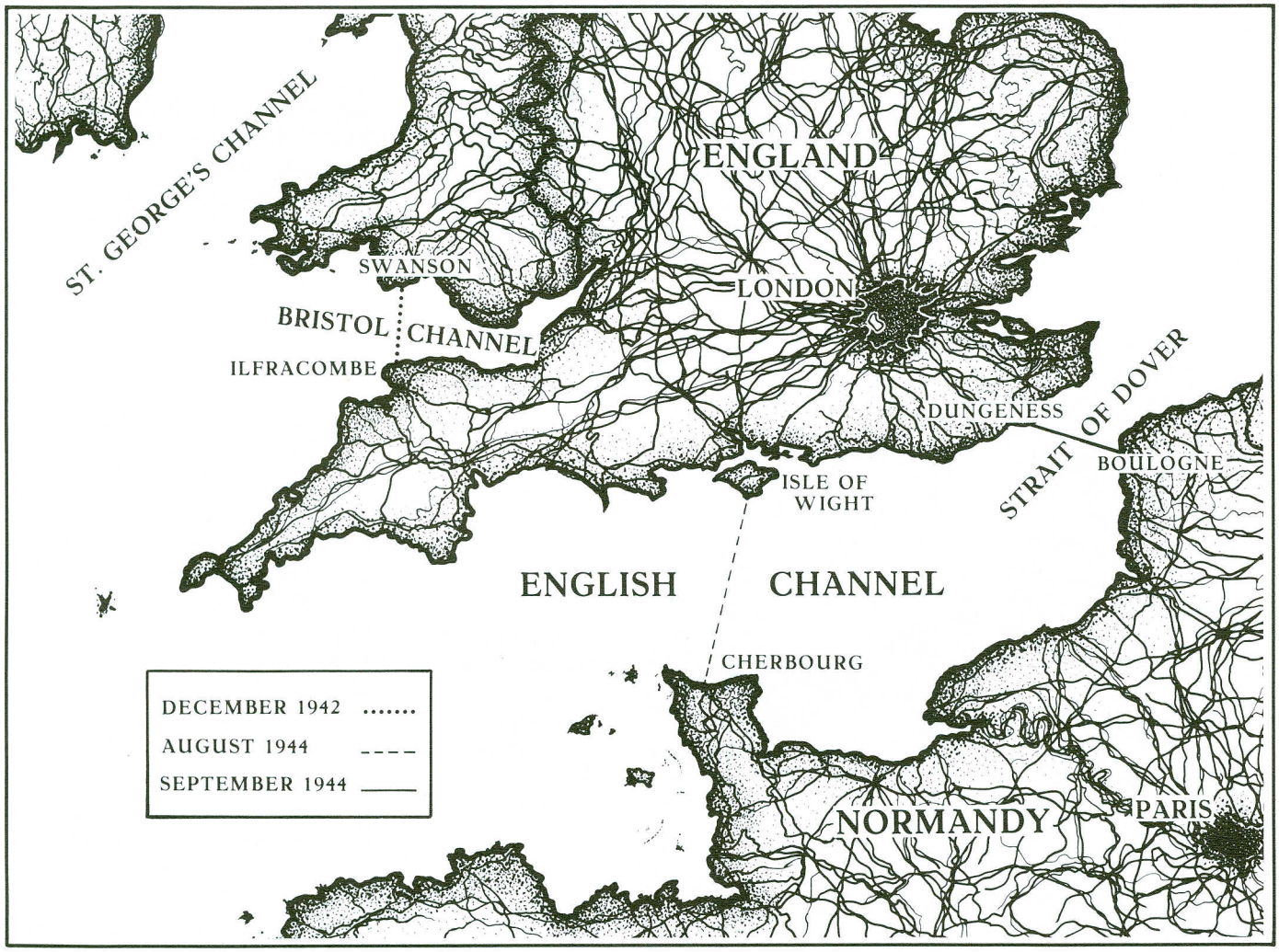
After the successful trials of the HAIS cable in April 1943, the manufacture of HAIS cable and Hamel pipe, and coordination of the whole scheme, together with provision for pumping stations on the English shore, became the responsibility of Britain's Petroleum Warfare Department. The Royal Navy accepted the responsibility of laying the pipes at sea. Thus Force Pluto was formed, under Captain J.F. Hutchings of the Royal Navy, composed of ships of all sizes from 10,000-tonners down to barges and motorboats manned by British Merchant Navy seamen. The Force was placed under the command of Admiral Sir Bertram Ramsey, Allied Naval Commander.

Force Pluto's main base was Southampton, with a secondary base at Tilbury. The Force numbered 100 British Merchant Navy officers and 1,000 men. In addition to H.M.S. Holdfast, three merchantmen were fitted with the cable-laying machinery. Two could carry one hundred miles, and one, thirty miles, of HAIS cable. Thames barges were converted for handling the cable at the shore ends, where large ships could not operate. Six Conuns handled the Hamel pipe. New pipelines were run from the British system to take the gasoline to the coast, and special high-pressure pumping stations were cleverly camouflaged. One of these was in a row of blitzed houses at Sandown, on the Isle of Wight; another was in an old fort built in the 1860s against possible invasion by Napoleon III; and others were in a modern amusement park and in seaside villas at Dungeness.

Operation Pluto began as soon as the mines had been swept from the vicinity of the Cherbourg Peninsula. It took ten hours to lay the lines running from the Isle of Wight to Cherbourg. These conveyed gasoline to the United States armies. The lines later established from Dungeness to Boulogne took five hours to lay and carried gasoline to the British 21st Army Group. An Royal Army Service Corps (RASC) petroleum unit

maintains direct contact with the French terminals by cross-Channel wireless telephone, thereby instantly detecting and reporting variations in the quantities delivered.

Paying tribute to this great engineering feat, Prime Minister Churchill said: "A large part of the Allied Expeditionary Force has been supplied with petrol by this unique method, which provides for petroleum the same kind of facilities upon a hostile shore that the Mulberry (prefabricated) harbors provided for general military stores." General Eisenhower expressed his "warm appreciation of the work the Pluto pipelines have done in supplying United States as well as British forces in their drive into Germany."



KOREAN STORAGE FACILITY THRIVES

LTC William K. Huff

The Quartermaster (QM) Depot, once commonplace, has all but vanished. Others survive under different designations. Such is the case in Pusan, Korea, where the local populace still recognizes the U.S. Army Pusan Storage Facility as the 55th Quartermaster Depot.

Bearing the motto "Lifeline of Korea," the Pusan Storage Facility's lineage traces back to 1950, when it originated as the 55th QM Depot. Reorganization of the Depot occurred in 1955, when it became part of the 142d QM Battalion. In 1965, it was redesignated the U.S. Army Pusan Depot, subsequently Directorate, Supply and Maintenance Pusan Area Command. Redesignation occurred again in 1970, when it became the Pusan Depot Activity, Camp Carroll. Finally, in 1977 it received its current designation.

Development and staffing is underway for the next reorganization, needed to bring the Pusan Storage Facility under an Army of Excellence design. Currently the U.S. Army Logistics Center at Fort Lee, Virginia, is finalizing the table of organization and equipment or designation as a General Support Battalion ... possibly the 55th?

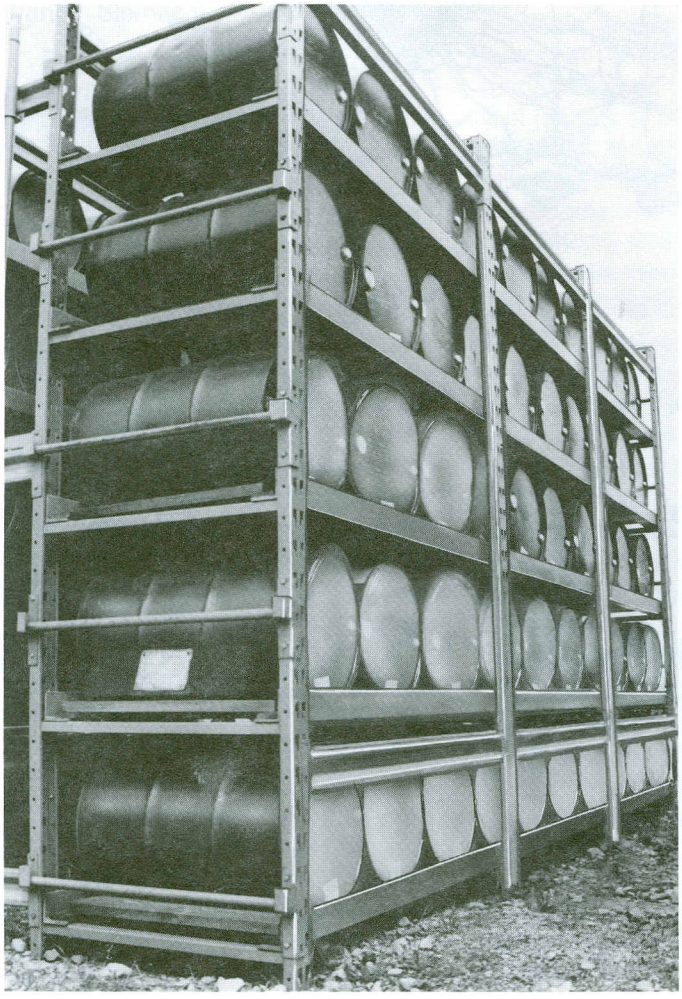
The Pusan Storage Facility is a 56.9-acre complex consisting of 13 warehouses; 273,074 cubic feet of storage; 13 covered sheds; 1,489,550 square feet of open storage; a 300-foot pier; marine, CONEX/MILVAN, tent, and materials handling equipment repair facilities; dining facility; troop billets; unit supply; and a variety of administrative facilities. Also, administrative facilities are provided to the following tenants: 106th Medical Veterinary Detachment, 4th Quartermaster Detachment, 69th Transportation Trailer Transfer Point - Pusan, 552d Security Detachment, 8th U.S. Army Engineer Topographic Map Section, 6th Korean Service Corps, Area Facilities Engineers and Supply Point 48.

The Pusan Storage Facility is authorized two officers, an O-5 Depot Commander, and an O-2 Detachment Commander. Additionally authorized are 42 enlisted soldiers, six DA civilians, 135 Korean National employees, 116 Korean Service Corps employees, and two Korean Augmentation to U.S. Army (KATUSA) soldiers.

The mission of the Pusan Storage Facility is to provide general support, operational project and war reserve storage and distribution for theater stocks of Class I, II, III (packaged), IV, VI (less packaged), VII and IX supplies in support of U.S. Forces Korea (USFK). Secondly, the facility provides theater direct and general support and contract depot-level maintenance for EUSA watercraft and USFK CONEX/MILVAN container and tentage. Third, the facility provides storage of all theater contingency war reserve map stocks.

Mission comes first at Pusan Storage Facility where 2,040 short tons of Class I, 1,040 short tons of Class IV, and hundreds of short tons of other general supplies are shipped out monthly. Stock control accounts for nearly 2,000 lines of supplies plus 700,000 lines of maps, with a total inventory dollar value of $103.1 million.

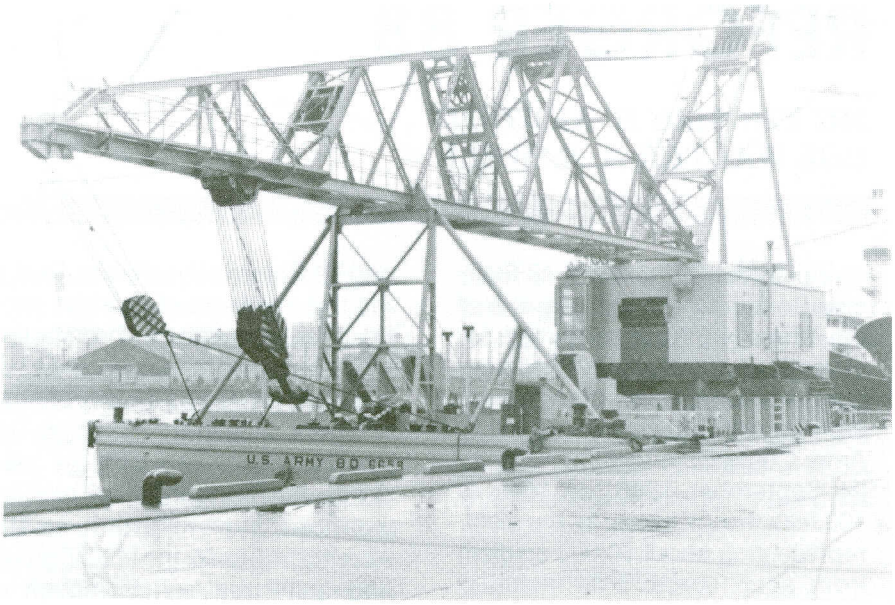
A new vertical method of storing 55-gallon drums of Class III packaged petroleum, oil and lubricants is now in use at Pusan Storage Facility. Due to an urgent need for



New vertical storage racks for Class III products increase storage space by 60 percent.

space, approximately 5,000 55-gallon drums had to be either stored in a warehouse shed that would have cost $260,000 per year to lease or in an area designated for storage of lumber. Through the combined efforts of Pusan Storage Facility personnel and the Army's Quick Return on Investment Program (QRIP), 24 sets of five-tier-high racks with a life expectancy of 20 years were bought and installed at a cost of $167,111.

These racks reduced the space needed to store the Class III products by 60 percent and saved the Army almost $100,000 the first year. The Pusan Storage Facility manages the Army's largest lumber yard and now does so more efficiently after saving 78,000 square feet of storage space. The 24 sets of racks provide storage capacity for 4,800 55-gallon drums, allow easy stock rotation, and reduce COSIS requirements.

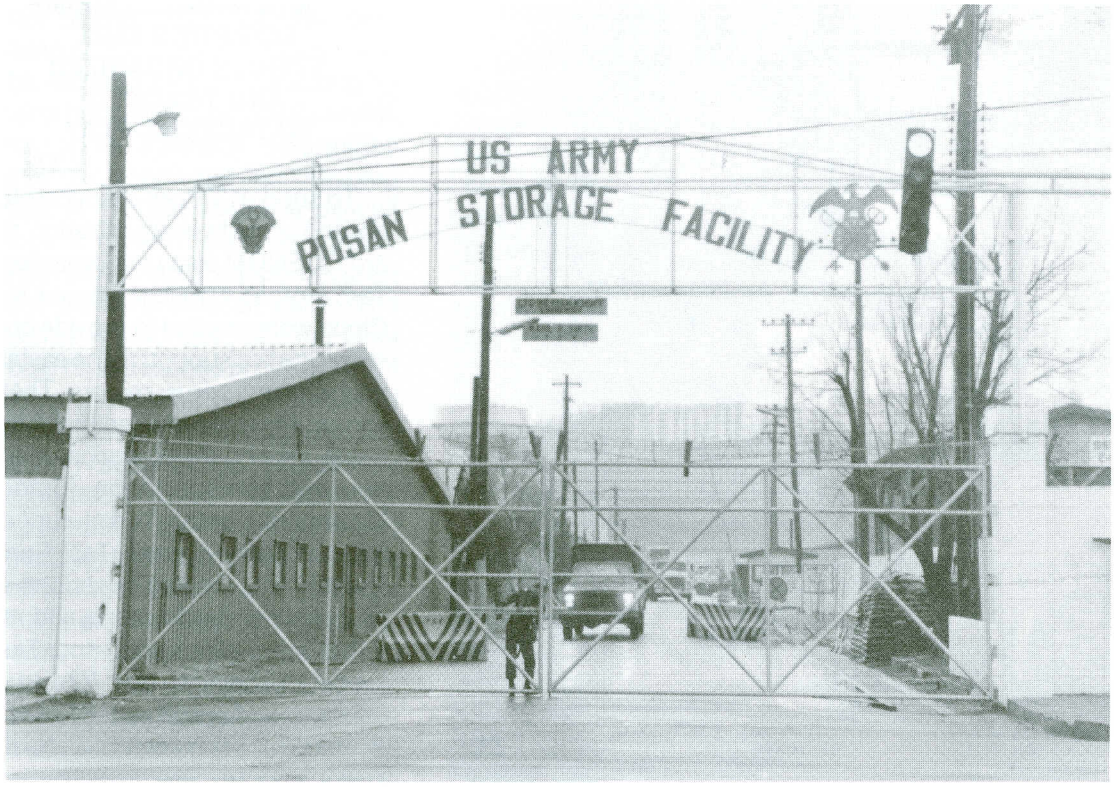


The 56.9-acre complex includes a 300-ft pier and marine repair facilities.

In addition to mission performance, Pusan Storage Facility is active in community activities -- both military and local civilian. The Pusan Storage Facility is also extremely active in Army programs of excellence and won the 1989 8th U.S. Army competition and received nominations for the Department of the Army-wide competition in the Chief of Staff, Army (CSA) Supply Excellence Program, the Chief of Staff, Army Maintenance Excellence Program, and the DA-sponsored Philip A. Connelly Best Dining Facility Program.

The Pusan Storage Facility is a "can do" unit; Quartermaster Country at its best.

LTC William K. Huff is the Commander, U.S. Army Pusan Storage Facility, Pusan, Korea.



The Pusan Storage Facility includes the Army's largest lumber yard.

REFORGER 88

MG THOMAS B. ARWOOD
COL WALTER A. BAWELL

By far, the REFORGER 88 Exercise Certain Challenge was one of the largest in Western Europe for several years. Certain Challenge play involved a corps-on-corps exercise of the Fifth and Seventh U.S. Army Corps from 10 September to 24 September 1988. A total of 100,000 troops were in the field, representing about 50,000 soldiers from each corps. This included 40,911 soldiers flown from CONUS to participate in the annual REFORGER exercise.

Exercise play for the first week called for V Corps in the defense and VII Corps in the offense. During the first weekend of exercise play, both corps returned to their starting positions and reversed combat roles with V Corps in the offense and VII Corps in the defense. The fast tempo of the combat play driven by the mobility of modern weapons systems such as the Abrams M-1 tank, the M2/3 Bradley and quick reaction formation of combat task forces to achieve a tactical advantage, tested the limits of logistical support. The fast pace of operations and the sheer number of soldiers and weapons systems in the field provided a rare opportunity to train and challenge corps combat logistical units. Only in large exercises like this is it possible to lay down a full-fledged logistical corps support apparatus.

Noncommissioned officer readies for medical evacuation of a patient.

REFORGER 88 was unique in another respect. It may have been one of the last logistics training opportunities of its kind for the near future, given current budget constraints and the political situation in Europe. REFORGER 88 was also a time to demonstrate the logistics multiplier of NATO's conventional forces. Conventional forces now play a much greater role in NATO's strategy of Flexible Response given the recent U.S. - Soviet Treaty on the elimination of Intermediate Range Nuclear Forces in Europe. For all these reasons, the 3rd Corps Support Command, V Corps took every possible opportunity of the time allotted to train corps-level logistics units.

MULTIFUNCTIONAL LOGISTICS TASK FORCES ORGANIZED AND TAILORED TO TACTICAL PLAY

To support V Corp's tactical plan and the corps task organization, the 3rd COSCOM also task-organized. Task Forces (TF) Luttrell and McCloud were created to provide one-stop logistics support to the eastern and western corps sectors. These two task forces provided multifunctional supply, maintenance, medical, and transportation (Branch Movement Control Team) support behind divisional areas. Task Force Hendon was created to perform an on-order mission to rearm and refit a battalion-sized unit and Task Force Okabayashi was formed to establish and operate a tactical Fuel System Supply Point (FSSP) for the corps and to provide a line-haul POL delivery capability.

ACCOMPLISHMENTS AND LESSONS LEARNED CLASS I

Over 2,035,308 meals were provided to V Corps soldiers from two Field Ration Breakdown Points (FRBP) operated by TFs Luttrell and McCloud. The weekly issue plan of 2-2-3 (days of rations) to FRBPs was maintained throughout the exercise. Two A-ration meals complete with ice cream dessert were planned, issued, and served. A generous variety of fresh fruits, vegetables, and bread were on hand for all meals. Refrigeration support for corps and divisional FRBPs was superb. Transportation deliveries were tracked daily from as many as seven different sources until actual delivery at the corps FRBP. All meals were issued on time. No one went without.

T-RATION CHALLENGE

T-rations were a challenge but prior planning paid off. The goal was to provide variety at each meal. This required inventory tracking by menu because if one is not careful, the forklift operator determines what the troops get fed. Keeping track of T-ration meals is difficult since a given meal may appear under more than one NSN because of a different date of pack. The reverse is also true, i.e. one NSN could represent one of two different meals depending on the date of pack. This makes it very hard to accurately account for T-rations by menu, and it makes it very challenging to ensure the troops get menu variety and are not served the same entree meal after meal. The corps FRBPs did their best to provide accurate inventories to the Corps Materiel Management Centers (CMMC) so that proper orders could be placed on the Defense Subsistence Region Europe (DSRE). It became quite evident during the exercise that a Class I automated system employing MILSTRIP type procedures would increase the efficiency of operations and would probably cut down on excess at the end of the exercise. As a minimum, a due-in and due-out confirmation procedure between FRBP, the CMMC, and DSRE is absolutely essential.

Field dining facilities were never at a loss to discover better ways to enhance feeding operations. Many dining facilities began offering two to three different T-ration entrees. This led to a direct increase in the number of troops eating in field dining facilities.

Another discovery was T-ration soup. Leftover T-rations added to a soup warming beverage provide an ideal snack between meals and a delightful appetizer for the Meal Ready-to-Eat (MRE).

CLASS III - ONE OF THE LARGEST TACTICAL FSSPs LAID DOWN IN GERMANY

Over 380,000 gallons of fuel in collapsible fabric bags were successfully laid down to establish a corps tactical FSSP in Babenhausen, Germany. For the first time in a long time, the very large 50,000-gallon collapsible fabric bags were used on the ground. Environmental controls were tight and no major spills occurred during the exercise.

The 10,000- and 50,000-gallon bags were dug in, berms were constructed, and liners were laid down to contain spills. Camouflage nets covered each fabric bag location. The flexible hoselines, filter/separator pumps, and shut-off valves were dug in below ground and carefully camouflaged. The hoses were buried in order to provide lateral damage protection from artillery, missile, and mortar fire. Pumps were dug in below the fabric storage bags to provide for containment of spills, and to attain a self-priming capability. As an environmental precaution, bags of Perlite were placed under all hose connections valves and pumps to minimize spill damage to the soil. Perlite is a locally available chemical product that absorbs oil products but does not absorb the ground water.

To add a touch of perfection to the overall operation, photo reconnaissance missions were flown over the tactical FSSP in order to check and improve the quality of the camouflage.

TACTICAL FSSP OPERATIONS. A GOOD EXAMPLE IN HOST NATION RELATIONS

Before, during, and after the FSSP operation, host nation public officials were invited to tour the area to witness the checks and double checks for safety and environmental precautions. They were impressed.

A SUCCESSFUL NIGHT MOVE OF A 60,000-GALLON FSSP AND A LAYDOWN IN A ROCK QUARRY

In support of tactical play, one 60,000-gallon FSSP was torn down and moved 40 kilometers at night and set up in a rock quarry. Rock quarries provide excellent protection from artillery and mortar fire and are ideal locations for logistics operations. By the next morning the relocated tactical FSSP, operating out of a rock quarry, was in full swing. The tactical mobility of V Corps had thus been extended to deeply penetrate and overrun enemy positions.

A CHANCE TO PRACTICE FUEL TRAILER TRANSFER POINT (TTP) OPERATIONS

To keep pace with the mobility of tactical play, corps line-haul 5,000-

Medic places cast on a soldier 's broken wrist at a field hospital ward.

gallon tankers were transferred to divisional tactical tractors at division rear, and empty trailers were returned to corps refueling points. Trailer Transfer Point (TTP) operations extended the delivery of fuel from corps down to brigade-sized units and provided a line and distance advantage. Five TTP sites were operated (3AD, 8ID, IIth ACR, and 197th SIB). Fifty-five missions were scheduled and 31 missions were completed. Noncompleted missions were a result of unit relocations due to the tactical situation and the need to practice adherence to a coordinated time delivery schedule.

During TTP operations it was discovered that many line-haul tractors have fifth wheel heights lower than tactical tankers. Usually, the landing gear can be used to crank a trailer to the desired height. A way around this challenge was to use yard tractors or wooden ramps to raise the line-haul trailer to the height required for a tactical tractor to move under in order to hook up. The army materiel developers have recognized this challenge and plan to make modifications to rectify the hookup of line-haul trailers with tactical trailers.

MAJOR ASSEMBLY SUPPLY POINTS AT EACH TASK FORCE

At each of the multifunctional Task Forces, Luttrell and McCloud, Major Assembly Points (MAPs) were established in support of division and regimental combat units. Forecasts of major assembly shortfalls were planned 120 days prior to the exercise by the 19th Corps Materiel Management Center (CMMC) and the Divisional and Regimental MMCs. With the planning this far in advance, the 19th CMMC was able to advise theater repair facilities and CONUS sources as to expected production and delivery supply priorities in support of REFORGER. The end result was sufficient availability of major assemblies to maintain the fleet readiness of V Corps weapons systems well within established readiness goals during the entire exercise.

CORPS ASSET VISIBILITY USED TO CROSS LEVEL FOR PARTS DEADLINING WEAPONS SYSTEMS

Throughout REFORGER, high priorities called into the 19th CMMC, 3rd COSCOM were screened across all 33 Supply Support Activities (SSAs) within V Corps for fill using a locally developed Corps Asset Visibility Program. The results were that 33 percent of the high priority requests that normally would have been passed to CONUS for fill were satisfied within the corps by a sister SSA. About 20 percent of the time, fill was made from excess to one of the corps SSAs.

CORPS REAR BATTLE AND TERRAIN MANAGEMENT

In war, thousands of U.S. and allied units will move through and use the corps rear area. This is definitely a show stopper. In one corps exercise it was noted that 15 battalions attempted to use the same piece of terrain. In another exercise it was noted that 10 square kilometers of terrain in the corps rear had not been assigned to a base cluster commander (BCC), therefore, no defense plans were developed. A single terrain manager, based on corps G-3 allocation, for the corps rear area is required. For Certain Challenge 88, the CG, 3rd COSCOM acted as terrain manager to control and to deconflict the use of corps rear area

terrain. This proved to be an ideal choice since the 3rd COSCOM commander has knowledge of the location of corps rear units and is in the best position to prevent main supply routes (MSR)s from becoming clogged.

The corps deputy commanding general is responsible for fighting the rear battle but there is no staff solely dedicated to this function aside from the plans and operations cell of the corps rear command post (CP). The corps terrain manager, the COSCOM G-3, the MP brigade, the rear area operations center (RAOC), and BCCs, and the corps rear plans and operations cell, serve as a pseudo staff. In REFORGER 88, it became apparent that command and control of these diverse elements needed improvement. For starters, the RAOC and MP brigade headquarters should be collocated. Compatible communications, secure standard communications protocols, and an increase in communications authorizations are absolutely essential for a coordinated defense among BCCs to repel enemy penetrations. BCCs need a communications net separate from the administrative logistics net. The base cluster (BC) net needs to be established by MTOE changes initiated by the BCCs in the forward deployed corps.

BASE CLUSTER COMMANDS

During exercise Certain Challenge, base cluster areas were established in the corps rear to provide for command and control of rear battle defensive operations. A number of lessons were learned and they are summarized in the following paragraphs.

Usually, the most senior commander within a base cluster becomes the BCC. Given the fluid nature of the corps rear area, BCCs will often change on short notice. During exercise Certain Challenge, supporting CSS commanders often became BCCs when senior combat or CS commanders departed the area. Therefore, to avoid any surprises, CSS commanders must anticipate taking charge as a BCC. As a minimum, CSS commanders must coordinate with the RAOC, obtain map overlays of all friendly unit locations within the area, receive intelligence summaries, and obtain radio frequencies and call numbers of units within their base cluster. CSS commanders must anticipate the mission. If called upon to be the BCC for their area, CSS commanders visit the outgoing BCC and the MP brigade operations section to obtain an operations brief on critical terrain, intelligence, potential maneuvers, main support routes, and logistics sites; and they obtain map overlays and call signs of the base defense liaison teams (BDLTs) of other cluster members.

As a BCC, it is advisable to dedicate a radio to establish a BC net and to tie into the RAOC radio net. It is best to remote the radio to the BDLT operations section which should be established in a separate location. During the execution of BC operations, the BCC must ensure all defense plans are sound, establish periodic communications checks, and monitor the movement of elements into its area through close coordination with the terrain manager.

A SUCCESSFUL LAUNDRY AND BATH OPERATION

A total of two laundry and three bath sites were operated by the 3rd COSCOM. On the first Thursday of the exercise, the mission-oriented protection posture (MOPP) gear for 1,030 3rd COSCOM soldiers was collected, delivered, laundered at 3rd COSCOM laundry facilities and returned to the troops by Sunday evening.

A SUCCESSFUL NIGHT MOVE TO REARM/REFIT THE 3RD SQUADRON, 12TH CAVALRY

Based on the tactical play, TF Hendon moved at night, established contact with the 3rd Squadron, 12th Cavalry, and conducted a successful rearm and refit mission.

LOGISTICS DATA NETWORK

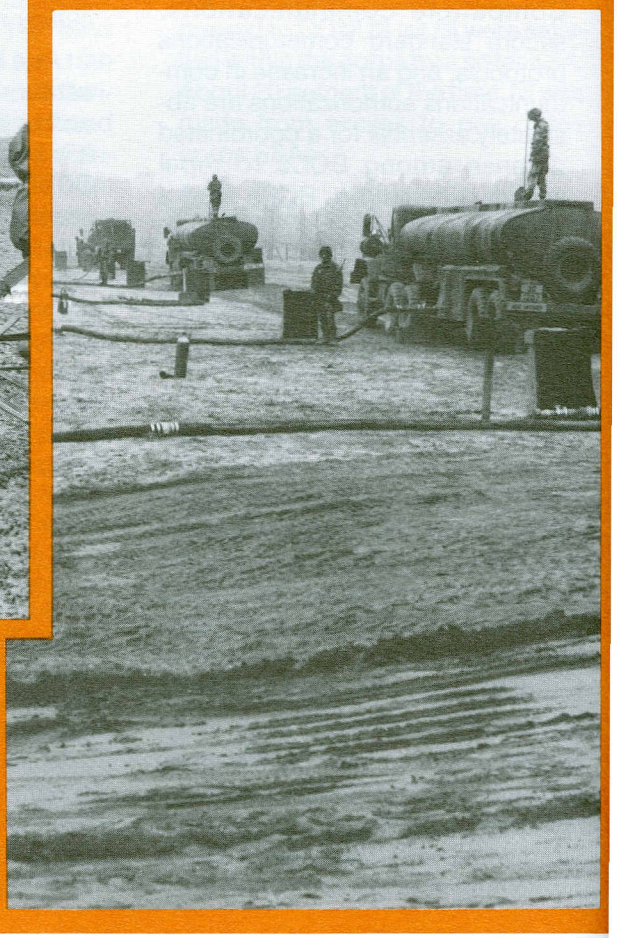
Although the Mobile Subscriber Equipment (MSE) has not yet been fielded to V Corps units, useful experience was gained with the Tactical Combat Service Support Computer System (TACCS) device. TACCS hooked to modems was used to communicate in the clear over the German telephone system (DBP) and over the Tactical Automated Switched System (TASS) for secure transmissions. TACCS communication was used to transmit a video screen format for high priority requisitions between the Division Materiel Management Center (DMMC) and the CMMC. Other applications such as the transmission of Bulk Petroleum Reporting and Logistics Status were also used with the TACCS device.

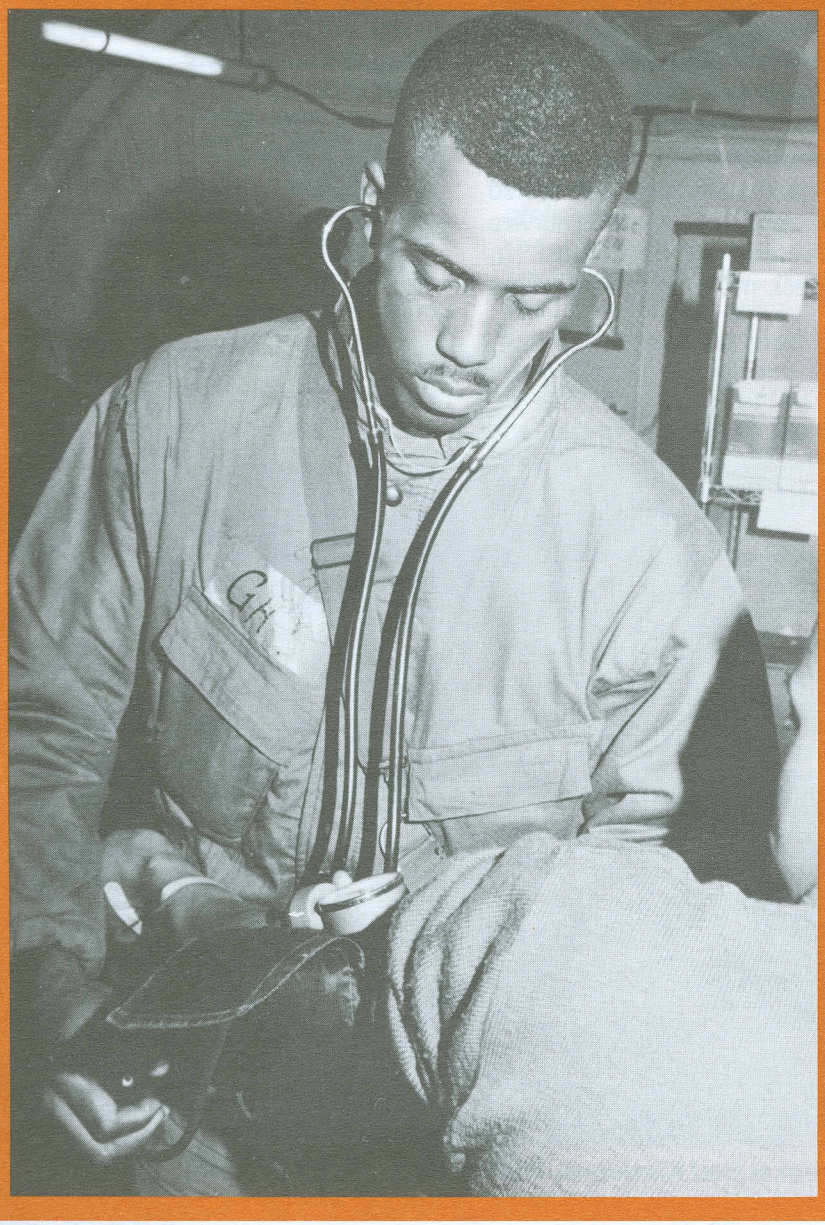
REFORGER MEDICAL PLAY

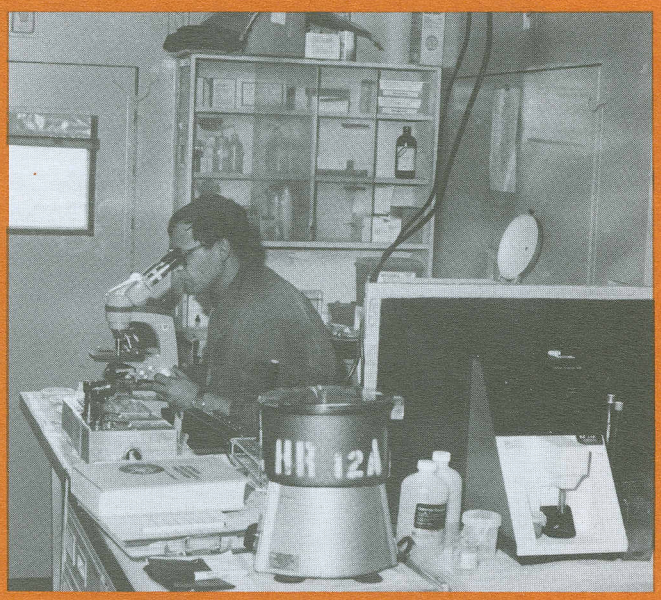
The 68th Medical Group, 3rd COSCOM, for the very first time, received its compliment of the theater slice for deployment. This included a dust off helicopter unit and a Medical Supply, Optical Fabrication, Maintenance (MEDSOM) unit.

During the exercise, the 68th Medical Group deployed a Combat Support Hospital (CSH) of 120 beds, two medical clearing platoons of 120 beds, and a Mobile Army Support Hospital (MASH) of 60 beds. In response to the tactical advance of forward units, the CSH and the two clearing platoons were moved at night and set up for next

Soldiers Supporting REFORGER 88






HR 12A

"LOGISTICS SYSTEMS MUST BE TESTED AND CHALLENGED IF WE ARE TO SURVIVE ON THE MODERN BATTLEFIELD."

day operation in the new tactical location. Likewise, the MASH unit was moved at night to a new tactical site 110 kilometers forward. A total of 300 hospital beds were deployed for the exercise. All were moved at night based upon the tactical situation and reestablished within 24 hours.

REAR ASSEMBLY AREA (RAAs) RUN BY THE MEDICAL GROUP

Also another first. Using the staff and headquarters of the 68th Medical Group plus the attachment of one artillery battalion, two rear assembly areas (RAAs) were established, one at Darmstadt and the other at Wildflicken, Germany, for the redeployment of REFORGER units to CONUS. Operating with a $2.9 million budget to cover contractor and RAA operating costs, the Medical Group organized the repair and redeployment of REFORGER units. Some units returned to CONUS in a better readiness rate than when they arrived since all 3rd COSCOM maintenance and supply capabilities were made available and were directed to provide first priority to redeploying REFORGER units.

CONCLUSION

Certain Challenge was even more of a challenge for 3rd COSCOM. The primary staff principals were all newly assigned. With the exception of one or two officers, this was the very first REFORGER Exercise for the recently formed 16th Corps Support Group.

The 3rd COSCOM took maximum advantage of the Certain Challenge training opportunity. Logistics systems must be tested and challenged if we are to survive on the modern battlefield. In retrospect, more ammunition play should have been inserted in order to test ammunition transportation and handling capabilities for all classes of supply. During REFORGER 88, V Corps used 195 M-872 trailers just for Class I. These transportation assets simply would not have been available if ammunition had been played.

In summary, our corps logistic units met the challenge of REFORGER 88. The experience gained and the lessons learned are being used to further improve the Army's combat logistics capabilities.

MG Thomas B. Arwood is the Commander, 3rd Support Command, V Corps, U.S. Army Europe. COL Walter A. Bawell is the Commander, 19th Corps Materiel Management Center, Wiesbaden Air Base, Federal Republic of Germany.

Bladder Bird POL Operation Point at Bad Kissingen, Federal Republic of Germany.

"POL-CATS"—
53RD QUARTERMASTER COMPANY

CPT KAREN SIMS

In the days before trucks, tanks, and helicopters, it was often said that an army "marched on its stomach." Today, due to ever-increasing technology and sophisticated engines, the success of the U.S. Army is largely dependent on petroleum units providing quality fuel at the right time, the right place, and in the right quantity.

The 53rd Quartermaster (QM) Company (Petroleum Supply) located at Fort Hood, Texas is one of the units responsible for that mission. It is one of four Petroleum Supply Companies in the active U.S. Army, the others being the 102d QM Company, Fort Campbell, Kentucky, the 108th QM Company, Fort Rucker, Alabama, and the 110th QM Company, Hunter Army Airfield, Savannah, Georgia. The 53rd QM Company is assigned to the 553rd Supply and Service Battalion, 13th Support Command (Corps).

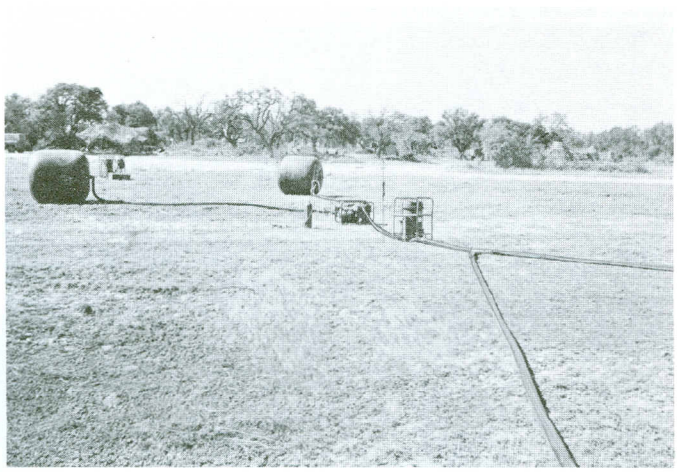
The 53rd QM Company provides General Support and backup Direct Support to non-divisional and divisional units in III Corps. It is organized into two petroleum, oils, lubricants (POL) platoons, a headquarters section, a stock control section, and a maintenance section. Its authorized strength is 187 personnel. The company's missions include the operation of Improved Fuel System Supply Points (IFSSP), temporary bulk storage facilities, Forward Area Refueling Equipment (FARE), petroleum hose line outfits (assault hose line), fixed fuel facilities, Class III railheads, and petroleum tank vehicles.

The 53rd QM Company is capable of storing up to 2,520,000 gallons of fuel through a combination of 10,000-, 20,000-, and 50,000-gallon collapsible storage tanks. Numerous field exercises in support of III Corps units have allowed the soldiers of the 53rd QM Company to maintain a high level of proficiency in this arena. During a recent exercise in Southwest Texas, one of the POL platoons issued over 150,000 gallons of fuel in less than a week. Excavation is currently underway for a permanent IFSSP site to provide better petroleum support to units in the field at Fort Hood.

In February and March 1987, the company participated in the Logistics Unit Productivity Study (LUPS), which was conducted to validate the 10227J500 series modified table of organization and equipment (MTOE) under wartime conditions. This exercise was designed to evaluate an increase in storage capacity from 1.5 to 2.5 million gallons, restructuring of platoons from two to three sections, replacement of the bulldozer and scoop or backhoe with a small emplacement excavator (SEE), and an increase in required strength from 189 to 202.

The company received and issued over 13,500,000 gallons of fuel during the 25-day study, as well as performing its other Army training and evaluation program (ARTEP) missions of FARE operations, assault hose line operations, and bulk distribution operations. With the exception of operations involving the SEE, which had mechanical maintenance problems and required a great deal more time than the bulldozers for berm building, the study went smoothly. All changes to the MTOE evaluated during the LUPS have been incorporated into the 53rd's structure.

More recently, the unit deployed on "REFORGER 87." After drawing equipment from their Preposition of



Readying a FARE system

Laying out the assault hoseline

Materiel Configured to Unit Sets (POMCUS) site, they immediately established a 48-point Refuel on the Move (ROM) operation to support the 1st Cavalry Division. During this exercise, one POL platoon set up and operated a barge off-load point while the other conducted railhead operations. At the same time, personnel from the company operated FARE points and worked at Central European Pipeline System (CEPS) depots.

At home at Fort Hood, three fixed fuel facilities ("tank farms") are supervised and operated by the stock control section with support from the two POL platoons. These tank farms have a storage capacity in excess of 2.6 million gallons and provide bulk and retail petroleum support to III Corps and Reserve and National Guard units training at Fort Hood.

The company automated all retail operations in September 1988, under the TRAK system. Under this system, customer units were issued "keys" for their vehicles with programmed microchips which assist in tracking and regulating the type and amount of fuel an operator can get for a vehicle. The retail pumps are equipped with a monitor into which customers insert their keys. After entering a code, the operator selects the pump and quantity of fuel needed.

This data is compiled and printed on a daily and monthly basis. After a test period during which both manual and automated records were kept, the TRAK System was determined more accurate than manual record keeping. Time and manpower savings have resulted from using the TRAK System. Plans are now underway to automate bulk issue operations.

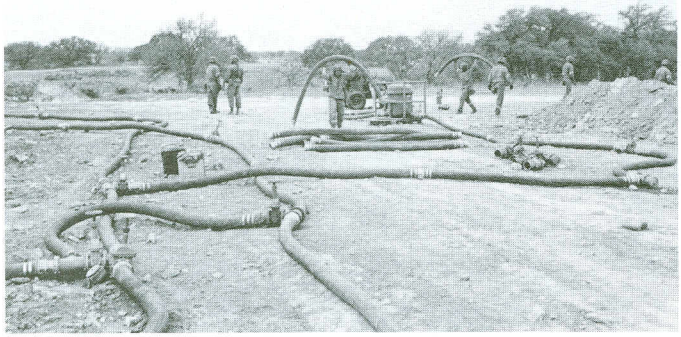
The two POL platoons have the combined capability to lay and operate approximately 24 kilometers (15 miles) of collapsible petroleum hose line (assault hose line). Since very few mission support exercises call for the use of the assault hose line, the unit trains extensively on this procedure during unit exercises and ARTEPs.

In January 1989, one of the POL platoons deployed to an area west of Fort Hood to support III Corps units participating in "Roadrunner 89." The platoon was tasked to operate two hot refuel (helicopter) points, one cold refuel (fixed wing) point, and three Class III railheads. The 53rd QM Company frequently supports aviation units, so soldiers were very proficient in hot and cold refueling. Most soldiers, unless previously assigned to USAREUR where petroleum rail supply is done on a regular basis, had never had any experience with petroleum railcars.

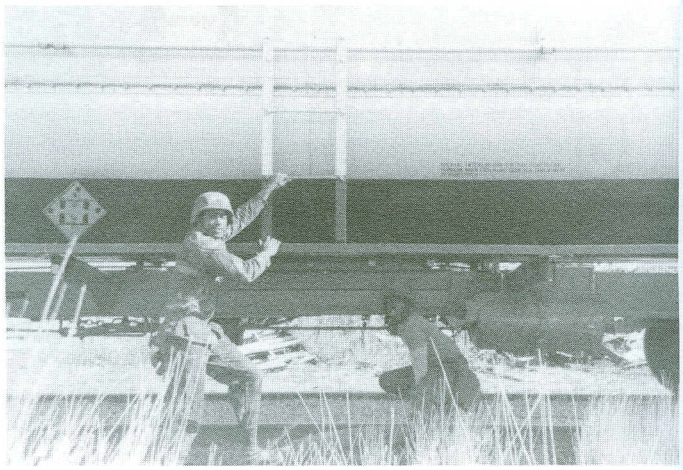
Many years have passed since rail tank cars have been used by petroleum units in the field in CONUS. This presented numerous challenges before a smooth operation was achieved.

To begin, the NATO railcar adaptors procured for use during "REFORGER 87" did not fit the DODX (United States) railcars, so adaptors had to be procured from a local supply source. This in itself was somewhat of a challenge, because most commercial rail terminals load and unload their railcars through the dome (top) and knew very little about bottom loading. (Bottom loading is a much safer alternative because it eliminates the possibility of "splashing" and the subsequent buildup of static electricity.) Adaptors were finally located in Dallas, Texas, but the unit still experienced problems due to the lack of preventive maintenance on the DODX railcar dump valves and bottom load ports.

Another test of the 53rd's proficiency involved the location of



Disassembling an FSSP



Checking a railcar before issuing fuel

strapping charts for the various model railcars received. Since commercial terminals use weigh stations to determine quantities, subtracting empty weight from full weight, their need for strapping charts is virtually nonexistent. Since we filled the diesel railcars ourselves, it was relatively easy to keep track of the quantity in each railcar. JP4 railcars were another story. Since they were filled at a commercial terminal, we had to estimate the quantity received and keep detailed records on issues by railcars to determine what was actually quantity.

The 53rd QM Company's maintenance section provides organizational maintenance on 54 wheeled vehicles, 12 5,000-gallon tankers, 12 generators, and over 150 pieces of assorted Quartermaster equipment. Without the dedicated and talented services of this section, the company would be unable to meet the high demands placed on it during its many support missions.

The "POL-CATS" of the 53rd QM Company are fully aware of the crucial role they play in the support of III Corps. Esprit de corps and motivation to provide the best petroleum support possible exemplify the 553rd Supply and Service Battalion's motto of "Ask - We Do." No mission is too long, too difficult, too dirty, too wet, too hot, or too cold not to be done well.

These soldiers never forget that the lives of other soldiers and millions of dollars worth of equipment are dependent on them doing their jobs. No shortcuts are taken with quality surveillance procedures, nor is maintenance of equipment taken lightly. The unit is extremely proud to have placed second in the Army Chief of Staff Maintenance Excellence Award (Heavy Category) for III Corps and Fort Hood.

In peacetime, efficient petroleum support is essential to conducting challenging and realistic training. In wartime, it may mean the difference between success or failure for a major operation. III Corps units have come to know that they will never get anything less than 100 percent support from the 53rd QM Company and can train for war with that much more confidence in one of the most critical aspects of logistics support.

CPT Karen Sims is the Commander, 53rd Quartermaster Company, 553rd Supply and Service Battalion, 13th Support Command, Fort Hood, Texas.

Opening a valve to issue fuel

Guiding a Huey into a refueling point

5,000 CLUB

CPT DEIRDRE COZZENS

"I wanted to become airborne..."

That's the answer often given by parachute riggers when asked why they entered the field. Recruiters tell people that becoming a rigger is a guaranteed way to become, and stay, airborne. Having achieved those goals, the 43E is presented another: becoming eligible to join the ranks of the 5,000 Club.

The 5,000 Club originated in 1979 when the 82d Airborne Division began keeping individual packing statistics. Members of this special group are riggers who have packed over 5,000 successive malfunction-free parachutes. Currently, only 55 riggers are part of this elite group, but three more are expected to join them in the near future.

According to SGM Delmar Spencer, the Rigger School's senior enlisted soldier at Fort Lee, Virginia, Fort Bragg, North Carolina has the only 5,000 Club in the Army, "No one else packs the volume of parachutes that the division handles." Riggers arriving at Fort Bragg can apply records of chutes packed in other assignments towards the 5,000 chutes packed goal.

To become a qualified rigger, individuals of all ranks and branches must go through the Rigger School at Fort Lee. The course lasts about 12 weeks. Each student must pack a T-10 parachute in one hour, and then jump that chute as a final requirement to graduate.

Factoring in new packers and veterans, the average rigger at Echo Company of the 407th S&T Battalion in Fort Bragg needs approximately 17 minutes to pack a T-10 parachute. About four weeks are needed until a new packer is able to pack 25 in one day.

"Initially, it takes a good 45 minutes to pack a parachute, but after a few thousand you get better and faster," explained a two-year veteran of the pack platoon who has packed more than 5,100 parachutes, SPC James Perrill.

Now working as a final inspector of parachutes, SPC Perrill notes that packing is very physical. He calculates that each rigger walks a minimum of 2.7 miles each day packing parachutes. A rigger's hands are particularly subject to abuse; in the beginning they are often torn until calluses form.

Still, despite its strenuous nature, the physical aspect is not the

After putting a T-10 parachute into the deployment bag, a rigger at Fort Bragg begins to make the locking stows of the suspension lines.

most difficult part of being a packer. Getting motivated and remaining mentally alert receives that distinction. Mental preparation is an important part of packing because of the repetitive nature of the task.

"It's really important to stress to the younger soldiers the importance of being careful in packing and inspecting parachutes because you're dealing with someone's life every step of the way," said SPC Perrill. "I will be sure always" is the Rigger motto and we all take it seriously."

Different incentives are used to motivate and mentally prepare the packers of the 407th. The 5,000 Club is one of those. A soldier who meets the challenge and joins its ranks is recommended for an Army Commendation Medal.

Other incentives involve competitions to determine packer of the month, quarter, and year. To vary their duties, soldiers also rotate between heavy and light pack and among other platoons. Good packers also get the opportunity to go on temporary duty (TDY).

Those soldiers aspiring to the 5,000 Club set other goals to help them make the mark. The person holding the record for packing 5,000 chutes in the shortest time is SGT Willie Sledge who took only 13 months. Sledge has since rotated to the Heavy Drop Rigging Site to work with the Air Delivery Platoon. In order to set the record, Sledge often packed up to 15 extra chutes per day after completing his normal quota.

Most members of the 5,000 Club have taken an average of two years to achieve the mark. Contenders for the record have their eyes set not only on Sledge's 13-month record, but on being able to pack 5,000 malfunction-free chutes in one year.

To the new rigger, the thought of packing 5,000 consecutive malfunction-free chutes can seem like an overwhelming task. For most of the riggers of the 407th it is a major challenge, but the achievements of the 55 soldiers who've made the mark serve as a reminder that the goal is attainable. "I wanted to be the best." That's the answer given by riggers when asked why they aspired to the 5,000 Club.

CPT Deirdre Cozzens is a Public Affairs Officer, 82d Airborne Division, Fort Bragg, North Carolina. She formerly served as a Platoon Pack Leader of the 407th S&T Battalion, Division Support Command.

QUARTERMASTER PROFESSIONAL BULLETIN WRITING AWARD

It gives the staff of The Quartermaster Professional Bulletin great pleasure to announce the winner of the Association of Quartermaster Officers' first annual writing award. Articles in the first four issues of the Quartermaster Professional Bulletin were eligible for the award. Honorary Colonel of the Regiment, Major General Joseph E. Pieklik, USA Retired, selected the "best article" based on style and content. He was particularly concerned about ensuring that the article address a "must know" issue.

The winner is "The Army Field Feeding System" by CW4 Wesley C. Wolf and Fred D. Choice. Honorable mention goes to: "Abriendos Rutas – Providing Logistical Support to Blazing Trails 1987" by CPT David A. Matarese; "Urban Area Training" by LTC William Causey and CPT C.S. Vakas; "Bright Star '87 - Water Supply Operations" by MAJ Frank Wright; and "Airdrop in Support of the Air-Land Battle" by James S. Emery.

MG (Retired) Pieklik presented each of the winners, CW4 Wesley C. Wolf and Fred D. Choice, a plaque and a $100 U.S. Savings Bond during an awards ceremony 16 June 1989 in the Office of the Quartermaster General at Fort Lee, Virginia.

1989 QUARTERMASTER HALL OF FAME INDUCTEES

Major General Nathanael Greene
1742 –1786

Major General Henry G. Sharpe
1858 –1947

On 24 February 1989, at Fort Lee, Virginia, the names of the 1989 inductees to the Quartermaster Hall of Fame, MG Nathanael Greene and MG Henry G. Sharpe, were announced. These individuals join the ranks of other Quartermasters honored for their contributions to the history, tradition, and development of the Corps, bringing that number to 10.

MAJOR GENERAL NATHANAEL GREENE

Nathanael Greene was born on July 27, 1742 in Rhode Island. His military career began in October 1774, when he helped organize a militia company in that state.

Prevented by a slight limp from becoming an officer, he willingly served in the ranks, using his spare time to study military treatises.

When the Rhode Island Assembly voted to organize three regiments in May 1775, Greene was appointed a brigadier general in charge of them. When his brigade was taken into the Continental Army in June of 1775, Greene became at age 32 the Army's youngest general. The siege of Boston provided Greene with his first major wartime experience. Throughout its course, Greene was conspicuous for his talent in gathering and conserving military supplies, as well as for his services in alleviating intercolonial jealousies.

During 1776, Greene served in the battles for New York and New Jersey. In August of 1776, he was appointed Major General. On Christmas Eve 1776, when Washington made his daring attack and stunned his foe at Trenton, Greene led the left column.

During Quartermaster General Mifflin's frequent absences on recruiting duties, Washington had tended to rely more and more upon the energy and sagacity of Greene regarding matters of supply. At Valley Forge during February of 1778, a congressional committee urged Greene to accept the post of Quartermaster General.

Reluctant to leave the "line of splendor" for a chaotic department, he did so finally because of Washington's desperation and his own fear for the patriot cause. There, as head of the Quartermaster Department, which consisted of some 3,000 civilian employees, Greene made enormous improvements in the face of shortages and rapidly depreciating currency.

He also established the first depot system--a chain of foraging stations which extended from the Hudson River Valley south into Maryland. His system also drew upon the New England states for

manufactured goods which had entered through the port of Boston.

Because he succeeded in reestablishing the supply system at such a crucial stage, historians generally credit Greene with being the best Quartermaster General during the Revolution. Washington trusted his judgment implicitly, looked upon him as a "chief of staff," and often sought his advice.

Geene resigned as Quartermaster General in August 1780 following quarrels with Congress, but Washington welcomed him back as his chief field commander. In October 1780, Congress approved Washington's choice of Greene to command the whole Southern Army. There his Quartermaster experience helped him to keep a constant assessment of each region's supply potential.

Greene remained in the South for the next three years, until war's end, and won numerous military laurels. Having pledged much of his personal fortune to keep the Army from starvation, he was forced to sell his estates in South Carolina, but in 1785 he returned to the South. He moved to a plantation in Georgia which was given to him by the state. He resided there until his sudden death on 19 June 1786.

His early death denied him a place in the popular pantheon of Revolutionary heroes, although he was fully appreciated by his contemporaries. Not only deemed the best Quartermaster General of the Revolution, it is generally agreed by military historians that Greene was one of the best, if not the best, strategist to serve in the Continental Army.

MAJOR GENERAL HENRY G. SHARPE

Born April 30, 1858 in Kingston, New York, Henry G. Sharpe began his military career in June 1876 following an unexpected appointment to the U.S. Military Academy from President Ulysses S. Grant, a friend of his father. For the two years following his graduation from West Point in 1880, Sharpe served as a Second Lieutenant in the 4th U.S. Infantry Regiment at Fort Laramie, Wyoming. He resigned his commission in June 1882, but reentered the military in September of 1883 as a Captain and commissary officer in the Subsistence Department.

During the next 12 years, Sharpe gained experience in all aspects of subsistence operations and was promoted to Major and commissary in November of 1895. Then, at the outbreak of the Spanish American War, Sharpe sought field service, but was assigned as Chief Commissary at Camp George H. Thomas, Georgia. Amidst a multitude of logistical problems, his management of the camp's food supply was one bright spot, and he was specially commended for his work.

Promoted to Lieutenant Colonel and Assistant Commissary General in June of 1898, he accompanied General John R. Brooke and the First Army Corps to Puerto Rico. There he served in a number of key positions before returning to the United States.

Assigned to the Office of the Commissary General in Washington D.C. in 1899, Sharpe served as a Special Assistant. Promoted to Colonel and Assistant Commissary General in 1901, he was the Acting Commissary General during the summer of 1901. Following this, in 1902, he was assigned as Chief Commissary of the Division of the Philippines, serving there with great effectiveness.

Upon the retirement of Commissary General Weston in 1905, Sharpe was appointed to that position. In this capacity, he worked to improve the ration and to introduce better methods of food preparation for a globally deployed army which was larger in size than any since the Civil War. He also spearheaded the move to establish a new Cooks and Bakers School at Fort Riley, Kansas.

With the consolidation of the Subsistence, Quartermaster, and Pay Departments into a single Supply Department in 1912, Sharpe, recognized publicly as the "father of consolidation" accepted an appointment as Brigadier General in the new Quartermaster Corps. He served in this position until 1916, when he was made Quartermaster General.

Faced with the probability of American involvement in the World War then raging in Europe, Sharpe attempted to prepare the Army's already overtaxed supply system for the demands ahead. Faced with Congressional indifference and a lack of funding, and not properly informed of planned operations or proposed troop strength, Sharpe moved ahead, dealing effectively with those obstacles.

Despite growing confusion in the procurement and transportation areas, the Quartermaster Corps, under Sharpe's guidance, erected the necessary training camps, moved the new recruits into them, fed the troops well, and clothed and equipped over 1.5 million men by 1 January 1918. At the same time, Sharpe had to cope with a massive expansion of the Corps itself. The ranks of Quartermasters ballooned from a prewar strength of 8,100 officers and enlisted men to 5,080 officers and 134,000 enlisted men by the end of 1917.

In December 1917, Sharpe was removed from his position of Quartermaster General and detailed to serve on the ineffectual and short-lived War Council. In June of 1918, he was reassigned as a Major General of the line to command the Southeastern Department headquartered at Charleston, South Carolina. There he remained until his retirement in the spring of 1920.

His retirement did not end Sharpe's involvement with the Quartermaster Corps. In 1921 he published an account of his experiences entitled The Quartermaster Corps in the Year 1917 in the

World War, wherein he cited the achievements and tribulations of the Corps during the period of his direction. During this period Secretary of War Baker also attempted to rectify Sharpe's summary dismissal from the post of Quartermaster General and to recognize his substantial contribution to the war effort. In January 1923, Sharpe was awarded the Distinguished Service Medal. As a civilian, he remained devoted to the Corps, particularly the professional development of officers. At his death in 1947, he was buried in Arlington National Cemetery.

Despite his position as a "traditional" bureau chief, Sharpe himself had a good claim to sit among the "new men" who transformed the U.S. Army at the turn of the century. He is aptly regarded as the first of the modern Army's logisticians, concerned with the systematic support of Army operations and with the interrelated nature of strategy, tactics, and logistics.

ACCOUNTABLE OFFICER

LT JENNIFER L. RICE

Words of wisdom from an accountable officer in Germany to Officer Basic Course students at Fort Lee, Virginia.

Greetings from historic Germany to sunny Fort Lee! I hear that you'll be joining our ranks shortly, casting your newly educated energies into "the European Logistical Leadership Challenge." No need to tremble in your boots: you'll be granted an adjustment period to the USAREUR pace, and I'm sure you will rise to the challenge. But allow me to "climatize" you with a few timely pointers based on my first hand experience.

Within a year of my arrival in Deutschland, I served under three company commanders with four platoon sergeants and one "irreplaceable" warrant officer. This involved normal rotation of personnel and my own move from a Supply and Service Company to a Maintenance Company, an intra-battalion transfer, entailing a change of platoon.

"RULE 1: Be flexible and able to adapt accordingly."

No sooner had I become comfortable learning the rigors of Supply Support Activity (SSA) management from an experienced, pipe-smoking CW3 Supply Technician, then -- Wham! I was handed my own Class IX Repair Parts Account, just two warehouses down from the Class II, IV, VII activity that I called my training ground. Though I felt inadequate and ill-prepared to assume this Accountable Officer status, especially without a warrant officer to lean on after I replaced the present one, I was ready for a change of scene. As I continue to discover on a daily basis:

"RULE 2: The only formula for success is a willingness to learn from all sources -- subordinates, peers, commanders, technicians, and those ever-present manuals (one or two applicable references for every occasion!)."

A seemingly endless work schedule is conquered by the inner drive to meet and surpass the standards, those set by others (DA and higher headquarters) and especially those set by yourself. Discipline, that deeply engrained mind-set established during Cadet (West Point, ROTC, OCS) days, deserves highest billing in this profession we have chosen. We have not been drilled in vain.

The transition from platoon leader at a Supply Support Activity to actual Accountable Officer of my own warehouse was bit more weighty than a mere change of signature block, orders, and office space. Now my time spent peering over Chief D's shoulder, asking questions and absorbing his transactions on the computer, proved invaluable when I inherited the throne. Along with the crown came the proof of position: questions directed toward me, computer complications to solve, my own customers (complete with problems), and a platoon full of doubters! Early on, I learned to rely on the expertise, opinions and constructive criticism of the 76 Victors and Papas on my team. Indeed, one certainly cannot maintain the momentous mission of managing an SSA without confidence: that of the leader in his or her soldiers and that of the soldiers provide the means of accomplishing the task at hand.

"RULE 3: Depend not on principle, but on people." The more trust I place in my platoon's ability to meet the daily demands, the more competent they become and the more faith I sense in their outlook of my own proficiency.

In addition, the temporary lack of a warrant officer as Supply Technician at this SSA has created unique educational experiences for me. I must meet the demands of the Accountable Officer position without an in-depth working knowledge. Attempting to fill this void with fresh insight and the determination to assert my methods over "the way Chief always did it," I sometimes find my soldiers on the edge of skepticism.

Though I often turn to an associate technician for guidance, I am forced to tread ground that warrants claim sacred and delve into the meat of the operation I manage on my own. Undoubtedly, my decisions may strike the platoon as dubious, yet I reap the benefits of first hand groundwork on a daily basis. I am fortunate to build this foundation of knowledge from the bottom (of a stock status) up, from the inside (of DS4/SARSS interface) out. I am doubly fortunate to form this base in Germany.

The basic difference in SSA operations between stateside setups and my OCONUS reality is distance: the kilometers my customers travel for service, the long trip to our higher source of supply, and the ocean journey some ordered parts must survive to reach my warehouse. While a few of my supported units are neighbors, none of them even occupy the same kaserne as my warehouse. Thus a part run involves at least a half a day. When supported units are in the field -- usually Grafenwoehr or Hohenfels -- they face a multitude of problems in solving ways to pick up, requisition and reconcile between their shop (motor pool) and my SSA.

Next, our daily cycle tapes and all other pertinent supply cycle data must be sent via Signal-run Telecommunications Center (TCC) to the Data Processing Unit (DPU). This electronic journey has its own potential for error, and attention to each and every detail of transceiving batch records is key to meeting the daily SAILS cycle. Finally, all shipments received at my warehouse are high-priority ALOCs, or truckloads of parts shipped via air from the States to Frankfurt. Usually, this requisition and ALOC route works smoothly. However, when the name of the game is readiness and a nut, bolt, screw, tire or brake shoe is culprit, we're willing to reach out and touch neighboring warehouses to find a high-priority part for a hard-pressed customer. When your battalion commander directs you as Accountable Officer to "get that part," you don't sit in your office and wait for next ALOC pallet to arrive! You start phoning, and fast!

"RULE 4: Work the system hard, but be proactive in solving readiness problems for your customers."

Overall, I have found the supply operation I've inherited has great potential. One only has to tap that potential and challenge the excuses which sometimes block improvement, progress, and, in my case in particular, ASL mobility. Being lower on the priority scale should never stop individual initiative and teamwork. The obstacles are not insurmountable, and with continuing emphasis and effort we can upgrade.

"RULE 5: There is no growth in stagnation."

There is room for growth here, where changes must be made without disturbing the delicate balance between customer satisfaction and supply economy. Indeed, the room to maneuver is larger than many think, and much-needed in the name of efficiency.

So, while you are still at the Officer Basic Course, you should pay close attention to any and all blocks of instruction on DS4/SARSS training, stock control, and warehousing. In addition, if an instructor mentions previous experience at SSA, seek out guidance and recommendations for research. You'll do yourself a favor if you can get your hands on a TACCS computer with SARSS and learn how to go through the menus available. Find a DAS-3 computer with DS4 software and learn all you can about it. (How does it interface with SARSS? How do you power it off a generator? How do you move it to the field and successfully run cycles?) Make time to visit and observe the training of 76V and 76P soldiers in AIT. You'll be miles ahead if you understand their technical background.

Yet, for all these challenges, I would not trade assignments. Residing in a foreign country, especially one as festive and historic as Germany, provides a fascinating opportunity to taste and touch a different way of life. Being overseas in this Central European location is incentive to travel (Space A) from the tropical Mediterranean isles to the Alpine ski slopes, or into mysterious Asia and shrouded Soviet Union.

Thus, "RULE 6: Relax and have fun!"

Though much of your time will be spent establishing your credibility as an Accountable Officer, you should take advantage of your locale to experience the exotic, exciting cultures all around you. Most of all, starting your career as an independent Accountable Officer in Europe is a challenge to your leadership ability and personal motivation. I certainly have not regretted this challenge. Good Luck.

LT Jennifer L. Rice is the Supply Platoon Leader and Accountable Officer for the 317th Maintenance Company, 71st Maintenance Battalion, 7th Support Group, 2d Corps Support Command, Nuremberg, Germany.

FYI

LIQUID LOGISTICS

PIPELINES OF THE FUTURE

The Liquid Logistics and Field Services Department is evaluating a concept for an automated pipeline manufacturing and emplacing system that would produce a pipeline from a composite material and emplace the pipeline along the trace as it is manufactured.

IMPROVED SHOWER CAPABILITY

The Liquid Logistics and Field Services Department is evaluating the feasibility of adopting a modularized, self-contained, 12-point shower unit, to improve Army field bath capability. This unit is currently being used by the USAF and USMC. Lightweight and easily assembled, the 12-point unit is used in conjunction with the SANATOR (M17 lightweight decontamination device) developed by the Chemical Corps.

PERSONAL HYGIENE SERVICES CENTER

The Liquid Logistics and Field Services Department is developing a concept that would place Bath, Laundry, Clothing Renovation and Exchange under one roof. An example of the system was demonstrated at the General Officers Conference in March 1989 at Fort Lee, Virginia, to enthusiastic response.

If adopted for the Army field services, the concept would consist of a series of TEMPER tents with sections dedicated to each of the field services provided. As envisioned, troops returning to the rear area would enter the center at one end, disrobe, turn in their uniform, shower, and be issued a clean uniform before exiting the center to return to duty. Other services, to include delousing, and the incorporation of the LADDS system for decontamination purposes may also be tied to this concept.

MEMBRANE SEPARATIONS TECHNOLOGY

On 15-17 February 1989, personnel from the Quartermaster School and Fort Belvoir's Research and Development Center attended the Membrane Separations Technology Seminar. Researchers benefited from the course presentation of designs and applications to new water systems in the Army. The attendees also received an excellent presentation on the history of reverse osmosis. This information will enhance the training of soldiers and the research and development of the Army's filtration systems.

Types of membrane systems discussed were electrodialysis (ED), microfiltration (MF), ultrafiltration (UF), and reverse osmosis (RO). Technologies included membrane structures, pore sizes, membrane plugging, and designs. During the past 15 years, reverse osmosis, ultrafiltration, and electrodialysis systems have been continuously developed and improved. Today, the Army has reverse osmosis water purification units (ROWPUs) capable of treating fresh, salt, brackish, and NBC contaminated waters to provide potable water to the world's ultimate weapon, the soldier.

STANDARDIZED INTEGRATED COMMAND POST SYSTEM (SICPS)

Engineers at the U.S. Army Troop Support Command's Natick Research, Development and Engineering Center are developing a Standardized Integrated Command Post as a highly mobile facility to house command, controls and communications electronics. The program includes the development of three command posts: Tent Command Post, Shelter Command Post, and Track Command Post.

The Tent Command Post is 11 feet square, 9 feet at the peak and features a collapsible, one-piece aluminum frame. All tent walls are of equal size and are removable. This allows the tents to be positioned end-to-end or side-to-side. Ancillary components to the Tent Command Post are two tables, two mapboards, fluorescent light set, heater, and surface wire ground system.

A Department of the Army-directed Type Classification-Limited Production Urgent buy of 1,500 Tent Command Posts was initiated in August 1987 to fill the need of seven Light Infantry Divisions. Fielding of these Tent Command

Posts began in August 1988 and continued through April 1989. Upon completion of further testing, the Tent Command Post will be Type Classified as a standard inventory item in the Second Quarter FY 90.

The Shelter Command Post is designed to fit on both the High Mobility Multipurpose Wheeled Vehicle (HMMWV) Shelter Carrier and the Commercial Utility Cargo Vehicle (CUCV) with the cargo bed removed. The shelter will be integrated with onboard power generation equipment, air conditioning, chemical/biological and electro-magnetic interference protection, racks for mounting electronic equipment, lights, and an overcab rack for storage. The Shelter Command Post will house the new Army Tactical Command and Control System (ATCCS) to be fielded starting in FY 92. It will be positioned with the Tent Command Post by means of a special tent interface wall.

The Track Command Post will consist of an M577 tracked vehicle modified to be compatible with the new ATCCS computer hardware. Primary modifications will include the addition of an environmental control unit for heat, air conditioning, and ventilation and the replacement of the present generator with a larger one plus the addition of an overpressure system to protect the unit against chemical/biological threats. The Track Command Post also will be positioned with the Tent Command Post.

TRAINING AND DOCTRINE

COMPANY COMMAND MODULE

The Quartermaster School has implemented the Reserve Component (RC) Company Command Module (CCM). The RC CCM performs a dual purpose. It functions as a stand-alone module to prepare company command designees to perform general leadership and management functions associated with a Quartermaster command. Secondly, it fulfills the Phase I requirement for the Quartermaster Reserve Component Officer Advanced Course.

To attend, an officer must be in the Reserve Component and have completed the Officer Basic Course. The officer must be a Quartermaster branch officer or pending branch transfer.

The CCM is a two-week, highly intensive training course consisting of 120 hours or 12 10-hour training days. Eight officers graduated from the Company Command Module Class 89-1 on 14 October 1988. All officers attending this pilot class were from the Fourth Army.

In addition to the long training days, the course covered many other topics. Each morning, subjects ranging from logistics theory to petroleum operations were taught in the classroom using small group instruction. Afternoon classes were organized as hands-on training to include studying Airborne Delivery Systems and time in the field establishing a fuel system supply point.

These officers established an excellent class rapport which will set an example for future classes. Each officer benefited not only through the established curriculum but by sharing the various experiences of their counterparts.

Saturday is one example of the long and varied training days. The morning began with achieving proficiency in completing the unit status report. This was followed by convoy operations, unit movement, petroleum accountability, and laundry, bath, and renovation. After a brief lunch, training pushed on with the Subsistence Department presenting garrison food service operations, Army field feeding operations, and field bakery.

Training on other days included courses by the Staff Judge Advocate on nonjudicial punishment, conduct of preliminary inquiry, and preparation of charges. The class received practical training on supply accountability, hand receipt procedures, and prescribed load list records. Graves Registration prepared the officers to perform the tasks required by the company commander in a crisis.

The day prior to graduation was spent at Fort Pickett, Virginia,on a site selection exercise. Graduation day offered a unique opportunity to the officers. The directors of all training departments at the Quartermaster School set aside time for officers having questions or wishing to speak with the subject matter expert in a Quartermaster proponency. During graduation, LTC Francis M. Pitaro, the Director of Training and Doctrine, spoke on the accomplishments of the class and congratulated the officers on their achievements. Each officer was presented with a Quartermaster School graduation certificate.

The students provided valuable input which will reflect in the next CCM. The Quartermaster School is proud of these fine officers.

QUARTERMASTER DOCTRINAL AND TRAINING PUBLICATIONS

The Directorate of Evaluation and Standardization (DOES) at the U.S. Army Quartermaster Center and School (PROV) (QMC&S (PROV)), Fort Lee,VA, continues to receive"Hotline" or written requests from field units for various quantities of doctrinal and training publications. Field commanders need to know that neither the DOES nor QMC&S (PROV) stock publications for shipment to units. Bring the following procedure to the attention of unit supply and publications personnel and to all users of publications in your units.

DA Pamphlet 25-23 prescribes the establishment of "pinpoint" publications accounts and the use of the DA 12-series forms for accounts maintenance. The U.S. Army Publications Distribution Center, 2800 Eastern Boulevard, Baltimore, MD 21220-2886 distributes publications based on the DA 12-series forms. Only emergency requests may be phoned into Baltimore via AUTOVON 584-2533 or Commercial(301)671-2533 by unit publications representatives.

Exceptions to the DA 12-series forms are the Soldiers Training Publications (STPs). The Baltimore distribution center's Winter 1989 Publications Bulletin specifies the following procedures:

"Currently STPs are distributed by special distribution data tapes that are created monthly by PERSCOM, NGB, and digit ARPERCEN. The tapes contain MOS, skill levels, a six digit UIC, unit address, and number of publications needed to fill the requirements. These distribution data tapes are provided to the Baltimore Publications Distribution Center, where shipping labels are generated for initial distribution of initial publications. If your unit is receiving insufficient copies of the STPs for which you have a requirement, contact your unit publications clerk. The publications clerk should follow up by contacting either SSG Thigpen or SSG Acevedo on AUTOVON 927-4668/9 at the U.S. Army Training Support Center, Fort Eustis, VA."

To ensure that the most recent issues of doctrinal and training publications are available to units worldwide, the above procedures must be followed.

DEVELOPMENT OF QUARTERMASTER PRINCIPLES MANUAL

The new TRADOC Regulation 11-7, TRADOC Doctrinal and Training Literature Programs, provides for development of a principles manual for each associated school proponency. Based on this guidance, a decision was made to develop a principles manual to establish a basis for all Quartermaster doctrinal and training literature. A principles manual provides a capstone focus for a proponent's total functions. All of a proponent's doctrinal and training literature products must be consistent with its principles manual.

In the Armywide Doctrinal and Training Literature Program hierarchy, the Quartermaster Corp's principles manual is subordinate to the 100 series field manuals (FMs), namely FM 100-10, Combat Service Support Operations. When fielded in FY 90, this manual will provide the capstone focus for Subsistence Supply and Management, General Supply in Theaters of Operations (including topics such as salvage, storage, and Class IX), Petroleum and Water Supply, and Graves Registration Operations. Rigging and airdrop will also be included.

QUARTERMASTER (QM) FIELD MANUALS (FMs) TAKE ON NEW NUMBERING SYSTEM

In the near future, QM FMs will take on a new numbering system. From the principles manual will emerge a basic doctrine manual for each of the QM Corps functional areas and tactics, techniques, and procedural (TTP) manuals, as required.

The basic doctrine manual numbers follow:

FM 10-15, Basic Doctrine for Supply and Storage.

FM 10-20, Basic Doctrine for Personnel Hygiene Services.

FM 10-23, Basic Doctrine for Army Field Food Service Operations.

FM 10-27, Basic Doctrine for Quartermaster Theater of Operations.

FM 10-52, Basic Doctrine for Water Distribution.

FM 10-63, Basic Doctrine for Graves Registration.

FM 10-67, Basic Doctrine for Petroleum Supply Operations.

QUARTERMASTER (QM) FIELD MANUAL (FM) REDUCTION

The U.S. Army Quartermaster Center and School (PROV) took drastic measures to reduce its FM inventory--mostly through consolidation of related FMs. Although the plan for reduction has been approved and the effort has begun, admittedly, this reduction effort will not happen overnight. We envision from 5 to 10 years. Be sure to read the supersession notices in the revised edition to find out where one of your favorite manuals went.

BATTLE FOCUSING THE SKILL QUALIFICATION TESTS (SQTS)

Beginning in FY 90, the U.S. Army Quartermaster Center and School (QMC&S (PROV)) will start fielding "battle focus" SQTs for those MOSs that meet the criteria. Battle focus requires the development of tracked SQTs which

focus on the evaluation of soldiers on only those individual tasks which support unit's wartime collective tasks. Those MOSs that are job specific/single duty position will be reevaluated to ensure the critical tasks support battle focus and CONUS base sustainment training competency. Until the affected soldier's manual is revised reflecting the tracking of a given MOS, the field will have to rely upon the SQT notice for track identification and subsequent refresher training as appropriate.

RIGID WALL SHELTERS

U. S. Army Natick Research, Development and Engineering Center is responsible for the design of rigid wall shelters. The initial general-purpose family of shelters consists of three models. All models are compatible with commercial material handling equipment. The shelters are designed to replace the special purpose, nonstandard shelters in the Army inventory. They can be used as field hospital operating rooms, diagnostic test centers, maintenance shops, communications centers, and field kitchens. The shelter panels are made of nonmetallic honeycomb bonded to facings of aluminum sheeting. A basic shelter weighs 3,900 pounds. Shelters are available with both one-side and two-side expansions. Natick is developing kits for upgrading shelters to counter threats and to provide blast and thermal protection. Several models of the shelters will eventually become Quartermaster equipment.

M16 TRAINING FOR THE QUARTERMASTER OFFICER BASIC COURSE

Since December 1988, Quartermaster Officer Basic Course lieutenants have fired the M16 zero and qualification tables on Fort Lee's new range complex. All preliminary marksmanship instruction, zero procedures, and operation of the zero range is performed by the lieutenants. Each officer is rotated through a leadership or trainer position to teach proper range operation procedures.

ARMY PHYSICAL FITNESS TEST STANDARDS FOR OFFICER BASIC COURSE STUDENTS

Each officer must pass the Army Physical Fitness Test (APFT) to graduate from the Quartermaster Officer Basic Course. An initial diagnostic test is administered during the first week of instruction. Another APFT for record is administered before the end of the course. Physical training is conducted five days a week following the principles of exercise outlined in FM 21-20, with the focus on improving the officer's total fitness.

COMBAT SERVICE SUPPORT CONTROL SYSTEM TRAINING

The Combat Service Support Control System is an automated system with the capability to rapidly gather, analyze, and provide commanders and their staff with logistical, medical, financial, and personnel information so that the tactical decision making process is accelerated. It is projected that the Logistics Career Department will commence instruction on this system sometime in FY 92 or FY 93. This training will impact on the Quartermaster Officer Advanced Course, the Supply and Service Management Officer Course, Logistics Officer S4 Course, and the Warrant Officer Advanced Course. Current training strategy also includes an additional skill identifier producing course.

AIRDROP MISSION AND EQUIPMENT MANAGEMENT SYSTEM (AMEMS)

U.S. Army Natick Research, Development and Engineering Center has developed a software system to automate and improve mission planning operations of airdrop units. The Airdrop Mission and Equipment Management System (AMEMS) compiles the lists of rigging items and equipment needed for an airdrop. During initial testing of the system with the 612th Airdrop Rigging Company at Fort Bragg, North Carolina, automation reduced the pre-rigging effort required to plan a large-scale mission from several days to less than an hour.

Testing of the Inventory Control Module of AMEMS will be conducted by the end of FY 89 with the 407th at the 82d's Heavy Drop Rigging Site at Fort Bragg. This module will reflect the changing inventory status of rigging items as they are used and then returned to stock. Another module to be tested involves bar coding personnel parachutes to track their service life, including the development of criteria about the cost efficiency of repair.

AIRDROP DOCTRINAL/MANUAL CONCEPT

The U.S. Army Quartermaster Center and School (PROV) is currently developing a Quartermaster Corps principles manual, FM 10-XX, which will be an umbrella-type manual covering all Quartermaster Corps doctrine. One chapter will be devoted to airdrop operations and will have sections dealing with the overall airdrop concept, airdrop support responsibilities, airdrop request procedures, retrograde of airdrop equipment, and planning considerations. Upon completion of FM 10-XX, the U.S. Army Quartermaster Center and School (PROV) will publish a basic doctrinal manual for airdrop operations. This manual will carry the number of FM 10-500. All other manuals will then be renumbered as "dash" type manuals. The number concept is shown below:

FM 10-500	Basic Doctrinal Manual for Airdrop
FM 10-500-1	Airdrop and Airdrop Support Units (formerly FM 10-400)
FM 10-500-2	Rigging Airdrop Platforms (formerly FM 10-516)
FM 10-500-3	Rigging Containers (formerly FM 10-501 & FM 10-586)
FM 10-500-16	Rigging Reference Manual (formerly FM 10-516)

INDIVIDUAL PACK/MAINTENANCE PUBLICATIONS

Publication of individual pack/maintenance manuals has been an ongoing Troop Support Command (TROSCOM) project for the past few years. Individual manuals for each parachute will make the rigger's task much easier. Manuals for the T-10B, MC1-1B, 28 Foot Back, T-10C, and the MC1-1C parachutes were printed in September 1988. Manuals for the 12 Foot HV, Emergency Chest, 15 Foot Extraction, and the 22 Foot Extraction parachutes will be printed by the end of CY 89.

AIRDROP FIELD MANUALS: TYPE V PLATFORM PROCEDURES

The following airdrop field manuals (FMs) have recently been fielded or will be in the near future. These FMs contain type V airdrop platform procedures.

FM 10-523, C1 (Interim) Rigging Air Force Communication Control Vehicle	April 1989
FM 10-539, C1 (Interim) Rigging JD 410 Tractor and Small Emplacement Excavator	May 1989
FM 10-564, C4 (Interim) Rigging Fuel Drums	June 1989
FM 10-575, C2 (Interim) Rigging 613B Water Distributor	July 1989

AIRDROP RESUPPLY - AN ALTERNATIVE

For many years the concept of prerigging selected supplies and equipment for airdrop resupply was the sole province of the airborne forces -- the 82d Airborne Division, the Ranger Regiment, and the Special Forces Groups. However, in recent years, the newly formed light divisions have begun to compete with the airborne forces for airdrop resupply support as a viable alternative to their austere support capability. Both the 7th ID(L) and the 25th ID(L) have contingency stocks prerigged for airdrop resupply if the need arises. This renewed interest in airdrop resupply is not limited to the light division, since USAREUR and EUSA are currently developing plans for some prerigged projects of their own.

PARACHUTE PACKING TABLETOPS

The Defense General Supply Center has recently issued an invitation for bid on a new parachute packing tabletop designed by Natick Research, Development and Engineering Center. The TROSCOM ADE WSMO will notify field units of the availability date, when known. Units can use a planning figure of $100 per tabletop. Instructions and all required hardware for adapting the new tops to the current tables will be issued with the new tops.

AIRDROP ACTIVITY FOR FY 1988

The Quartermaster Corps parachute riggers had a busy year during 1988. The chart below shows the quantity and types of airdrop operations and also gives the number of reported malfunctions:

TYPE	Quantity	Malfunctions
Personnel Parachutes	324,478	47
LV Platform Loads	6,766	57
Containers	8,113	26
LAPE	607	3

The low malfunction rates are outstanding, but let's try to make them even lower for 1989.

43E FAST TRACK PROGRAM

The 43E Fast Track Program is designed to identify exceptional AIT soldiers to provide additional MOS training and increase technical proficiency and to raise the field's retention rate. The 43E soldier meeting the criteria for selection into this program will receive an accelerated promotion to PV2 and in some cases to PFC, a Certification of Achievement or Letter of Commendation, and be awarded a Fast Track designation seal printed on their official course diploma. Presently, the 43E Fast Track Program, which began in October 1988, has graduated 16 AIT students.

SUBSISTENCE

FIELD RATIONS ORDERING MADE SIMPLE

For as long as the Army has existed there has been a requirement to feed soldiers in the field. The Army continually develops and tests new and better ways to feed soldiers. The T-ration Calculator was developed to simplify the ordering of T-rations. The Army Field Feeding System uses the T-rations packed in modules. There are two boxes to a module and 12 modules per pallet. Each module is designed to feed 36 soldiers. The module contains everything needed to feed a hot meal in the field including plates, cups, flatware, and garbage bags. This ration allows field units to serve hot meals with minimal interruption to the mission.

The T-ration Calculator is a useful tool for food service sergeants and commanders. Use of the calculator is simple. Computations are made using the number of feeding sites in conjunction with number of personnel. You calculate each site; then add number of tray pans required; finally, convert this number to modules. The calculator minimizes pan waste and streamlines ordering procedures because it indicates the most accurate number of T-rations required.

The T-ration Calculator is projected to be available through your local Training Audio-Visual Support Center (TASC) as a Graphic Training Aid (GTA) 10-1-8 by January 1990.

GRAPHIC TRAINING AIDS (GTAs)

The Subsistence and Food Service Department at the U.S. Army Quartermaster Center and School (PROV), Fort Lee, Virginia, is currently updating its Graphic Training Aids (GTAs) for the M59 Field Range and M2 Burner Unit, the Insulated Food Container, and the Gasoline Lantern (formerly called the Coleman Lantern). There will be an approximate 9-12 month developmental, printing, and distribution cycle before they are available Armywide (3rd Quarter, FY 90). The GTAs will be printed as booklets measuring about 4 x 5 inches, that will fit into the BDU jacket pocket. They will be available through your local Training Audio-Visual Support Center (TASC).

14TH ANNUAL U.S. ARMY CULINARY COMPETITION

The 1989 Army Culinary Arts Competition at Fort Lee, Virginia, on 8-9 March 1989, was one of the largest yet with 243 competitors from 32 installations. The Quartermaster School sponsors the annual event.

These are the teams' results: first--U.S. Army Europe, second--Fort Stewart, GA, and third--Fort Lewis, WA, with SGT Vogel of Fort Stewart taking the trophy for "Best in Show"; SPC Jeffery Bobrosky of Eighth U.S. Army taking the "Commandant's Award" (best exhibit presented by a soldier in his first term of service), SGT James Rice of Fort Ord, CA, being awarded for the "Best Exhibit in Novice Class," and SSG Richard Mutz being awarded for the "Best Exhibit in Master Class."

ARMY FIELD FEEDING SYSTEM (AFFS) DECISION

The Army Field Feeding System (AFFS) concept was approved by the Vice Chief of Staff, Army, on 18 May 1989. The AFFS concept shifts from centralized feeding by designated units to battalion-level feeding. Adding cooks and equipment provides greater flexibility and the capability to feed soldiers in support of AirLand Battle doctrine. The U.S. Army Quartermaster Center and School (PROV), the Major Army Commands (MACOMs), and Army staff are coordinating implementation. More information on the AFFS will follow in the next issue of the Quartermaster Professional Bulletin.

CAREER
NOTES

QUARTERMASTER OFFICER ADVANCED COURSE

MAJ DAVID B. SANDERS
CPT MICHAEL L. WHITE
CPT PAUL N. FORTUNE

OVERVIEW

Picture yourself in your office mulling over your future in the U.S. Army. The phone rings. It is the Total Army Personnel Command (PERSCOM) calling to say you'll be going to the Quartermaster Officer Advanced Course (QMOAC) in a few months. You've been looking forward to attending QMOAC. Now that it is an imminent reality you begin informing yourself of what to expect.

You ask around to find out what the QMOAC is like. Your battalion S-3 attended the course during the early 80s and tells you the course was a snap. No mandatory physical training: the only requirement was passing the Army Physical Fitness Test (APFT) before graduation. Classes ended about 1400, and he never went to the field. There was plenty of time for improving his golf game. Because there was little homework, it was a good time to get reacquainted with his family. The academic end of the course was no challenge. There were, however, great opportunities to meet a lot of Quartermasters, both U.S. Army and allied officers, and to learn from their experiences. All in all, the S-3 makes it sound like a piece of cake.

That was then, this is now. The QMOAC has changed a lot since that S-3 attended in the early 80s. The course is no longer a laid-back experience that will leave you with a lot of free time. Today's scenario is typically this: QMOAC students are expected to arrive at Fort Lee, Virginia, early enough to sign into Company E, 266th Quartermaster Battalion, and get settled into military or civilian quarters before the course starts. Force Alignment Program Phase III (FAP III) officers are required to arrive a week before the course begins for an orientation on the Quartermaster Corps and Fort Lee.

The first change QMOAC attendees will notice is that traditional lecture methods don't constitute all of the learning experience. Small Group Instruction (SGI) makes up 40 percent of the training time. To facilitate SGI, each class is split into four teams of approximately 15 students each headed by team leaders (three captains and one major).

Each team consists of a cross section of the class: QM captains and lieutenants, FAP III officers by branch and grade (usually 40 percent to 50 percent of the active duty officers), Reserve Component officers and allied officers (up to eight per class). These cross sections bring with them a wide variety of experiences and backgrounds. Since SGI depends on group discussion and interaction to succeed, variety is an enlightening benefit.

SGI forces active student involvement in the learning process. Instead of sitting back and hoping to absorb material presented by instructors, students must discuss the topic at hand. Dialogue within the framework of the team reinforces the learning process: there's nowhere for unprepared students to hide!

The first weeks of QMOAC are hectic. In addition to the usual problems encountered in moving and settling into a new area, the course demands that you start out running. On the first day you'll be weighed and measured to determine whether you meet the height/weight standard established by AR 600-9. During the first week there's a diagnostic APFT. You will also decide on the problem statement for the decision paper you will write, as well the professional topics you'll be briefing to your team. Within the third and fourth week you'll present a briefing on the status of your paper to a senior officer or civilian and brief your team on the topics you selected.

The course is academically challenging. Peer response and pressure will let you know if you're not meeting your responsibility, since SGI demands your input for successful teamwork. In addition to normal course work, you'll be writing two book reports, finishing and presenting your decision paper to a senior officer or civilian for evaluation. The topics you brief to your team will also be evaluated by your team leader. Written

exams are not to be forgotten: they're an important and not very easy part of the course work. In any given class, there's at least one member in academic trouble.

The following are general changes from the classes a few years ago :

- PT takes place three days a week (usually starting at 0545).
- The hours of the course are generally 0800-1700 Monday-Friday.
- A five-day FTX has been added to the course.
- The uniform is BDUs instead of Class B uniforms.
- Each class will plan, coordinate, and execute either a dining-in with three classes, Logistics Bowl (LOGBOWL) involving the Transportation School at Fort Eustis and the Ordnance School at Aberdeen Proving Grounds and Redstone Arsenal, or a fund-raising event for the Association of Quartermaster Officers.

You may be wondering how to prepare for the Advanced Course. The following suggestions can help make the course easier for you:

1. Arrive early to get settled in and get your family situated.

2. Work on improving your physical condition before you leave your present duty assignment and do not let up while on PCS leave.

3. Get mentally ready. You will start the Advanced Course running. There will be long hours in the classroom and homework to occupy your after-duty time. This doesn't mean you won't have any free time. You just don't have as much as during previous QMOACs. You also must get used to the idea of actively participating in group discussion on a daily basis.

4. Although not mandatory, a working knowledge of personal computers would be helpful in writing the research paper, the two book reports, and the two briefings.

5. To help PERSCOM manage your career, submit an up-to-date Officer Assignment Preference Statement prior to leaving your present duty station. PERSCOM will use it to determine your follow-on assignment.

6. Get your weight within AR 600-9 standards before arriving at Fort Lee.

Above all, preparation means bringing a good mental attitude to QMOAC in order to enjoy its benefits. Altough it is not a piece of cake, the QMOAC is a tasty experience!

PHILOSOPHY OF COMMAND

One of the primary objectives of the QMOAC is to provide students with the proper tools to become successful company commanders. One of the most important and useful tools for a new company commander is a well developed, comprehensive, written philosophy of command. QMOAC students are now responsible for developing a written philosophy of command.

The philosophy of command is the commander's concept of how he plans to command. It is his primary tool to convey this command plan to junior leaders and the soldiers in the unit. This plan affects everybody in the unit and can ultimately determine the degree of achievement of the unit's mission and the success of the command. It is the basis for strong, effective organizational leadership.

Realistically, students can't develop a total philosophy of command without addressing peculiar mission requirements and problems of the particular unit they would command. However, every command assignment incurs command responsibilities in common functional areas. Therefore, QMOAC students will develop their concept--their philosophy--of how they would plan to fulfill their responsibilities in these functional areas. Each student will address the following areas of responsibility in this philosophy of command:

- Leadership.
- Maintenance/Readiness.
- Training.
- Property Accountability.
- Soldier Caring and Family Awareness.
- Physical Fitness.
- Safety.
- Rewards and Punishments.

Additionally, each philosophy of command should address the following key ingredients:

- Your values.
- How you plan to exercise command.
- How and what you will evaluate.

CAREER NOTES

To assist in developing a command philosophy, each student will receive a workbook at the beginning of the QMOAC. Students will use these workbooks to write their thoughts regarding the philosophy of command. Students will have ample opportunities to jot down their thoughts about each of the key ingredients and areas of responsibility as they base their philosophies on SGI-oriented discussions and presentations, shared experiences with classmates, previous personal experiences, resources provided with the workbook, guest lecturers, professional development seminars, and other recommended references.

After developing philosophies of command during the QMOAC, students should feel better prepared to go to their next duty assignment and assume command, knowing they have a general plan in place for how to command. They can then further refine this philosophy to fit the specific unit they command. Again, the focus is on how they plan to command and not on what type of unit or where they would like to command.

PHYSICAL FITNESS PROGRAM

The QMOAC has changed over the years. An example of this change is the physical fitness program. In the past, there was not a structured program and officers were free to engage in physical activities at their leisure. Now, the officers in the Advanced Course must participate in a structured 20-week program. This 20-week program is designed to assist students in an individual program, expose students to planning and leading a unit program, and acquaint students with a variety of physical fitness training formats. Officers will be able to take this program, modify it, and implement in their future units.

Three days after officers arrive at the Advanced Course they begin physical training with a diagnostic APFT. The program continues as students present classes on the importance of proper diet and nutrition, the characteristics of what to look for in a program, and how a program is established.

Physical training is conducted every morning. Monday, Wednesday, and Friday fitness training sessions are geared toward aerobic activities (cardiovascular conditioning). The Tuesday and Thursday sessions are structured with competitive fitness activities in mind such as basketball, volleyball, football, or soccer games.

Every training session is conducted in three phases:

1. Warm-up: The warm-up phase consists of stretching exercises and calisthenics which prepare the student for the conditioning phase.

2. Conditioning: The conditioning phase consists of a variety of activities. Officers learn how to plan and conduct strength development, circuit training, grass drills, guerrilla drills, and ability group runs.

3. Cool-down: The cool-down phase is the very last segment of training. This phase allows the gradual decrease of the heart rate to its natural state.

Three APFTs are conducted during the Advanced Course. The first two are planned and administered by the students. The Record APFT is administered by the cadre. Students must pass the Record APFT to graduate. At the end of the course the top male and female, based on an extended scale of the published maximums for the APFT, will receive the Ironman/Ironwoman trophy. It is critical that officers know how to implement and improve unit physical fitness programs. The current Advanced Course program is designed to accomplish this.

MAJ David B. Sanders is a Class Coordinator and senior Small Group Instructor in the Officer Advanced Course Division, Logistics Career Department, U.S. Army Quartermaster School and Center (PROV), Fort Lee, Virginia.

CPT Michael L. White is a Small Group Instructor/Team Leader in the Officer Advanced Course Division, Logistics Career Department, U.S. Army Quartermaster School and Center (PROV), Fort Lee, Virginia.

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QM MASTER WARRANT OFFICER (MWO) UPDATE

CW4 LESLIE CRAIG

The next Master Warrant Officer (MWO) Board is scheduled for 11 July 1989 - 3 August 1989. Zones of consideration are as follows:

Primary Zone: CW4 Temporary Date of Rank (TDOR), 831231 and earlier.

Secondary Zone: Aviation (PMOS 150 Series) = CW4 (TDOR),

840101-841231

Tech Svcs (all other PMOS) = CW4 (TDOR),

840101-851231

To be eligible for consideration for Master Warrant Officer, the following minimum criteria must be met:

* Regular Army

* Graduate of a Warrant Officer Advanced Course or the Warrant Officer Senior Course (Military Education Level (MEL) CODE B)

* Completed at least two years of college (Civilian Education Level (CEL) CODE 6)

All Warrant Officers selected must execute an oath (DA Form 71) to be a commissioned Warrant Officer before reporting for Master Warrant Officer Training. Furthermore, all Warrant Officers must attend Master Warrant Officer Training before designation and utilization as a Master Warrant Officer.

The following represents the number of qualified QM Warrant officers who will be in the Zone of Consideration for MWO:

MOS	TITLE	PZ	BZ
920A	Property Accounting Tech	2	1
920B	Supply Systems Tech	2	2
921A	Airdrop Systems Tech	0	0
922A	Food Service Tech	2	1
		6	4

The following numbers represent QM Warrant Officers who were in either the primary or secondary zone of consideration, but did not meet one or more of the selection criteria, (not RA = 2, not MEL B = 3, not CEL 6 = 6, not 6/MEL B = 6) and therefore were not eligible for consideration:

MOS	TITLE	PZ	BZ
920A	Property Accounting Tech	4	4
920B	Supply Systems Tech	3	1
921A	Airdrop Systems Tech	0	4
922A	Food Service Tech	0	1
		7	10

A total of 17 QM Warrant Officers will not be considered for MWO because they did not meet the eligibility criteria. To be one of the select few 3.4 percent considered for Master Warrant Officer, the minimum criteria must be met. Warrant Officers who wish to be considered for MWO should visit their local Education Center for an evaluation of military experience that can be converted to college credit. In many cases, a Warrant Officer with 20 years of service may, through credit granted for experience combined with successful completion of College Level Examination Program (CLEP) tests, obtain credit for two years of college. We strongly encourage all eligible Warrant Officers to submit a DA Form 4187 (Request for Personnel Action) to attend Senior Warrant Officer Training (SWOT). Although these requirements cannot be met in time for the next board, those who wish to be eligible for future boards should have adequate time.

The following represents the number of QM Warrant Officers who were selected by previous MWO boards:

MOS	TITLE	DEC 87 BRD	+	JUL 88 BRD	=	TOTAL
920A	Property Accounting Tech	6	+	2	=	8
920B	Supply Systems Tech	3	+	2	=	5
921A	Airdrop Systems Tech	0	+	0	=	0
922A	Food Service Tech	0	+	1	=	1
		9	+	5	=	14

NOTE 1: Six MWO selectees have completed MWO training and are serving in MWO positions.

NOTE 2: Five MWO selectees are scheduled for MWO training in FY 90 with follow-on assignment to MWO positions.

NOTE 3: Three MWO selectees have retired.

CW4 Leslie Craig is the Quartermaster Warrant Officer Career Manager at Personnel Command (PERSCOM), Alexandria, Virginia

CAREER
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NCOER

CSM LARRY E. RYLES

The replacement of the old Enlisted Evaluation Report (EER, DA Form 2166-6) by the new, Noncommissioned Officer Evaluation Report (NCOER) in 1988 has changed the way the Army apprises its soldiers of their standards as well as the way it appraises their performance. Now, we have the tool to implement not only an accurate evaluation of our NCOs, but a realistic means of making sure they know what's expected of them.

The NCOER brings to the Army a "level playing field" where brief, objective descriptions of strengths and weakness replace unspecific narratives that marred the old Enlisted Evaluation Report. It also demands face-to-face performance counseling at regular intervals, fostering unit cohesion as it involves unit leaders at all levels. The NCOER provides even more; unlike previous systems designed to support personnel actions, the new system also aims to help leaders impart Army values and NCO responsibilities.

The new system consists of an evaluation report, DA Form 2166-7, and a counseling checklist and record,DA Form 2166-7-1. It applies to all NCOs in the grades E-5 through E-9. Corporals will also be counseled, but not rated under this system.

The process of establishing and using NCOERs in an effective manner has many facets. First, an accurate description of an NCO's daily duties and their scope must be written. Areas of special emphasis must also be defined, appointed duties identified. Periodic counseling is a major key to the NCOER and takes place four times before the actual evaluation.

Key to the NCOER is writing a description of an NCO's daily duties and their scope. To do this, we have to accurately state what the NCO does. The importance of this cannot be overstated; a sloppy description does no one any good.

It's a good idea to sit down with the NCO to be evaluated in order to discuss and then define his duties and their scope. Getting the description firmly on target may take several rewrites. When drafting the description, don't forget that the NCO may be wearing two hats, for instance, serving as a unit supply sergeant or a dining facility manager while acting as a squad leader, platoon sergeant or section chief at the same time.

The NCO duty description also involves a summary of areas of special emphasis. For Quartermaster NCOs this section usually refers to accountability for equipment, food, and/or funds. Individual training, safety, NCO development, soldier welfare and the unit mission are also included in this section.

The last elements to consider in the duty description are appointed duties. For years, Quartermaster soldiers have been routinely been appointed to other duties. Now, the NCOER allows us to document assignments such as the "Key and Lock Custodian," the Noncommissioned Officer in Charge (NCOIC) of the Command Supply Discipline Team, the Ration Control NCO, the Fire Marshal NCO, Safety NCO, Field Sanitation NCO, Security NCO, and Master Fitness NCO.

With this in mind, we must encourage our NCOs to seek out those additional duties and to perform them well. Although they might be apprehensive at first, remind your NCOs that doing well in additional duties indicates the pursuit of excellence.

Periodic counseling is the biggest change to the NCO evaluation schematic. It is also the key to making the NCOER work. The new system requires that NCOs be counseled about the parameters of their jobs, what they are expected to accomplish in them and how well they're doing. One initial counseling session during the first 30 days of a rating period, and three quarterly follow-on sessions are mandatory for E-7s and below, recommended for E-8s and above. This constitutes the formalization of a course of action which varied from unit to unit in the past. Keeping NCOs in the know about what their jobs are, and how well they're doing them is now mandatory.

CAREER NOTES

Counseling shouldn't be confined to the tactical and technical aspects of an NCO's position. It should also address how the NCO takes care of his subordinates through physical training, education, and the day-to-day concerns that are "sergeant's business."

Once the duty description in all its parts has been written and counseling has taken place, the actual rating of an NCO should be easy. Three responses to each of the values/NCO responsibilities described are available: Excellence (exceeds standard); Success (meets standard); and Needs Improvement (some) or (much). Should you choose the "Success" block in rating a given area, no explanations are required although you may comment if desired. "Excellence" or "Needs Improvement" ratings require specific examples in a bullet format to justify them.

When writing those bullet comments remember to:

- Be precise.
- Be accurate.
- Quantify when possible.
- Know the difference between the concepts "initiated," "contributed," and "established by others."
- Include recognition by others.
- Support the rating.

As SGT Joe Friday of "Dragnet" used to say "Stick to the facts, just the facts."

The last section of the NCOER sums up the evaluation of the NCO's overall performance and potential. It also states where his raters think he's going. If we believe the soldiers capabilities are expanding, it needs to be said. The same holds true for situations where a decline has been noted, or where no change exists. Raters should have the courage to identify those whose promotions should be accelerated. Likewise, raters should exhibit the same forthrightness and help identify those who should be eliminated.

"Success" ratings account for the majority. This indicates that soldiers who've received this rating are fully competitive for promotion and schooling, having met all performance standards.

"Excellence" ratings are due only to soldiers who are clearly better than most others. These NCOs exceed standards and have special accomplishments achieved by only a few. Excellence ratings must cite specific and measurable results. "Needs Improvement" ratings must be similarly justified.

Members of the rating chain have some change of responsibility with the implementation of the NCOER. The rater, normally a NCO's first-line supervisor, focuses on performance. The senior rater deals with the rated soldier's potential. He also monitors and supervises the evaluation. The reviewer's role has been expanded, to involve watching the entire process. The reviewer is responsible for making sure NCOs are counseled and that ratings are fully justified.

In this "Year of the NCO" connect the Noncommissioned Officers Evaluation Report to that theme and do "Sergeant's Business" in our Corps better than ever before. The Quartermaster General expects nothing less, and neither should the NCO. The Quartermaster Corps deserves the very best and the NCOER will help us to give it.

CSM Larry E. Ryles is the Command Sergeant Major of FORSCOM's 240th Quartermaster Battalion, 23rd Quartermaster Brigade, U.S. Army Quartermaster School and Center (PROV), Fort Lee, Virginia.

CAREER
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BRANCH DETAIL

MAJ MARK G. COLE

Most officers never think much about the branch "detail." Senior officers may think the "detail" is the old "Regular Army (RA) Detail" of years past, but it is actually quite different.

What is the detail? The detail is an existing program in the Officer Personnel Management System (OPMS) that alleviates part of the force structure imbalance in the shortage Combat Service Support (CSS) and Combat Support (CS) branches. Simply stated, it is a way of accessing enough second lieutenants to fill the Combat Arms platoon leader positions while keeping an eye on the CS and CSS captain and field grade requirements.

During the commissioning process, a number of Other Than Regular Army (OTRA) officers are identified as being commissioned into a branch with a detail. RA officers may volunteer for a detail, and they currently fill over 50 percent of the detail requirements. Officers attend the detail branch Officer Basic Course, wear detail branch insignia, are controlled by the detail branch, and for all intents and purposes are Combat Arms officers until promotion to Captain. Once selected for promotion to Captain, the officer reverts to Quartermaster Branch control and is scheduled for the Quartermaster Officer Advanced Course. The Officer Record Brief (ORB) administrative data reflects detailed status. The section that lists "BASIC/CON BR" shows "QM/IN" for an officer detailed infantry or "QM/AR" for the officer detailed armor.

The Office of the Quartermaster General (OQMG) attempts to establish contact with and correspond with all detailed officers. Information from the branching process provides addresses of detailed officers and OQMG sends newly commissioned officers an introductory letter and information on how to join the Association of Quartermaster Officers. There are often misconceptions and unanswered questions that the detailed officer has, and OQMG can usually resolve those concerns. Also, providing Quartermaster-related literature and information is key to the detailed officers' future development. The OQMG provides names and addresses of detailed officers to senior Quartermaster officers in the field. Commanders can help mentor detailed officers by inviting them to join the local Association of Quartermaster Officers chapter and having them participate in Quartermaster-associated activities.

Once fully integrated into the Quartermaster Corps, the detail officer adds a Combat Arms perspective to the multitude of logistical challenges the Quartermaster faces.

MAJ Mark G. Cole is the Chief, Officer Personnel Systems Division, U.S. Army Quartermaster Center and School (PROV), Fort Lee, Virginia.

In Memoriam

Major General (Ret.) Victor J. MacLaughlin

Major General (Ret.) Victor J. MacLaughlin, a decorated World War II veteran whose 38-year active duty Army career included a succession of high-level Quartermaster posts, died 20 March 1989 at age 78.

The former Commanding General of the U.S. Army Quartermaster Center and Fort Lee, Virginia, and Commandant, U.S. Army Quartermaster School at Fort Lee, he served as president of the U.S. Army Quartermaster Foundation from 1982 until his death.

Upon retirement 30 September 1969, MG MacLaughlin received the Distinguished Service Medal, then the nation's highest award for service not related to actual war, by executive order of President Richard M. Nixon. He was cited for achievements while commander at Fort Lee from 1966 to 1969. His command then also included Camps Pickett and A.P. Hill.

At Fort Lee, he organized the U.S. Army Quartermaster School's structure for increased demands of an expanding military force and enabled the installation to fulfill requirements of the Viet Nam conflict. He improved personnel management and strength accountability during a period of personnel turbulence. While emphasizing efficient and economical operation, he was cited for maintaining the highest academic standards.

A native of Port Chester, New York, MG MacLaughlin was graduated from the U.S. Military Academy in 1931 and was commissioned a Second Lieutenant of Infantry. However, his career with Quartermaster assignments began in 1939 when he was detailed for service to the Quartermaster Corps. In 1945, he was transferred to the Corps.

From 1942 to 1943 he served as liaison officer with Headquarters of the First British Army in North Africa. From 1943 to 1945, he served as assistant quartermaster and then Quartermaster of the U.S. Fifth Army in Italy.

During World War II as a Lieutenant Colonel, he was awarded the Legion of Merit for preparing Quartermaster plans for the amphibious invasion of Italy by the U.S. Fifth Army and the Bronze Star for support of combat operations in Italy and North Africa.

MG MacLaughlin was decorated by England, Poland, Czechoslovakia, and Italy for support in the supply of material to their forces during the Italian Campaign of 1943-1945. He held positions at world metropolitan centers, including London and Paris from 1951 to 1955 in production planning and defense advisory posts with the Office of the Secretary of Defense missions in Europe. From 1956 to 1960, following duty as Commanding General of the Schenectady, New York, General Depot, he served as Assistant Quartermaster General in the Office of the Quartermaster General, U.S. Army.

MG MacLaughlin became the Executive Director of the Military General Supply Agency in Richmond, Virginia, 1 January 1960. He continued as commander of the organization when it became the Defense General Supply Center, a field command of the Defense Supply Agency, on 1 January 1962. He served as assistant director of plans, programs and systems for Headquarters, Defense Supply Agency from 20 July 1964 until 12 April 1966 when he was assigned as Commanding General at Fort Lee.

His retirement home was in Dinwiddie County, Virginia. He was past chairman of the area's Bicentennial Commission.

CORRECTIONS AND ADDITIONS

SPRING 1989 COVER

The cover of the Spring 1989 issue of the Quartermaster Professional Bulletin and the current cover for Summer 1989 both have the same number. The number on the cover of the Spring 1989 issue, "Petroleum - Forward - Lifeblood of the Battlefield," should have been PB 10-5-89. (The coding means Professional Bulletin, series 10, the fifth successive issue, printed in 1989.)

FORSCOM PETROLEUM TRAINING MODULE

The FORSCOM Petroleum Training Module at Fort Pickett, Virginia, consists of the following equipment: approximately 21 miles of pipeline, four pump stations, and two-thirds of a tactical petroleum terminal which consists of 12 bulk fuel tank assemblies (5,000-barrel fuel tanks), six 600 gallon-per-hour (GPH) pumps, four miles of assault hose line, and fire suppression equipment.

The Spring 1989 issue of the Quartermaster Professional Bulletin identified the training module by an inappropriate name, Southwest Asia Petroleum Distribution Operational Project (SWAPDOP), and described the potential of the system rather than the actual equipment set up at Fort Pickett.

REFUEL ON THE MOVE (ROM) AND HEMTT TANKER AVIATION REFUELING SYSTEM (HTARS)

Two articles in the Spring 1989 issue of the Quartermaster Professional Bulletin, "Refuel On the Move (ROM)" by CPT Gerard J. Cotter and "HEMTT Tanker Aviation Refueling System (HTARS)" by SFC Michael E. Anderson, incorrectly identified the onboard pumps on 5,000-gallon tankers.

With the ROM assembly, the M969 5,000-gallon tanker uses three 4" x 14' suction hoses instead of the reeled 2 1/2" aircraft delivery hose to connect the ROM assembly to the tanker. When these components are hooked up to the existing onboard pump, they will provide approximately 30 gallons-per-minute (GPM) at each nozzle.

With the HTARS state-of-the-art refueling system, the M978 5,000-gallon tanker utilizes the existing onboard pump and filter separator to issue fuel.

COMING UP IN THE QMPB

Autumn 1989 ☐ Supply/Logistics Automation Systems

Winter 1989 ☐ Class IX Systems

To better serve 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.

Officers can ensure that they receive their individual copies by making sure that the address listed on their Officer Record Brief (ORB) is accurate.

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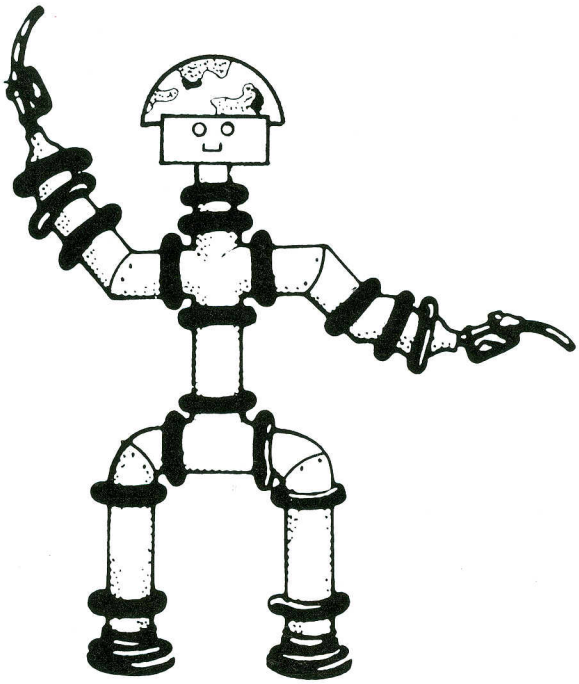
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