TACTICS, TECHNIQUES, AND PROCEDURES FOR QUARTERMASTER FIELD SERVICE COMPANY, DIRECT SUPPORT

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TACTICS, TECHNIQUES, AND PROCEDURES FOR QUARTERMASTER FIELD SERVICE COMPANY, DIRECT SUPPORT

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PREFACE

SCOPE

This manual covers the TTP of the QM FSC, DS (TOE 42414L0) and QM FSC, M (TOE 10414L0). It describes the mission, organization, and operations of both companies in terms of performing SLCRs as a section/team concept under the SLCR platoons for the QM FSC, M. New doctrinal concepts supporting this structural idea for the QM FSCs are included in this manual and, at the same time, providing field service applications in today's setup. However, this manual implements a new way of performing the mission by the QM FSC, DS as it materializes into the new QM FSC, M in supporting the U.S. Army into the twenty-first century. This manual is for all QM FSC personnel. All soldiers should use this manual along with FMs 10-1, 10-27-2, and 63 series. This manual is based on doctrine in FMs 100-5, 100-10, 100-15, and 29-15. FM 100-5 is the Army's keystone doctrinal manual. It outlines how the Army will fight. FM 100-10 is the Army's keystone CSS doctrinal manual. It provides an overview of the CSS systems for supporting the Army in the field. FM 100-15 is the Army's keystone manual for corps operations. FM 29-15 is the Army's guidebook for division supply and FS operations. FM 42-414 is meant to be a doctrinal guide, not a precision directive. Refer to the publications identified in the References at the end of this manual for more tactical and technical "how-to" procedures for CSS.

Planning. Supervisors must ensure the unit's mission is carried out with the available equipment, personnel, and METT-TC conditions. They must be aware of the problems they will face in wartime versus peacetime (or stability and support operations). This manual will help them determine their unit's capabilities. It will also help them organize their resources to do their mission.

Operations. This manual explains doctrine and describes current and pertinent polices and standards. It relates accepted and new TTPs and policies that apply to the QM FSC, DS and formation of the QM FSC, M. This manual allows the command to make decisions to do their mission, based on chain-of-command guidance and the immediate and future prediction of METT-TC status and stability and support operational setting. This manual is for the use by Active Army, National Guard, and U.S. Army Reserve organized as QM FSC, DS under TOE 42414L and QM FSC, M under TOE 10414L0.

Training. Supervisors are responsible for training their soldiers to meet the standards set in the unit ARTEP/MTP and STP manuals. Training must be geared to meet both wartime and peacetime operations. See FMs 25-100 and 25-101 for details on training.

ORGANIZATION AND COVERAGE

There are four chapters in this manual. Chapter 1 covers the overall alignment and mission of FS support units and the organizational structure and services of the QM FSC, DS and QM FSC, M. Chapter 2 identifies both the QM FSC, DS and QM FSC, M headquarters' mission and responsibilities. Chapter 3 explains operational mission services of the SLCR platoons and their sections/teams that make up the QM FSC, M while depicting the QM FSC, DS present operational functions. Chapter 4 cites the new emerging systems, effecting the QM FSCs.

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CHAPTER 1

ALIGNMENT OF QUARTERMASTER FIELD SERVICE SUPPORT

This chapter is for all unit leaders and supervisors.

Section I

FIELD SERVICES

INTRODUCTION

FS functions include airdrop, mortuary affairs, field feeding, laundry and shower, clothing repairs and light-textile repairs, and water purification. These help keep the soldiers' morale high. They also enhance unit effectiveness and mission success. FS covers many and varied services or functions. Quartermaster personnel primarily provide these services in many units at the tactical and operational levels of logistics. See FM 10-1 for QM fundamental principles on field service operations.

Wartime Tactical Support. Laundry and shower DS at the tactical level will be provided by a FSC that can send small teams as far forward as desired by the supported commander. At the operational level, this GS will be provided by a combination of FSCs, HNS, and contractors. A GS laundry capability will be provided by a laundry and renovation company assigned to the TAACOM. The FSC can make limited, minor clothing repairs. A larger capability exists in the laundry and renovation company. In addition, Quartermaster fabric repair specialists are organic to selected maintenance units to repair a variety of canvas and fabrics used on tactical vehicles.

Peacetime Support. In support of peacetime training, contingencies, or support and stability operations, FS may be provided by Active, Reserve, and National Guard components, contract, or HNS. ARs, SOPs, and HNS agreements will govern policies and procedures for procuring and using contracted services. Appendix A gives a suggested SOP format.

Augmentation Support. The Army continually seeks to increase its combat potential within peacetime resources allocations. This requires augmentation support (contracting) from external resources. US Armed Forces use of contractors to provide supplies and services during both peacetime and contingencies dates back to the Revolutionary War. Thus, to achieve the maximum augmentation potential, support from as many sources as possible is necessary. HNS, as mentioned above, is one method of support obtained through Government-to-Government negotiations. Today, a program exists to preplan for the effective use of civilian contractors in wartime and other contingencies to augment US forces and support DOD missions. The program is known as LOGCAP. AR 700-137 gives the program for the Army. In short, LOGCAP is a DA capstone program. It includes all preplanned logistics, engineering, and construction-oriented contingency contracts, actually awarded. This includes peacetime contracts, having contingency clauses. LOGCAP, thus, is a tool that provides field commanders an alternative augmentation source for filling CS/CSS shortfalls by using contractor/commercial vendor expertise and resources when other sources are unavailable.

FS SUPPORT TO CORPS AND THEATER ARMY

Logically, units in the rear areas will enjoy greater opportunities for improved quality of life support than maneuver units deployed on or near the FLOT. Rear area units have unit self-help support, individual

self-help support, plus HNS and contract support. HNS and contract support may not be available under all conditions and in all locations. However, where available, non-US military support must be used to help balance the quality of support between maneuver units and rear area units. FSC support assets will be based on the capability of the unit, the desires of the commander, and METT-TC. Focus of the FSC is on support to combat, combat support, and CSS units within a division and non-divisional level.

The FSC protects the force by improving soldier sanitation, reducing disease, and keeping soldiers' readiness and morale high. These conditions improve the soldiers' physical and mental status and give the soldiers' unit, itself, the temper to affect mission success. To support battlefield operations, the FSC, applies the Army operations' tenets of initiative, agility, depth, synchronization, and versatility to be flexibly committed and responsive to the combat commander's forces. The FSC carries out its support mission by applying FM 100-5 logistics characteristics of anticipation, integration, continuity, responsiveness, and improvisation. Using these characteristics, the company can change with the tactical situations of war and help with the needs of stability and support operations, especially, for peacetime callings.

ORGANIZATION FOR SUPPORT

The FS functions of SLCR will be provided by a QM FSC, M (TOE 10414L0). QM FSC, M can support 21,000 soldiers. It is normally assigned to a HHD, QM S&S Battalion (TOE 42446L000); HHC Support Group (Corps) (TOE 63422L000); or HHC, Area Support Group (TOE 63622L000). The QM FSC, DS is assigned to the TAACOM or COSCOM and normally attached to HHC, QM S&S Battalion (TOE 42446L000). See Section II in this chapter for more information on company responsibilities. Figure 1-1 depicts FSC, DS becoming the FSC, M organization.

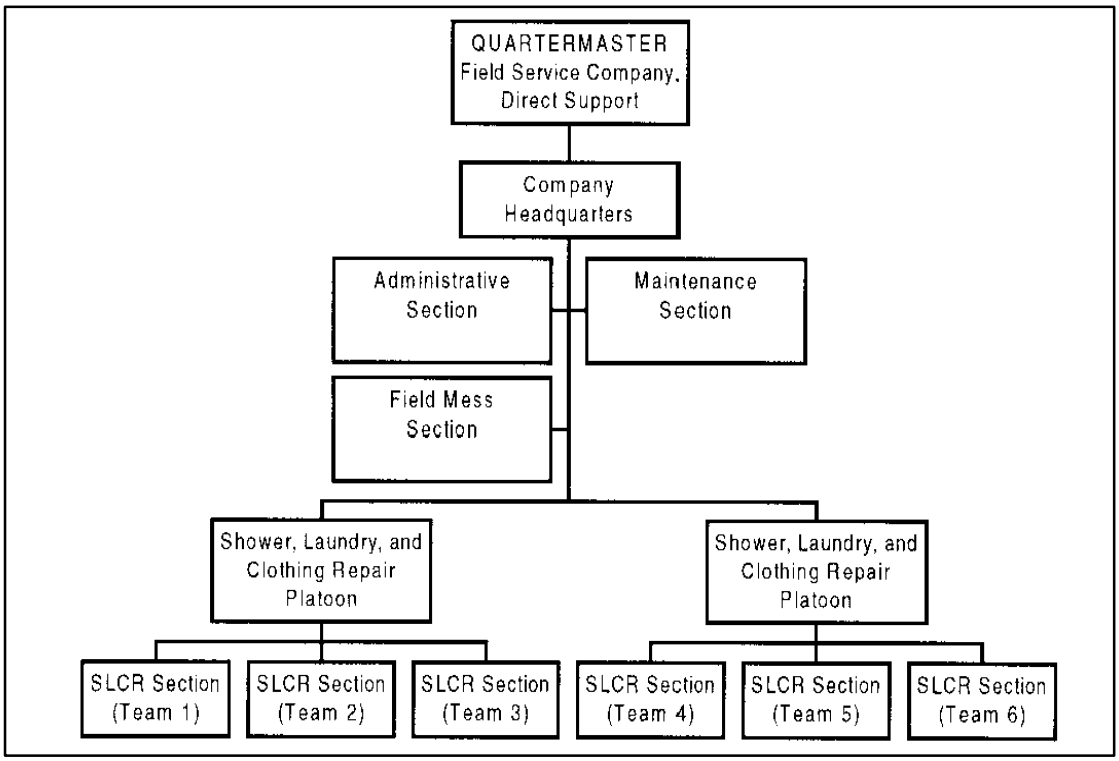


Figure 1-1. QM field service company, modular (TOE 10414L0)

The QM FSC, M Organization (TOE 10414L0). It will be organized with a company headquarters and two SLCR platoons. The company headquarters will provide routine administrative, supply, maintenance, and food service support to the company. When deployed, SLCR platoons and its sections (or teams) may require feeding support from supported unit.

SLCR Platoon Organization. Each platoon consists of a platoon headquarters and three SLCR sections (or teams). The SLCR platoon headquarters coordinates mission operations with supported units for services. The SLCR platoon sets up and operates the three SLCR sections or teams simultaneously.

The QM FSC, DS Organization (TOE 42414L0). It is organized with a company headquarters (i.e. administration, supply, and food service elements); a laundry and renovation platoon, consisting of a platoon headquarters, a renovation section, and a laundry section; and, a shower platoon, consisting of a platoon headquarters and a shower section.

NOTE: CES operations will cease in the FSC.

Capability. Mission equipment of the FSC is highly mobile and can provide support as far forward as the METT-TC allows. In the QM FSC, M, each SLCR section/team has 100 percent mobility with enough vehicles to provide services forward. It can deliver clean laundry to its supported units as METT-TC conditions permit. Each SLCR section/team maintains its own equipment. Each SLCR section/team may need to move every 24 hours in the brigade area. In the division rear, it may need to move up to three times within a seven-day period. (Total unit production capability will be degraded in cases of more frequent moves.) The SLCR platoons and their respective sections/teams coordinate with the company commander and the FSB SPO in planning their reposition or AO assignment. The QM FSC, DS is capable of moving 75 percent of its TOE equipment and supplies in one single lift, using its own unit vehicles. Deployment and coordination requirements are the same as above. Additional company capabilities and support needs for each FSC are identified in Chapter 2.

SUPPORT SERVICES

The FSC must adapt its field support capabilities in a sufficient and flexible manner to meet the changing warfighting doctrine. To meet the necessary battlefield METT-TC conditions, the FSC provides the following operating services:

NOTE**: Clothing Exchange Services**. CES allowed soldiers to exchange their dirty serviceable clothing for clean clothing in conjunction with a field shower. FSC will not perform clothing replacement. CES is a supply action to replace unserviceable clothing. The FSC will provide a "wash and return" policy for all soldiers. They will wash and return to soldiers their own clothing with name tags, organizational patches, and skill badges.

Laundry Support Services. In keeping with the Surgeon General standards, the FSC will provide a minimum of one shower per week to the soldier in conjunction with laundry support. This is to maintain his minimum level of personal hygiene required to minimize force degradation from infectious diseases. Laundry support services entails the following --

Implement Laundry Planning Factors. In the QM FSC, M (TOE 10414L0), soldiers should consider that 15 pounds of laundry equals three BDUs minus a field jacket, three sets of underwear, socks, and two towels. In this process, soldiers will receive their clothing back in a 24-hour period, or at a time

and location mutually acceptable to the laundry section and the supported unit. The QM FSC, DS (TOE 42414L0), will service at the rate of 7.9 pounds of laundry per soldier per week.

Provide Laundry Delivery Service. Delivery service must be closely coordinated. Contingency plans must be set up in case the supported units relocate prior to delivery. Contingency plans may include having the supported unit's supply NCO or other designated representative to pick up clean laundry and issue to the soldier when METT-TC allows.

Establish Communications Services. The FSC and its elements or sections/teams will be able to communicate with supported units to facilitate field service operations, especially the delivery of clean clothing. See Figures 1-2 and 1-3 (pages 1-5 and 1-6) for the company's communication system.

NOTE: The FSC, M will increase its capability of laundry service through the fielding of the LADS with its innovative reduced water usage technology. Using about 240 gallons of water per 20 hours of operation, the LADS produces about 400 pounds of clean laundry per hour and reduces the number of operators required by 75 percent. Laundry equipment capability is measured in terms of "pounds per hour," which makes it essential that soldiers' allocation for laundry be measured in terms of weight rather than pieces.

Shower Support Services. The FSC, M, shower and laundry entity (sub-element of the SLCR section/team) can support 3,500 soldiers per week. They will be deployed in support of a brigade-size element. They will provide showers, clean laundry, clothing repair and limited, lightweight textile repair. The S/L element(s) of the SLCR section(s)/team(s) may be organized (required) by tasks to accommodate a particular strength requirement. The FSC, DS will support 18,500 soldiers per week, providing required services stated above. Shower support services entail --

Establish Shower Operations. Shower operations must take care of both male and female soldiers. This can be done by either providing separate shower facilities or by separate scheduling, whichever is most practical at the time. Supply personnel from the supported units are responsible for providing HCP 1 and 2 to their own soldiers.

Establish Shower Procedures. After showering, soldiers will put on clean clothing. They will be told to go to the laundry point to turn in dirty laundry. Details on showering procedures will be explained in Chapter 3.

NOTE: Commanders should make every effort for soldiers to have clean clothing after they have showered. This may require unusual and extraordinary efforts by the command. The command must ensure soldiers follow the unit's SOP, requiring them to carry clean clothing in their rucksack.

Decontamination Support Services. The FSC will NOT provide laundry decontamination support; showers will not be used for troop decontamination of chemical and biological agents. However, a shower may be used for radiation decontamination. If MOPP gear is used as protection from fallout, no showers will be needed. If MOPP was not used, then, contamination may be lodged in the hair and on the skin and can only be removed by showering. Run-off water from these showers is contaminated. It must be controlled IAW applicable procedures and EPA requirements.

NOTE: Current chemical protection over-garments cannot be washed or decontaminated by field laundries and retain their protective qualities. Once these garments are exposed to contamination, they must be disposed of IAW higher headquarters directives and applicable procedures. The next generation of chemical

protection for over and undergarments will allow at least four washings, before being exposed to any contaminations, and still provide protection from chemical agents.

EPA implementation is initiated by following --

EPA Regulations In The United States. Rules and regulations for wastewater discharges are set by the EPA or a state with an EPA-approved program under the NPDES, established under the CWA. The NPDES sets minimum treatment standards for surface waters discharges. It also sets up the framework for setting more discharge standards. For disposal of discharges, apply for and obtain an NPDES permit (or state equivalent), which contains discharge standards and restrictions that apply to the given discharge. Before operating any S/L elements in the United States, check with the state and local EPA for permit(s) requirements.

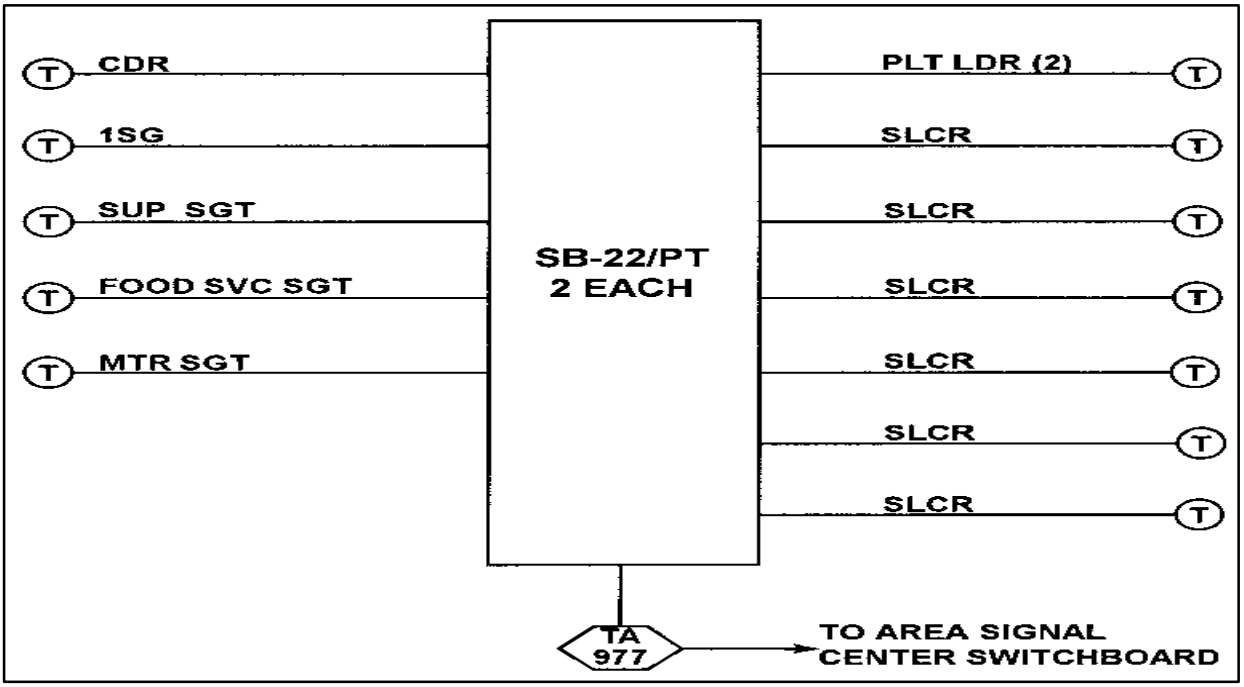


Figure 1-2. Proposed wire net for QM field service company (modular)

*(NOTE: QM FSC, DS and QM FSC, M are authorized TA-312/PT telephone sets.)

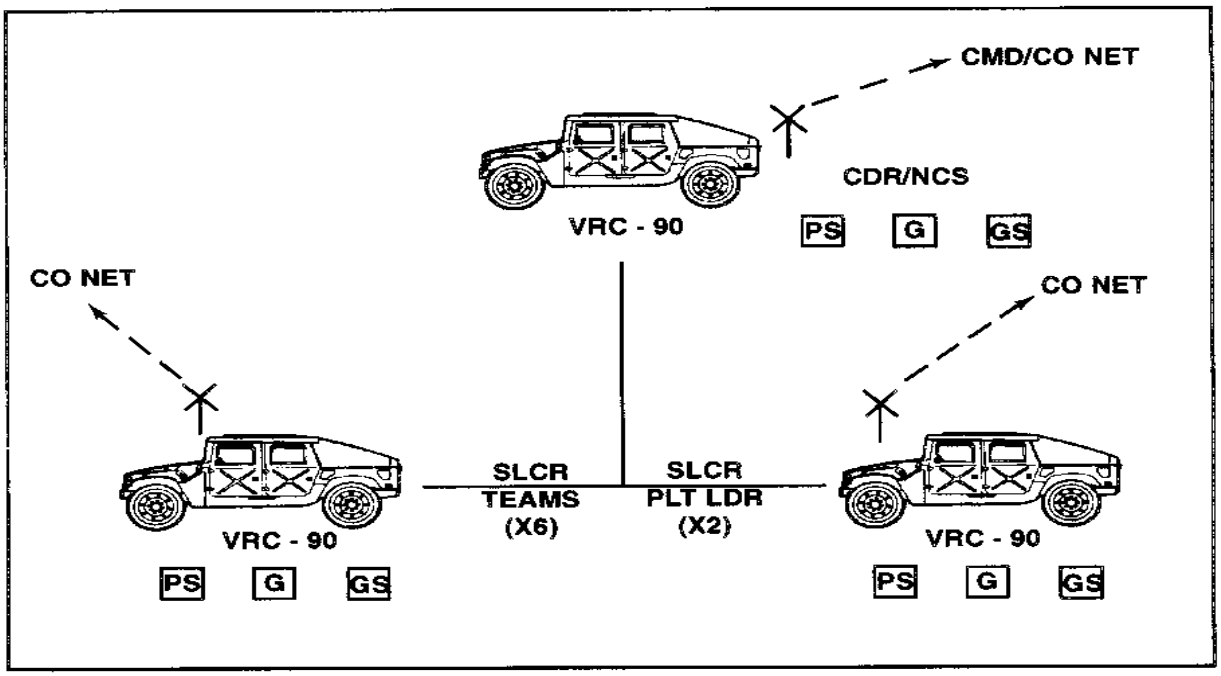


Figure 1-3. Proposed radio net, QM field service company (modular)

*(NOTE: Command elements of QM FSC, DS authorized VRC-90 radios.)

EPA Discharge Permits. Many military installations may have current discharge permits for water sources located on the installation, which are used by S/L elements. Check with the Installation Environmental Office for guidance. Always consider the potential environmental impact of chemical or waste discharges on a water source.

EPA Regulations in Other Countries. It is always necessary to check with local authorities for regulatory requirements. Each country in which water purification, storage, and distribution operations may be used will have their own guidance on disposal of chemical and waste discharges in a training exercise, as well as ambient water quality criteria. Units must comply with environmental standards applicable in the host country.

Laundry Support Services For OCIE. The first priority of the FSC is the soldier's personal clothing. However, laundry support for OCIE and seasonal and special-purpose clothing is needed. Requirements to meet laundry services for OCIE is initiated through the following directed measures.

OCIE Service. OCIE and seasonal and special-purpose clothing will be turned in through normal supply channels to the organization in the rear area that is responsible for contracting or arranging HNS for laundry support.

OCIE Support. If there is a light work load for personal clothing, the FSC laundry elements may provide limited support for selected OCIE and seasonal and special-purpose clothing as directed by higher headquarters.

Clothing Repair Support Services. Soldiers may need their clothing to be repaired on the battlefield. This support may be provided by three methods, depending on the extent of the requirement: self-help,

direct support through the FSC clothing repair element, and support through HNS and/or (hired) contract service. CR support service is gauged upon the following measures --

CR Operating Standards. The individual soldier can make minor and emergency clothing repairs using repair kits available through the supply system. If he cannot make the repair, he should identify the clothing needing repair at laundry turn-in. After the clothing is cleaned, the fabric repair specialists will inspect and determine serviceability. They will do limited clothing repair based on standards set in FM 10-16; TMs 10-8400-252-23 and 10-8400-201-23; and SB 10-523.

CR Time Standards. Repairs will be made within the 24-hour laundry turn-around time.

NOTE: Soldiers should be careful when turning in grossly damaged clothing for laundry. If the item is determined to be unserviceable and unrepairable, it is returned to the user. The user, then, disposes of the item(s) by initiating a supply action to immediately replace the item(s). Under combat conditions, units can immediately requisition replacements through the supply system for those items not repairable. The FSC, (direct support or modular) has **no capability** to issue replacement items.

Section II

CAPABILITIES AND OPERATIONAL CONCEPT OF FS UNITS

RESPONSIBILITIES

To maintain good morale and hygiene comfort to troops in the field, showering and clean laundry and serviceable clothing support is recognized as an essential necessity for personal sustainment needs. Units providing this support are --

Quartermaster FSC (DS or M). This company is the primary provider of tactical field services to divisional and non-divisional personnel from corps forward area to FLOT. Services include shower, laundry, limited clothing and lightweight textile repairs (described as “renovation” in FSC, DS), and delousing support. Refer to section I in this chapter for organizational structure and unit attachment.

Quartermaster Laundry and Renovation Company, GS. The mission of this company is to receive, classify, launder, renovate, and temporarily store clothing and lightweight laundered textiles. The company also processes and stores seasonal clothing and equipment. It is assigned to a TAACOM and attached to an S&S Battalion in an area support group. The following describes its composition and capability.

Organizational Structure. The company is organized with a headquarters section, operations section, classification and storage platoon, and a laundry and renovation platoon. It operates on two shifts.

- *The classification and storage platoon* consist of a platoon headquarters, a classification section, and a storage section.

- *The laundry and renovation platoon* consists of the platoon headquarters, renovation section, and a laundry section.

Capability. On a weekly basis, the company can receive, classify, and temporarily store about 22 tons of clothing and lightweight textiles; renovate about 35,000 items; and launder 44,000 pounds of clothing.

Quartermaster Laundry Team. This team is normally attached to a TAACOM hospital unit, base (field); or a TAACOM hospital unit, base (general). The team provides weekly laundry service for 500 hospital patients, based on 77 pounds for each patient a week.

Combat Support Hospital. This hospital has unit equipment to support its patient load. Its personnel are supported by the FMC in their AO. The hospital must request and coordinate staff services through its support channels.

NOTE: Although CSS requirements for the QM laundry and renovation company and the QM laundry service teams have been identified by FORSCOM, these elements are not currently resourced.

QUARTERMASTER FORCE PROVIDER COMPANY

The Army requires a capability to provide front-line soldiers a brief respite from the rigors of duty in a front-line area. The following paragraphs discuss the history and concept of this unique company and its special services support to the soldier in the field.

History of Force Provider. Operation Desert Storm ushered in a new area for the Army. For the first time, the difference between a U.S. Army soldier's and a U.S. Air Force airman's quality of life in the field was broadcasted to the world, as they waited for a war to begin. World news televised Army soldiers sleeping in tents that were designed in the 1940s and 1950s and using makeshift latrines and showers, while Air Force airmen lived in modern field facilities. Recalling their days in the field, the Army's senior leadership saw that little had improved over the years. They demanded an immediate change to this inequality. One of the results was the QM FPC.

Concept of Force Provider. To support the soldier in the field, the Force Provider concept was set up to identify with the Army's myriad of mission profiles. These being soldier rest and refit services, convoy support actions, theater reception operations, and immediate staging base operations. Force Provider would also be used to provide support to humanitarian aid, disaster relief missions, and peacekeeping missions--stability and support operations. The requirements for organizations and equipment that would enable Force Provider to support these diverse missions were instrumented by TRADOC. Force Provider would be containerized for easy air, land, or sea transport. It would be modular for operating in a variety of tactical environments and movable to follow troop movements. It would offer a variety of services to improve soldier quality of life in all field environments anywhere in the world.

Force Provider Support Service Capabilities. Force Provider is air, land, and sea transportable. It is also a collective support system that provides comforts rarely enjoyed by Army combat soldiers. These Force Provider modules will support up to 550 soldiers and may be combined to support brigade-size forces of up to 3,300 soldiers. The following describes its uniqueness.

QM FPC Set Up. It will be a self-contained unit. It will have its own capabilities. These being a unit power generation system, water and wastewater distribution systems, and fuel storage areas. However, external transportation, water, and engineer support will be needed to set up and operate Force Provider.

QM FPC Services. Troop units will rotate into the QM FPC for rest and refit services. These services will consist of the following: hot meals and showers, laundry service, and a variety of MWR activities. Also, supported units will be living in environmentally controlled tents. See Figure 1-4 (page 1-10) for the set up of the QM FPC.

QM FPC Equipment. It will use the best CSS equipment available within the DOD. Force Provider will use the modern air-conditioned Army TEMPER tent as its basic "building block." These TEMPER tents will house Air Force showers and latrines. They will serve as quality billets, kitchen and dining facilities, and MWR centers. Power to these facilities is provided by either the Army's 60-kilowatt tactical, quiet generators or by the 750-kilowatt generators from the "Prime Power Battalion." Fuel (area) storage facilities, wastewater storage areas, and a pressurized fresh water system will round out the utilities serving Force Provider.

Force Provider Future Enhancements. Improvements will continue as state-of-the-art containerized kitchens, latrines, and laundries. A winterization kit will enable worldwide deployment. A high-tech wastewater treatment system will recycle laundry and shower water and reduce nonrecyclable liquid waste products to an environmentally disposal state.

QM FPC Assignment Area. Force Provider is to be assigned to a TAACOM or a COSCOM with attachment to a HHD, S&S Battalion (TOE 42446L) or a HHC, Support Group (Corps) (TOE 63422L). The QM FPC may be detached to operate separately in an austere environment.

QM FPC Organizational Structure And Operational Functions. The company consists of nine major elements. It has a company HQ, a support operations section, a maintenance section, six provider platoon HQs, six food service sections, six S/L sections, six water distribution sections, six facilities support sections, and six petroleum distribution sections. Documented as a complete TOE showing strength levels 1, 2, and 3, this unit is planned to be organized only as a Type B structure. See AR 220-1 for more information on TOE strength levels. As such, 44 personnel will serve as the nucleus for unit operational planning and deployment. Based on plan execution, these personnel will fall in on Force Provider equipment modules already in place or in contingency storage areas. Full unit functioning will be handled by filling the unit with DA civilians, contractors, local nationals, or third country nationals. Significant dependence will be placed on other TOE organizations for help in setting up the site and operating support. The nine QM FPC elements and their functions are --

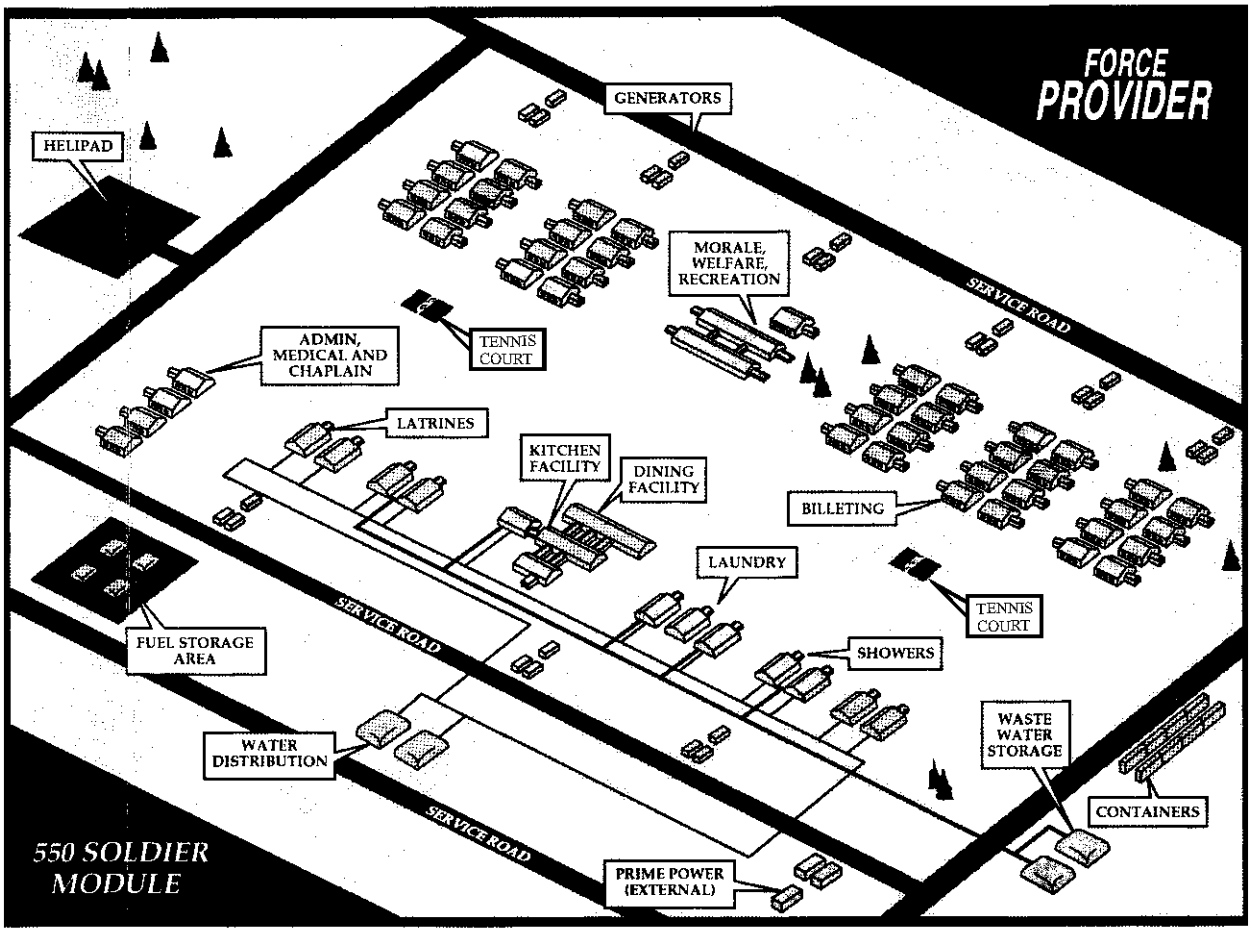


Figure 1-4. Set up of the QM FPC

- *Company HQ*. The company HQ provides C^2, training, administration, and logistical support needed to do unit operations. The company commander is assisted by the first sergeant, who supervises and coordinates the functions of the company.

- *Support operations section*. This section supervises the supply, maintenance, and field service support operations and advises the company commander in these functional areas. It also serves as the focal point for all contracting and engineer support.

- *Unit maintenance section*. This section provides unit maintenance on all unit equipment except COMSEC and communications-electronics equipment.

- *Six provider platoon HQs*. The HQ supervises those activities such as billeting, supply functions, climate control, and facility spacing needs for basic MWR services.

- *Six food service sections*. The sections prepare and serve three cooked meals daily. This includes preparing meals for a maximum module of 550 supported personnel and up to 3,300 personnel when Force Provider is fully deployed.

NOTE: The kitchen and dining facility setup must be at least 100 feet from the latrines.

- *Six S/L sections*. The S/L sections plan and coordinate internal logistics requirements in providing shower support and performing company security operations. The laundry system can wash each soldier's turn-in of 15 pounds of laundry within a minimum of three days.

- *Six water distribution sections*. The sections provide approximately 80,000 gallons of treated water for a maximum of three days. They can store, distribute, and dispose of water for units assigned to QMFPC.

- *Six facilities support sections*. The sections supervise and coordinate all lighting, climate control, power generation and distribution services, and all facilities support requirements.

- *Six petroleum distribution sections*. These sections provide QM FPC the necessary Class III supply support. They can receive, store, and issue Class III supplies as needed.

Force Provider Support Request Channels. Divisional elements desiring Force Provider support will send requests through their command channels to the DISCOM Support Operation Branch, which will be responsible for work-loading the QM FPC. Priority of use within the division will be set by the ACofS, G1. Non-divisional elements, wishing to use the QM FPC, will submit requests through their command channels to the DISCOM Support Operations Branch, who will determine in consultation with the ACofS, G3 whether or not support can be provided. The following depicts its support role.

Force Provider Support. If Force Provider is in DS of one or more divisions, while remaining under the C^2 of the COSCOM or TAACOM, priority of support will be given to the supported divisions. Non-divisional elements will be supported on a space available area support basis. All requests for support will be sent through appropriate command channels to the COSCOM ACofS, Support Operations, or the TAACOM ACofS, Services. Priority of support will be set by the Corps ACofS, G3.

Force Provider Stability and Support Operations. Force Provider support to civil authorities in SASO (for example, disaster relief or humanitarian assistance) will be done IAW procedures given in FM 100-19.

Force Provider Equipment Support Contingency. Conceptually, two Force Provider equipment sets will be placed on pre-positioned ships and four in operational projects in CONUS Army depots. Those placed on ships will be responsive to missions involving OCONUS contingencies; reception and staging operations, or convoy movements. They will have a positive effect on early TPFDL flow. Those maintained in the Army depots will be used for training and testing and will be respond to other military missions, as well as supporting U.S. civil authorities' emergencies and disaster request needs.

STABILITY AND SUPPORT OPERATIONS

According to FM 100-5, the U.S. Army will evolve itself with conducting "military activities during peacetime and conflict that do not necessarily involve armed clashes between two organized forces." The Army's prime mission focus is on fighting war; however, its role in SASO is critical. During peacetime and war, the FSC personnel may be participating in disaster relief and nation assistance missions. This was true for the Quartermaster 16th FSC (DS) at Fort Lee, VA. This organization assisted the civilian community and U.S. Air Force personnel in operation Hurricane Andrew Relief at Homestead U.S. Air Force Base, FL in the summer of 1992. In August 1993, the 16th FSC, DS was tasked in Provide Disaster Relief to its close community neighbors of Petersburg and Colonial Heights, VA. A tornado hit these areas causing

severe damage to homes and businesses. Homeowners and business personnel received varied field service assistance. Humanitarian aid and disaster relief was again supported by Army field service units called to duty in the Mississippi Flood Relief of 1993.] SASO is further defined below.

SASO Principals. Army forces as FM 100-5 states, "...must be full dimensional operations. This means employing all means available to accomplish any given mission--decisively and at least cost--across the full range of possible operations in war and in operations other than war." More information on these principles can be found in "Operations Other Than War: Peacekeeping and Peace Enforcement," Center for Army Lessons Learned Newsletter.

SASO Support Enhancements. Using force projection and conducting split-based (logistics) operations for SASO, conflict, or war missions, FS support operations will continue to enhance joint and combined field service capabilities. FSC (i.e. elements, sections/teams) as part of modular units and civilian support components, as needed, will make up the proper balance of forces to support and sustain a total force concept. They will be a part of a joint, combined, United Nations, or contingency organization.

Section III

COMMUNICATIONS

COMMUNICATION SERVICES

A good working communications system is needed to set up effective unit CSSCS measures. FSC staff must be able to communicate with its higher headquarters, adjacent units, supported units, and its own internal sections. Communication resources and details for setting up telecommunications should be explained clearly in the company's TSOP. This information identifies the requirements of setting up and operating services. It denotes all automated and satellite or electromagnetic communication systems, and telephone system services. It also includes priorities for laying wire and responsibilities for setting up the system. See Appendix A for format and informational data for setting up an SOP/TSOP. Your communication system invokes the following aspects --

Communication Support. The FSC will get its communication support from the S&S Battalion with additional support from the area's assigned signal team. Refer back to Figures 1-2 and 1-3 on proposed wire and radio nets. Make sure the allocation of radio equipment is documented in the company's TSOP. (When the company uses the SINCGARS communication assets, ensure all company personnel know how to operate this satellite communication system.) After setting up the company's operating site(s), your communication personnel should enter the net within a reasonable time, OPORD or as prescribed by higher headquarters IAW CEOI in company's TSOP. Use FMs 24-1, 24-19, and 24-22 for additional guidance.

Communication Means. Your company's means of communication depends on equipment on hand, internet capability with other units, and METT-TC. FM 24-1 describes the main features and weak points for each of the following systems.

- Area common user system.

- Tactical satellite communications.
- Net radio interface.
- Audiovisual, facsimile, data, and tactical automated systems.

NOTE: Your public affairs responsibilities, concerning soldier-media interaction, are addressed in Appendix B of this manual.

METHODS OF COMMUNICATION

There are many methods of communication. Use the methods that offer maximum continuity, security, versatility, and simplicity. Do not depend on only one method. Use them to complement each other. Signal equipment, particularly when connected to cables and antennas, can be damaged by electromagnetic pulses. Therefore, alternative means of communication should always be available in case of nuclear warfare, directed energy attack, lighting strike, or equipment failure. FM 24-1 has more details on the various methods of communication. Basic communications aspects are discussed next. However, every consideration to acquire and use advanced electronic and satellite communications should be employed by the unit.

Wire. Wire system uses field wire and cable, telephones, and a switchboard to provide person-to-person conversations. Wire is more secure than radio. If you use links in your system, the enemy can intercept your conversations. Make sure your soldiers know this and practice COMSEC. See TC 24-20 for information on field wire activities and the general characteristics of equipment used with field wire systems.

Radio. Radio will be your main method of communications with your sections that are mobile or do not have access to the telephone system. However, radio is the least secure communications method. Radios can be severely damaged by the electromagnetic pulse resulting from a nuclear detonation. If your company is in or expects to be in a nuclear environment, protect your radios. Put both security and protective measures in your TSOP. When setting up operating sites, your soldiers should enter the net using procedures in FM 24-18. See FM 24-19 for daily operational procedures.

Messenger. Use your soldiers for messengers as much as possible. They provide the most secure method of communications.

Visual and Sound Signals. You can use visual and sound signals to send messages over short distances. These signals are especially useful as alarms or warnings, especially of enemy attack, or as a means of sending prearranged messages. Messages transmitted by visual or sound signal are easily misunderstood. Take care when selecting the method and the message to be conveyed. For publications on visual and sound signals, see Table 1-1 (page 1-14).

Table 1-1. Visual and sound signal publications

Publication	Coverage

FM 3-4	Sound alarms
FM 5-36	Road signs
FM 21-60	Flags, lights, panels, arm and hand signals
FM 21-305	Traffic control signals
FM 23-30	Pyrotechnics
FM 55-312	Convoy warning devices, flags, and hand signals

COMMUNICATIONS SECURITY

COMSEC consists of measures taken to keep unauthorized persons from getting information from the communications system. As outlined in FM 24-1, your soldiers should practice the following security measures in these areas: physical, transmission, cryto, and emission. Transmission and physical security measures are discussed for further clarification.

Transmission Security. The SOI governs all transmissions. The SOI is a type of classified combat order issued by higher headquarters for technical control and coordination of communications. See FM 25-35 for more information on the SOI. As a rule, you receive only an extract of the SOI, the part you need to manage your nets. Also, the SOI may give you a list of essential elements of friendly information which must not be transmitted. Your operators should have a copy of this list. They should monitor transmissions to see if information on the list is being passed. They should report any violations to their supervisor. Other ways you can make transmissions more secure include --

- Choose the most secure means of communication according to the urgency of the situation.
- Transmit only when necessary.
- Use low transmitting power when possible.
- Be wary if a radio station's signal strength suddenly changes.
- Use directional antennas and terrain masking when possible.
- Plan your message. Keep the message short as possible.
- Maintain total radio silence when directed.
- Use only authorized codes and ciphers.
- Avoid identifying yourself or others.

- Demand authentication. Do not talk to anyone who will not authenticate.

Physical Security. Impress your operators with the need to protect communications equipment from abuse, damage, or capture. Make sure they guard against disclosing the locations of equipment. Make sure phone wires are inside the defense perimeter and along frequently traveled routes. Bury wire and cables when possible. This protects against magnetic pulses during nuclear attacks. Site radios in well-defended locations. Instruct your operators to move transmitters frequently. Be sure to rotate your operators so that an enemy will not associate an operator with a specific unit or operation.

COMMUNICATION ENVIRONMENTS

The environment can have a significant impact on communications. Your soldiers must know how to install, operate, and maintain communications equipment in all environments. Cold weather, desert, jungle, mountain, and NBC environments create special problems. These areas are discussed next.

Cold Weather. For operations in severe cold weather, special arctic training is needed. See FMs 9-207, 24-1, 31-70, and 31-71 for details on operations in cold weather.

Desert. Dust and extreme heat are two major problems in desert operations. FM 24-1 lists their effects on communications. See FM 90-3 for details on desert operations.

Jungle. Humidity and heat create the biggest problems for combat communicators in the jungle. Good operator maintenance is the key to keeping equipment in working condition. FMs 24-1 and 90-5 have details on a jungle environment.

Mountain. In mountain areas, you may find it difficult to move, to find a communication site, and to ground equipment in rocky soil. You may also have problems with operating generators and carburetors at high altitudes. See FMs 24-1 and 90-6 for more details on mountain operations.

Biological and Chemical. Combat communicators will find it difficult to retain continuity of communications in a biological or chemical environment. Manual dexterity is degraded when they wear MOPP gear. Voice distortion from the protective mask will make radio and telephone conversations difficult. Personnel decontamination is time-consuming and will take CE operators away from their duty positions. To overcome these problems, train your soldiers in full MOPP gear in a simulated biological or chemical environment. See FMs 3-3, 3-4, 3-100, and 24-1 for more details on operations in a biological or chemical environment.

Nuclear. Nuclear detonations from great distances degrade signals as a result of changes in the medium characteristics (a transient effect of electromagnetic pulse). They damage systems by radiation or intense fields generated by gamma pulse.

ELECTRONIC ATTACKS

EA may hinder, confuse, or prevent radio reception. Your soldiers should report all EA according to SOI supplemental instructions. Before reporting EA, the operator should disconnect the receiving antenna to determine whether or not the signal is from an outside source. The operator should follow the procedures in FM 24-33 to determine the nature of the EA and monitoring/countermeasures used against them. These include --

Interference. Electromagnetic signals caused by sources other than the enemy may interfere with your radio reception. These sources include friendly radio signals, faulty electrical components, weather conditions, and nearby generators.

Intrusion. The insertion of electromagnetic energy into friendly signal paths so that operators are deceived or confused by it is called intrusion. The enemy may try to enter the communications system by imitating a friendly unit or station. Train your operators to counter intrusion by using correct operation codes, brevity lists, and operating signals. Make certain your operators require authentication and that they observe transmission security.

Jamming. The deliberate effort to prevent the passage of or to degrade the reception of information is jamming. It can disrupt a single frequency or an entire frequency spectrum. All radio frequencies can be jammed. An operator hearing unusual noise on the radio must try to determine its source. If he cannot trace the noise to friendly source, the radio is probably being jammed. The operator should try to identify the kind of noise and report it. Do not let the enemy know that his jamming efforts are successful.

Reports. An operator suspecting EA should report it at once. Reports are made according to the SOI supplemental instructions, using the format shown in FM 24-1, Appendix H. The operator should make the report whether or not he is successful in working through the EA. Upon receipt, the report is sent forward to higher headquarters as required by the SOI.

Training. Operators must be trained in the correct procedures to follow to restore communications or set priorities for transmissions. Train soldiers equally in all communications methods. This enables the company to continue operations during periods when one or more methods are knocked out of commission. Ensure that all users, not just prime operators, are trained. These include officers, NCOs, and other soldiers. Train them to operate communications equipment correctly and to maintain COMSEC. Train backup operators to take over when prime operators are absent. Review FM 24-1 for additional tactical and operational level signal support, regarding IMA disciplines of communications, automation, visual information, records management, and printing/publications.

Directed Energy Weapons. Weapons using directed microwave radio energy and lasers safe to the human eye may be fielded in the near future. At low power, these weapons can jam CE equipment. At higher power, they can induce excess electric currents into sensitive components to cause damage, burnout, or destruction.

Instructions. The TSOP should have the methods of installation and operation of CE equipment that best protect soldiers and equipment. CE equipment in company inventory generally will not be designed to withstand the effects of EMP. Plan to give communications priority to harden systems in an EMP environment. In training situations, emphasize compliance with EMP-related directives. Use smoke generators, pots, or grenades to absorb and reflect the directed energy of most directed energy weapons.

Section IV

PLANNING CONSIDERATIONS

SITE SELECTION

The main concern when selecting a site for operations is based on the mission and assigned area given to the company by higher headquarters and conditions of METT-TC. The site is set up with these concerns according to --

Location Support. The site should be set up as close as possible to the unit or command being supported.

Operational Support Requirements. The site operational area should support the number of personnel receiving services to include area capacity and restrictions; time constraints; METT-TC conditions; good roads network system; and, if available, natural cover and concealment.

Water Support. The site should have plenty of clean water or potable water in an arid environment. The area terrain should be gently sloping to provide proper drainage capability. (The drainage system or a ditch should be available to carry off wastewater. Before constructing such a system, the unit should check with the environmental engineer for any EPA restrictions prior to discharging any water.) Chapter 3, Section I provides detailed requirements for FSC site operations to include water and fuel needs.

THREAT ACTION

Since the FSC provides support in the division rear area and close to the FLOT in the brigade support area, they are susceptible to many threat tactics. This premise is based on modern threat capabilities and doctrine. The FSC and its elements or sections/teams will use normal defensive procedures before a threat attack and provide protection for its equipment. Some effective passive measures for equipment protection include decentralization of storage locations, the use of indoor storage facilities, and the use of protective cover for supplies stored in the open. Decentralized storage locations are especially effective against direct and indirect fire weapons. All FSC operations will cease during or upon alert of an impending NBC warning or attack. All personnel will don appropriate MOPP level gear until threat is abated. The following information covers recent changes to the threat environment and threat counter tactics, to include friendly countermeasures to be taken.

Threat Environment. The collapse of the Soviet Union and the end of the cold war has changed the threat environment. Regional conflicts are now emerging from the former Soviet Union spheres of control. Other conflict areas which now threaten U.S. and allied interests could come from such countries and regions as Kurdistan, the Balkans, the Andean Ridge, Korea, Persian Gulf, and Palestine. These conflicts could range from nuclear war to major regional conflicts to insurgencies and terrorism. Because of this new threat environment, the impact of global news networks in providing near-real-time enhances the ability of threat governments or organizations to use the media as a tool of warfare. See Appendix B for more information on what public affair procedures to take when dealing with the news media.

Threat Counter Tactics. With advance technology and the weaponry sales to third world nations and extremist organizations who can afford them, the enemy or potential enemies of U.S. forces and its allies

can employ very stiff resistance to our deployment and buildup of friendly forces' capabilities. As given in FM 10-1, tactics that the enemy will likely use to counter U.S. and allied forces include --

- *Prevent buildup of friendly forces*. Prevent the buildup of U.S. and allied forces by deploying their attack forces into a theater to block our heavy forces and by attacking our rear echelon infrastructure.

- *Control operational tempo*. Slow operational tempo of U.S. and allied forces as an example by improving their armor and anti-armor capabilities, degrading U.S. and allied forces' battlefield identification capabilities, and maximizing use of sea and/or land mines.

- *Degrade command elements.* Degrade the relative advantage of our C^3I capabilities by using electronic countermeasures and stealth or low-observation materials and technologies.

- *Employ guerrilla or terrorist and/or biological and chemical attacks*. Maximize U.S. and allied casualties through use of guerrilla or terrorist attacks and biological and chemical agents, especially in rear area support areas.

Friendly Forces Counter Support Measures. In support of the "next" battle, units and their personnel must apply their mission operations at the right location and on time. This gives the maneuver commander the opportunity to maximize his success on the battlefield. This requires units and its soldiers to train in a variety of situations and environments. Also, it requires organizational planning to meet METT-TC conditions; anticipation of support needs including timing and location setup operations; and, a thorough understanding in assisting and following through on the maneuver commander’s objectives and tactics. As the threat situation dictates, your unit may become part of the maneuver commander’s offensive “shooting” force or reserve “shooting” force or defensive counter-attack force as an extreme measure to the tactical threat situation. Friendly forces must stay current on threat doctrine, including terrorism actions, and its technological capabilities in meeting the challenge and opportune time to defeat the threat.

DEFENSIVE AND OFFENSIVE MEASURES

Because of the FSC location on the battlefield, its fighting capability will probably be a defensive measure, unless ordered by higher command to take part in an offensive (or counter attack) strike. Unlike combat support units designed and equipped to fight the enemy, the FSC is not organized or equipped to do so. However, the company or its elements or teams may have to fight an enemy force until reaction forces (such as MP or combat forces) can help. Company personnel (i.e. SLCR section(s)/team(s), S/L and CR element(s)) must be able to defend themselves and, if required, to take part in offensive tactics. Therefore, the company commander is responsible for the security and safety of the company. The company commander must train his personnel in unit collective and individual tasks. This is necessary to protect against both level I threat (attacks by agents, saboteurs, and terrorists) and level II threat (attacks by irregular or tactical units less than battalion size) activities. Training on offensive tactics will need to be employed in anticipation or preparation for offensive actions. These measures entail the following guidance --

Understanding Defensive And Offensive Principles. The principles of defense for this company are the same as those for combat units. You must adapt them because of the lack of personal, equipment, or weapons to furnish a full defense and to avail in performing your mission. If ordered to take part in an offensive mission, apply the principles stated in FM 100-5 and train to standards according to HTF manuals. Keep informed of the latest preparation measures against ground, air, and NBC attacks. See

Appendixes C and D on mission-kill operational data and fratricide prevention measures to survive on today's and tomorrow's battlefield.

Prepare Defensive Plan or Offensive Measures. Using all available means, survey your operations and make defensive plans or offensive measures to lessen the possibility and effects of an enemy attack. Plan the action your company will take during and after an attack so the company can perform its mission. Base your plan on guidance and instructions from higher headquarters on your specific mission, situation, and location. The FSC should follow these preliminary offensive support measures:

- Plan unit move.
- Perform pre-combat checks.
- Prepare unit to move.
- Prepare unit equipment and vehicles for deployment.
- Conduct tactical road march.
- Cross chemically and/or radiological contaminated area.
- Take active air defense procedures against hostile aircraft, which includes small arms fire. See FM 44-8 for small unit arms air defense measures.

Conduct C^3 I. Initiate C^3I procedures against the threat as identified in company's or team's/section's TSOP and guidance received from higher headquarters. Apply the following planning and execution operations.

Review Intelligence. Request all available intelligence about the enemy from higher headquarters on identity of probable threats. This information will likely include what enemy forces to expect and when, such as--

- Hit-and-run night or daylight missions by saboteurs.
- Small guerrilla bands or terrorist groups.
- On-target air attacks resulting from air reconnaissance.

Revise the Defense/Offense Measures. Include this data in appropriate annex(s) to the unit TSOP. Adapt the TSOP in keeping with the intelligence about the situation and the type of enemy attack or offensive strike tasking you may be expected to receive. Decide and detail counteractions as updated data to the TSOP for each type of threat to be encountered in a defensive or offensive mission. Identify, in detail, any open or restricted fire zones. Update data, as necessary, on the composition of any reaction forces. See Table 1-2 (page 1-20) for a listing of subject areas and publications with which to be familiar. Execute these actions to prepare the defense or offensive measures of the TSOP.

Perform Reconnaissance. In reconnaissance of the area, direct reconnaissance personnel to report on --

- Unusual terrain conditions.
- The condition of roads.
- Any errors in the maps being used or provided by higher headquarters.
- Any presence of threat forces including equipment and weapons.

Conduct Brief-Back. Set up a briefing so that reconnaissance personnel may brief all key personnel on their findings, including terrain and natural obstacles encountered and those that can be used for cover or camouflage. Discuss objective routes for offensive actions or likely avenues of approach by enemy attack. For defensive precautions, determine placement of OPs, automatic chemical agent alarms, and crew-served weapons for interlocking fire zones.

Table 1-2. Defense publications

For Information About:	**Use:**
Camouflage	FM 20-3
Survivability	FM 5-103
Fighting Positions	FM 7-7
Mines	FMs 20-32 and 23-23
Unit Weapons	FMs 23-14, 23-31, and 23-67
Air Attack	FM 44-80
Combat Training	FMs 7-10 and 21-75
Grenades and Pyrotechnic Signals	FM 23-30
Built-Up Areas	FM 90-10

Draw Up Defense Layout Plan. Show the placement of OPs, LPs, machine guns, mines, automatic chemical agent alarms, and all barriers on map overlays. Give a copy of the layout plan to higher headquarters and to the quartering party personnel. Define sectors of defense, and assign responsibilities for each sector. Estimate time, labor, and equipment required to construct camouflage and barriers.

Request camouflage, barrier materials, and ammunition supplies through channels. Set priorities for constructing obstacles, and assign responsibility for each barrier.

Coordinate With Adjacent Units. Higher headquarters keeps the company informed of the tactical situation, enemy capabilities, and OPORD, directing the degree of dispersion to be made for the company areas of operation. Using this information, the company coordinates its defense plan with the plans of all nearby units to form a mutual defense plan of operations. If the company is attacked, immediately inform higher headquarters and adjacent units. This report should include the time and strength of the attack so help can be provided if needed. See FM 90-14 for fire support plan and rear battle actions to be taken. See Appendix D for more information on fratricide prevention measures; it identifies actions to be taken when friendly fire incidents occur. To stay abreast with your higher headquarters and adjacent units, these communication steps must be followed.

Establish Communications. Tie into the area communications net. Ensure that a primary and alternate means of communication exists between operating sections, between operating teams and their platoon headquarters and company headquarters, and between company headquarters and higher headquarters. Use your communications net to coordinate with adjacent units to ensure that common boundaries are covered by interlocking fire.

Effect Communications Security. Implement COMSEC measures to keep unauthorized persons from getting information from the communication system. Effective use of these measures denies the enemy information on company's operations. COMSEC is everybody's responsibility. Make sure all company personnel understand and observe the security measures described in FM 19-30. Two types of COMSEC operations that they should know about are physical security and transmission security. Each is described next.

- *Maintain physical security*. Physical security includes measures to protect classified material from unauthorized persons. An important element of physical security is guarding communication equipment from abuse and damage. Table 1-3 suggests ways to physically secure communication assets.

Table 1-3. Physical security measures

• Guard against disclosures of the location of your equipment and against its damage or capture.
• Put phone wires inside your defense perimeter and along frequently traveled routes.
• Make sure your radio position can be defended.
• When moving to another site, inspect the old site before leaving. Destroy copies of messages, carbons, maps, or other documents that could aid the enemy.
• Move transmitters frequently. Rotate your operators. They have distinct voices and techniques, which the enemy can quickly connect a frequent operator with an operation.

- *Maintain transmission security*. Transmission security includes measures taken to protect transmission interception. Make sure company personnel understand and follow these measures. A list of transmission security measures to follow is given in Table 1-4.

Train Your Personnel. Make sure that company personnel know about the defense plan. Assign specific duties to them as part of the plan. Make sure all personnel know their duties. Train them so they know how to do their duties. Ensure all know the proper procedures for dispersion, concealment, and camouflage. Make sure personnel are prepared to defend themselves against air, ground, and NBC attack. Make sure personnel know how to perform offensive support measures, if ordered by higher headquarters. Table 1-5 lists suggested defensive training activities; some are applicable to offensive measures. Refer to FM 100-5 and HTF manuals for offensive activities.

Table 1-4. Transmission security measures

• Use the most secure measures.
• Avoid identifying yourself or others.
• Use low transmitting power when possible.
• Transmit only when necessary and keep messages short.
• Use signals and codes
• Plan your messages; write it out, cross out unneeded words, and then transmit it.
• Cut out unnecessary chatter. Maintain radio silence as much as possible.
• Demand authentication. Do not talk to anyone who does not authenticate.
• Be wary if a station's signal strength suddenly changes.

Table 1-5. Defense training activities

• Rehearse security and define plans; practice observation and listening post operations. Use ARs 380-40 and 105-3 and FM 21-75.
• Cross-train all personnel to operate and maintain crew-served weapons and communication equipment.
• Design field exercises requiring troops to use terrain and camouflage nets to conceal equipment and constructing barriers.
• Practice patrolling procedures; use FM 21-75. Practice working quietly: enforce noise discipline, practice using visual signals, practice working with little or no light, enforce light discipline, and practice using flashlights equipped with appropriately colored shields.

Camouflage Area And Personnel. Your soldiers are responsible for their camouflage. As they set up operations, direct them to camouflage the areas and equipment. Ensure your soldiers take full advantage of natural terrain to conceal operations. Make sure they realize that the survival of the company is in danger if any soldier can be seen by the enemy because of improper camouflage. Besides using camouflage, personnel can conceal operations by hiding or disguising them. To hide operations, set up in buildings or large warehouses, if available, and conduct night operations under blackout conditions. To disguise operations, use decoy operational areas and equipment. Ensure phone wire is laid along the side of roadways or paths and not stretched across the country. FM 20-3 gives information on camouflage, cover, and concealment.

Take Defensive NBC Measures. If an NBC attack occurs, your soldiers may have to operate in a contaminated environment until decontaminated or ordered or evacuated out of the area. To reduce hazards, make sure soldiers know what to do before, during, and after an NBC attack. Review to FM 3-3 for information on NBC warning and reporting system and FM 3-4 for guidance on protecting soldiers and unit from the effects of an NBC attack. NBC concerns and actions to be taken are --

- MOPP concerns. NBC environment will greatly affect the company's support mission. Wearing of MOPP 3 or 4 gear stops all field service support operations. Performing any taskings in one's MOPP suit leads to concern. The buildup of temperature generated inside the protective clothing can cause harm to the soldier. A stop work/rest cycle(s) is implemented to prevent personnel from overheating in their MOPP suits. See FM 3-7 for tables for determining work/rest rates.

- Contamination precautions. Effects of various chemical agents and decontamination chemicals on your company's equipment and components need to be determined whether the company can meet its mission support. Take every precaution to protect company equipment and components from exposure. Personnel must take appropriate NBC actions to counter exposure effects and handling of contaminated materials. Refer to FMs 21-11 and 8-285 for first aid measures for NBC injuries.

Enforce Rear Area Protection and Operations. RAP makes best use of defensive strength of the unit. It helps to prevent interruptions of the unit mission. The three defense principles of RAO are –

- Unity of effort and economy of forces.

- Responsiveness.

Unit of effort ensures that RAO are part of the total battle plan. *Economy of forces* involves CS and CSS units defending themselves until support forces can arrive. *Responsiveness* means quick action to destroy the enemy and reduce damage. Consequently, RAO include activities that allow freedom of maneuver, continuity of support, and uninterrupted C^2. These similar actions could be required in SASO for disaster relief and nation assistance missions. Joint Publications 3-10 and 3-10.1 and FMs 90-12 and 90-23 provide additional coverage of rear operations. Whether part of the COMMZ/JRA or CZ, RAO has four main functions--sustainment, movement, terrain management, and security. Special actions for RAO include --

Special Taskings. Within the company, designate some of your soldiers to be or serve as part of a reaction force. Also, appoint personnel on a rotating basis to serve on a reconnaissance or security patrol as needed. Ensure your personnel who serve on these missions are well informed on their duties, actions to take, and their area of operational responsibility. Specify in the TSOP how to carry out these mission

assignments, to include chain-of-command list, training requirements, organizational makeup, and implementation instructions or contingency plans.

RAO Security. Appropriate defensive security measures the company is to conduct against enemy ground attack are listed in Table 1-6 (pages 1-25 and 1-26). Security for RAO includes steps taken to reduce the effects of an infiltrating guerrilla action, sabotage action, or enemy attack. These steps may be taken before, during, or after enemy action. More information on RAS can be found in FM 10-27-3. FM 90-14 gives the overall rear battle doctrine. Company elements or sections/teams should respond to an air attack by making maximum use of camouflage and cover, since no special weapons to defend against air attack are authorized to the company. Small arms can be an effective measure against aircraft, if fired in volume. State in TSOP whether company personnel can use small arms fire at aircraft. Refer to the higher headquarters TSOP for policy directives. If this is allowed, make sure troops are trained in recognizing aircraft by using FM 44-80. Make sure your soldiers do not fire on enemy aircraft unless the aircraft is attacking the company. Even then, they may not fire on them if it will endanger friendly troops or aircraft.

Implement Risk Assessment. A risk management program must be made into your planning cycle. This ensures overall operation and mission success, including force protection security measures as combating terrorism (counter-terrorism and antiterrorism), physical security, law enforcement, personal security, and OPSEC to include C^2P. Risk assessments identify hazards and examine the resulting risks associated with the mission and/or task/objective. Risk assessment is dynamic as circumstances change and as you gain added (tactical) experience. Risk assessments confirm and reconfirm critical information that effects decisions. Consider these topics when setting up a risk management program to conduct smooth and safe mission (and training) operations. Make note of the following --

Risk and Accidents. Risk is defined as an expected and/or estimated loss, danger or peril, due to or resulting from hazard. Risk is expected in terms of hazard severity and probability; the consequences (loss or injury) of an accident. In general and historically, accidents have taken a heavy toll of US Army resources. In future operations, the impact of equipment and personnel losses and accident costs will be much greater. These losses are a measurement or loss of combat effectiveness and fighting potential of a force. Human error causes 80 percent of all Army accidents (ground and air in military and civilian operations). Other accidents are caused by material/system failure or inadequate precautions for environmental factors.

Risk Management. Risk management approach reduces losses in both combat and training consistent with objectives of mission, operation, training, collective/individual tasks employed, and system(s) used by building safety into these activities. Consequently, risk management is defined as the process of making "high" risk operations safer by eliminating or reducing risks while retaining overall mission benefit. Formal risk management process encompasses --

- *Identifying the risks* in unit mission, collective and individual tasks, and routine unit activities that point to accidental potential.

- *Assessing the risk* associated with each hazard. Develop, review, and assess techniques, practices, procedures, or plans that reduce accidents but still allow the mission to be done.

Table 1-6. Ground attack defense measures

To defend against:	Use these defense measures:
Hit and run attacks	• Continually review intelligence; brief staff and supervisory personnel on possible attacks. Go over defense plans. • Plan illumination of the area to eliminate the element of surprise. Refer to FM 21-60 for details on using illuminating grenades, flares, and expedients. • Detail night relief procedures; vary passwords. • Set up night patrols. Vary schedules and patrol routes. • Set up roving guards, particularly in the maintenance areas and around the supply tent where weapons and ammunition are stored. • Set up checkpoints. • Vary locations of OPs, LPs, and weapons. • Stress light and noise discipline. • Stress the importance of reporting possible intelligence information and reporting it accurately. Detail reporting procedures in TSOP.
Ambushes of patrols and the unit during moves to new sites	• Prior to the move, brief personnel on the tactical situation. • Review defense tactics and signals with troops • Require all personnel to be armed and able to return maximum volume of fire from positions in vehicles. • Strengthen vehicles with sandbags. • Have vehicles in the kill zone attempt to drive through the area while passengers return fire. • After moving to a point that can be defended, personnel should set up a perimeter defense. • Depending on the situation and terrain, have vehicles that have not entered the kill zone to disperse in staggered form (odd-numbered vehicles to the left, even-numbered vehicles to the right) and seek cover. Personnel should then dismount and take up firing positions.

Table 1-6. Ground attack defense measures (continued)

To defend against:	Use these defense measures:
*Attacks by guerrilla bands	• Have personnel check status of LPs and OPs. • Evacuate wounded and dead as soon as possible. • Relay cut wire. • Reposition weapons, LPs, OPs, and fighting positions that have been discovered. • Rearrange camouflage. • Change the meaning of fire signals and make sure all soldiers are aware of these changes.
*Ambushes	• Warn others of the ambush by releasing a smoke grenade or by sounding a designated warning signal. • Immediately inform higher headquarters of the situation by radio. • Inform supporting or surrounding units on your situation.
*When ambushed or attacked by guerrilla bands, unit elements should vigorously return direct fire, and execute fire and maneuver battle drill against the enemy to prevent large number of friendly force casualties. FM 7-7J lists the battle drills that work well against these types of enemy's scenario attacks.	

- *Making decisions and developing control measures* by selecting and implementing the techniques, procedures, or plan most likely to eliminate unnecessary accident risks while completing the unit mission, collective and individual tasks, or operation in question.

- *Making safety and the use of risk control procedures standard practice* by following these guidelines:

  •• Stress the ties between leadership responsibilities/awareness and safety. Each member of the chain of command must keep in mind the overall purpose of unit safety is to keep soldiers free from injury.

  •• Embed risk control measures in unit SOP/TSOP, training, and job aids.

  •• Conduct all training to standard. Safe performance is a result of training to standard. Failure to train to the standard or to enforce standards is the cause of many human-error-related accidents.

•• Supervise your subordinates. All leaders and individual soldiers must advise on safety matters which may affect soldiers and equipment in completing the task/objective or mission. Use the "tough caring" approach to safety enforcement. Do this by including safety and risk control techniques into AARs. Then implement any safety lessons learned into SOP/TSOP, training, and future operations.

Conduct Force Protection Measures. As commander, you must oversee the safeguards of your unit by taking the necessary precautions to reduce the effects of enemy operational-level actions (movement, radio security, electronic combat). You must ensure that your operational areas are well fortified and removed from significant operational hazards and protected from the use of electromagnetic spectrum. The following actions are required to safeguard and protect your unit from the threat.

Employ Force Operational Activities. You must try to hide your unit's operational activities by employing SIGSEC and concealment techniques and avoid operational patterns. Also, you must have your troops take appropriate actions to protect emitters and information transmitted through friendly C^2 communications-electronic systems from enemy exploitation. This also includes hiding your unit's operational activities and facilities from enemy observation and surveillance sensors. Again, ensure your unit varies its activities and ways of conducting operations to avoid predictable patterns that are vulnerable to enemy interception.

Provide Security of Force. Your unit can perform its mission activities if you can identify and reduce your unit's vulnerability to hostile acts, influence, or surprise. These measures protect your unit from surprise, observation, detection, interference, espionage, and sabotage (terrorism). It also involves protecting and securing your flanks of operating unit elements, setting up critical C^2 installation, setting up and securing unit facilities, and using/maintaining and securing equipment systems. For more information on force protection doctrine, see FMs 100-6 and 100-7.

Section V

ENVIRONMENTAL AWARENESS

ENVIRONMENTAL MANAGEMENT

You, the commander, your unit leaders, and soldiers are expected to be the Army's basic environmental managers. The Army's environmental vision is to be a national leader in environmental management endeavors and natural resource stewardship. The Army is has the huge task of reducing the environmental impact on its installations and units throughout the United States and the world.

The Army is renewing its emphasis on taking care of the environment. It is critical for leaders and soldiers to follow safe, legal environmental practices. By doing so, they protect their health and the health of those around them. Their actions can prevent long term environmental damage that can lead to fines and other legal damage. This mission requirement has the following aspects:

Environmental Perception. The environment issue and its concerns will be an integral part of all Army missions. This endeavor is to key on preserving, saving, and caring for man's natural and cultural assets.

Implementation of environmental stewardship goals and instilling the Army's leadership in environmental stewardship perpetuates the Army's endeavor to be a leader in environmental and natural resource protection.

Environmental Stewardship Goals. The Army no longer just complies with EPA laws. They want to be a leader in environmental protection. To do this, the Army has set goals for its leaders. These goals include --

- *Making sure operations comply with standards*. Do not receive a notice of violation or a fine for not following local, state, and federal environmental regulations.

- *Cleaning up installations*. Begin restoring all contaminated sites by year 2000.

- *Preventing future pollution*. Reduce all hazardous waste and toxic releases.

- *Integrating NEPA procedures into all operations*.

- *Protecting natural and cultural resources*.

Role of Environmental Stewardship in Leadership. A leader who cares for the environment also cares for his troops. He does this by reducing or eliminating undue health risks. He saves resources (soldiers or money) vital to his mission. He keeps training areas in excellent conditions for training far into the future. He preserves cultural artifacts for study by future generations. He also teaches the basic moral duty of soldiers to protect and preserve the United States of America and its allies.

Environmental Planning. Unit leaders must make adjustments to planned actions and reduce adverse effects on the environment without impairing the Army's mission. Unit leaders should assess and manage identified, planned activities for potential environmental risks and hazards. They should follow these guidelines for environmental risk management and stewardship endeavors:

- *Identify the hazards to the environment during mission analysis*. Point out those conditions that have the potential of polluting the air, soil, water, and/or degrading natural or cultural resources.

- *Evaluate the probability of environmental damage or violations.* Work with an environmental risk-assessment or management plan.

- *Make decisions on an environmental suitability study*. Develop measures or procedures to reduce high risk concerns.

- *Conduct environmental briefing.* Brief through the chain of command and appropriate decision maker on proposed plans, implementations, and side risks.

- *Implement environmental measures.* Integrating them into plans, orders, SOP/TSOP, training performance standards, and rehearsals. Train to the standard.

- *Supervise and enforce environmental standards*. Implement controls to ensure environmental damage is reduced.

- *Repair environmental damage*. Fix, overhaul, or rebuild the environmental landscape to the greatest extent possible, once operations are completed.

Environmental Responsibilities of Personnel. Soldiers, NCOs, officers, and commanders at all levels must protect the environment. Outlined below are each respective duties concerning responsibility to the environment.

Soldiers. Their duties include --

- Follow installations environmental policies, unit SOP, ARs, and environmental laws and regulations.
- Make sound decisions in everyday activities.
- Advise the chain of command on techniques to ensure
- Identify the environmental risks in individual and team tasks.
- Support the Army recycling program.
- Report HM and HW spills immediately.

NCOs. Their duties include --

- Always consider the environment in day-to-day decisions.
- Make sure soldiers know the Army's environmental ethic.
- Train soldiers to be good environmental stewards.
- Be committed to environmental protection.
- Identify environmental risk associated with tasks.
- Plan and conduct environmental sustainable actions and training.
- Protect the environment during training and other activities.
- Analyze the influence of the environment on your mission.
- Integrate environmental considerations into unit activities.
- Train peers and soldiers to identify the environmental effects of plans, actions, and missions.
- Counsel soldiers on the results of not complying with environmental laws.
- Incorporate environmental considerations in AARs.
- Support the Army recycling program.
- Report HM and HW spills immediately.

Officers. Their duties include --

- Build an environmental ethic in soldiers.
- Train and counsel subordinate leaders on stewardship.
- Lead by example.
- Enforce compliance with laws and regulations.
- Always consider the environment in making day-to-day decisions.
- Make sure subordinates know the Army's environmental ethic.
- Train subordinates to be good environmental stewards.
- Commit subordinate leaders to protect the environment.
- Analyze the influence of the environment on the mission.
- Integrate environmental considerations into unit activities, to include identifying the environmental risks associated with unit tasks.

Commander. An environmental ethic should be instilled by the commander to his soldiers. The spirit of environmental compliance is set by the commander. He is totally responsible for complying with all applicable environmental laws in the unit. The commander trains his unit subordinates on stewardship and counsels them on doing what is right. The commander must lead by example and enforce compliance with laws. Commanders should --

- Consider the environment in making daily decisions; know about NEPA, HM, HW, HAZCOM efforts, and spill contingencies.
- Commit subordinates to environmental protection.
- Make sure officers and NCOs know the environmental ethic and train them to be good environmental stewards.
- Counsel officers and NCOs on the importance of protecting the environment and the results of violating laws.
- Have officers and NCOs comply with requirements when reporting hazardous substance spills.
- Incorporate environmental concerns throughout training.
- Identify and assess the environmental consequences of proposed programs and activities.

- Plan and conduct training that complies with environmental laws, including marking areas as “off-limits” during training exercises.

- Discuss environmental concerns during briefings, meetings, and AARs.

- Establish and sustain unit environmental awareness training.

- Appoint an environmental compliance officer and a HW coordinator (the same person can serve both positions). These appointments ensure environmental compliance occurs at the unit level.

- Have the unit SOP to cover environmental considerations, conservation, natural resources, and spill procedures.

- Support the Army pollution prevention/recycling program.

- Report HM waste spills immediately.

- Conduct environmental self-assessment or internal environmental compliance assessments.

- Meet with key installation environmental POCs.

Appointed Personnel. These personnel are appointed by the commander and should receive formal training. Their responsibilities include --

- Serve as an advisor on environmental regulatory compliance during training, operations, and logistics functions.

- Serve as the commander’s eyes and ears for environmental matters.

- Be the liaison between the unit and higher headquarters who are responsible for managing the environmental compliance programs and who can provide information on training requirements' certifications that unit personnel need.

The Unit-Level Environmental Training Program. An effective training program allows personnel to carry out their responsibilities. The commander ensures all personnel are trained on environmental issues. He appoints an environmental compliance officer/HW coordinator. This person works with other environmental personnel. He ensures environmental laws are followed. The commander meets with the battalion S3 and S4 officers and other environmental personnel. He finds what their requirements concerning environmental training and qualifications of unit personnel, ECAS inspections that may affect the unit and common environmental problem areas and how to avoid them. The commander also makes sure the unit SOP details environmental issues and procedures to be followed. The training program should cover --

- HM management.

- HW management.

- HAZCOM.
- Pollution prevention and HAZMIN.
- Recycling program.
- Spill prevention/response plan.

SAFETY ISSUES

Safety and environmental issues are always prime concerns when new equipment and systems are being developed. Some of these concerns that apply to FSC operations are discussed next.

Equipment and Personnel Safety. S/L equipment in the field is constantly being checked for safety and health hazards. Some concerns are their liquid fuels, hot surface temperatures, hot water, carbon monoxide from hot exhaust air, and electrical shock potential. An added health concern is laundry personnel handling soiled clothing and hospital items. It is possible that such items could have been used by personnel with contagious or infectious diseases, lice, or other health hazards. As a protective measure, laundry personnel should wear protective latex or rubber gloves, surgical mask, and possibly rubber waterproof aprons. CR operations must be concerned with their equipment PMCS.

Environment Safety. The main environmental concern with S/L operations is disposing of wastewater. In many areas, the practice of draining wastewater downstream in a river or into a sump is being stopped. Certain areas may require that wastewater be stored or hauled to an approved dump site or disposed of through the use of an approved sewage system, which is now mandatory on some Army posts. Before discharging any water on the ground, commanders must check with the local environmental engineers IAW AR 700-135. S/L personnel must be sure that drainage ditches are dug around equipment to control water discharge. The proper use of detergents, bleaches, and other chemical supplies is needed to control environmental impact. See Appendix E for appropriate laundry washing formulas. Fuel is supplied in 55-gallon drums or 20-liter fuel cans and connected to the equipment components by fuel lines (dryer and water heaters) or poured directly into fuel tanks on the other components (generators). Extreme caution must be exercised to prevent fuel spills.

AREA DAMAGE CONTROL

Together with environmental and safety concerns is the use of all available assets to conduct necessary ADC tasks to restore operations and provide continuous support. When ADC assets are available, the support battalion/brigade rear CP provides each base cluster with external support needed to overcome an attack and return to its primary mission. These support assets include medical evacuation and treatment elements; equipment recovery/evacuation and repair capabilities; critical supply contingencies; and EOD resources. The following ADC taskings and precautions are discussed next.

NOTE: BSA base commanders and the support battalion commander identify critical support points. They include points that are the sole local sources of supplies. They examine innovative ideas and initiatives to reduce damage. They coordinate with the host-nation assets, MPs, and engineer units through the brigade

rear CP. The commanders include ADC plans in the BDOC and BCOC defense plans. The support battalion S2/S3 helps the brigade rear CP identify requirements for emergency food; clothing, water, and fuel sources; and, available distribution assets.

Preincident ADC Taskings. IAW ADC guidelines, units in the base cluster defense complete the following tasks before any occurrences take place:

- *Identify ADC personnel*. Select specific individuals and unit elements to perform ADC operations.

- *Prepare equipment and facilities for minimal damage*. Attempt to disperse and harden unit equipment, components, and facilities to reduce damage; when practicable, use existing structures.

- *Set ADC priorities within the AO*. Point out those critical facilities needing protection and logically prioritize the responsibilities based on headquarters directives. Immediately report critical facilities not provided necessary ADC.

- *Establish ADC plans*. Prepare, coordinate, and rehearse ADC plans and SOPs.

- *Train for ADC operations*. Organize, equip, and train personnel and unit elements for ADC operations.

- *Select alternate operational sites or alert areas*. Name facilities or supply points as sole source facility.

Incident ADC Taskings. Units in the base cluster defense complete the following tasks during and after an occurrence.

- *Conduct ADC assessment.* Perform an immediate assessment of the damage and report to the BCOC. At the same time, take actions to isolate the danger areas and to prevent extension or continuation of the damage. (Fighting fires, stopping gas leaks, and reducing flooding are examples.)

- *Implement fire prevention measures*. Where possible, prevent fires by bunkering and isolating flammables and explosives. Fight existing fires with stored water or identify water sources. Extensive fire fighting is mainly a unit responsibility with support from engineer fire-fighter teams where available. However, due to the extended distances involved and the current technology that produces widespread devastation, alternative means may have to be used. Local fire-fighting capabilities such as HNS or the acquisition of commercial material to support ad hoc fire-fighting teams may be necessary.

- *Conduct casualty assistance measures*. Perform first aid (self-aid, buddy aid, and combat life saver procedures) and carry casualties to the nearest appointed medical facility. When possible, medical personnel and vehicles should evacuate patients. Timely transportation of casualties is important and may require the use of non-medical vehicles for mass casualties. Medical personnel, if possible, go with those patients being carried in non-medical vehicles to provide enroute patient care.

- *Coordinate with MPs to provide traffic control*. This ensures fire-fighting equipment gains access to the area and ambulances and evacuation vehicles clear the area. (MPs notify the brigade CP of blocked routes and divert traffic as needed.) MPs provide support that includes but is not limited to circulation

control, refugee control, straggler control; NBC detecting and reporting; and, some local security when required.

- *Coordinate with engineers to support critical facilities.* Engineers construct fortifications and barriers and clear debris and rubble in support of the base ADC mission.
- *Coordinate EOD support to area damage control operations with EODCT*. One EODCG with four subordinate EOD detachments is allocated to each separately deployed brigade.

- *Coordinate for decontamination support*. If contaminated, evacuate along specific routes (not MSR) assigned by the MCO to the appointed decontamination sites. The MPs provide route control.

CHAPTER 2

QUARTERMASTER FIELD SERVICE COMPANY, DIRECT SUPPORT: HEADQUARTERS

This chapter is for the company commander and headquarters personnel.

(NOTE: Under TOE 42414L0, FSC, DS, operational measures for S/L and CR will mirror TOE 10414L0 of the SLCR platoons for the FSC, M, described in this chapter with the exception to the number of soldiers each respectively supports. This data is also portrayed in chapter 3.)

Section I

MISSION

COMPANY HEADQUARTERS

Company HQ soldiers and you, the commander, support your unit elements. The mission of the company HQ section entails a variety of functions: planning, directing, training, and supervising the operations and employment of the company, and coordinating logistical support required to conduct the entire company operations.

Effective operation of the headquarters requires identifying key personnel and understanding their primary duties and responsibilities. Key personnel are the commander, his staff, and soldiers who assist him and his staff. The following company HQ positions and job duties are --

Commander and Duties. As the leader of the company, you command the company so that its mission is carried out as required. You are responsible for unit readiness, site establishments, communications, defense, unit administration, supply, maintenance, and overall training of the company. You are also responsible for food service support to your troops. The commander will dictate the responsibilities of the XO.

Executive Officer and Duties. The XO is second in command. His primary role is to help the commander in managing the company's mission. He ensures reports from company elements are forwarded to higher headquarters' (tactical) operation center. (The XO may locate where he can maintain communications with the company commander and higher headquarters operation center.) The XO assumes command of company when the commander is elsewhere (or as directed by the commander). The following duties may also be administered by the XO.

- *Plans and coordinates mission requirements*. The XO plans and coordinates logistical and maintenance support with agencies outside the company, while the 1SG does the same internally. He prepares or assists in the preparation of paragraph 4 of the OPORD; and, he may also assist the commander in planning the mission.

- *Coordinates C^3I and acts as liaison officer*. The XO coordinates with higher, adjacent, and supporting units. By discretion of the company commander, he serves as company's liaison or special representative to special events or as an assignment (additional) duty. He may aid in the assumption of control of a platoon or section/team for movement and operations.

- *Lead special assignments*. The XO may be assigned special missions to accomplish. Such task-works are --

  •• Landing zone/pickup control officer. These duties may include re-supply operations, casualty evacuations, as well as air/ground liaison officer.

  •• Quartering party/team OIC. He may be the OIC of various company elements in which they precede the main company elements or team(s) in reconnoitering, securing, and marking assembly area(s) or AO. The XO may remain behind the company with various or special/select company elements. His purpose is to direct the move and secure the remaining company equipment while the main force of the company moves or relocates to new locations/sites.

  •• Special mission OIC. The XO may be assigned a task-organized element to do the company's objective/mission or be responsible for controlling attachments to the company. He may be in charge of the company's defense. For more information on XO duties and responsibilities, see FM 7-10.

First Sergeant and Duties. The 1SG is the commander's principal assistant. He calls formations, manages the company headquarters, and represents the enlisted soldiers of the company. He is also responsible for food service support to your troops.

Other Personnel and Duties. Other HQ personnel and their duties are --

- *Food service sergeant.* Manages food service operations with assistance from unit cooks.

- *Supply sergeant.* Requests, receives, stores, safeguards, and issues supplies and equipment. His assistant is the armorer who controls and maintains all weapons.

- *NBC NCO and his assistant, the chemical equipment repair specialist.* Advise the company on NBC defense measures. These measures include NBC warning and reporting, NBC protection (MOPP levels), and decontamination. Assess NBC readiness and advises you, the commander, on NBC training strategies to be taken.

- *Motor sergeant*. Sets up and directs the company's maintenance facility. Under his supervision, the light-wheeled vehicle mechanics maintain and service the company's and teams' (or section elements') wheeled vehicles and trailers.

- *Equipment receipt and parts specialist*. Maintains the company's PLL and TAMMS data and may serve as the company's accountant for Class I and Class III products.

- *Quartermaster and chemical equipment repair specialists.* Maintain company's chemical equipment and all field service equipment (i.e. sewing machines, darning and button machines, and laundry apparatus).

- *Power-generator equipment repair specialists.* Maintain the company's power generator sets.

ORGANIZATION FOR OPERATIONS

The company headquarters of FSC is divided into three sections: administration, maintenance, and field mess. Duty areas of HQ personnel listed in above paragraph correspond to these three elements. Refer to Figure 1-1 for this organization. The organization of HQ elements is designed to function smoothly and effectively. It's structured to ensure that company and section/team personnel and equipment are used in an efficient and mission supportive manner.

Unit Capabilities. Under the direction of the FSC headquarters command element, the company's S/L and CR elements (TOE 42414L0) or SLCR sections/teams (TOE 10414L0) provide the following services:

- *Laundry element*. QM FSC, DS (TOE 42414L0) provides service of 7.9 pounds of laundry per person in support of approximately 18,500 troops per week. The QM FSC, M (TOE 10414L0) provides services at the rate of 15 pounds of laundry per person in support of approximately 21,000 troops per week.

- *Shower element.* QM FSC, DS, per TOE mission statement, provides service for approximately 18,500 troops per week (approximately 443 troops per day) at one shower per person per week. According to TOE mission statement for QM FSC, M, it provides service for 21,000 troops per week at one shower per person per week. Each SLCR section/team supports 500 troops per day or 3,500 troops per week.

- *Clothing repair element*. Repair service on clothing and limited, lightweight textiles correlates to numbers for shower support as stated above.

Additional Capabilities. Additional company capabilities and support needs to be considered by company command element include --

- *Unit defense*. Company personnel can assist in the coordinated defense of the unit's area or installation location. Additional defense forces will be needed for its protection. This requirement should be coordinated with your battalion HQ S3 officer.

- *Unit maintenance*. Company personnel can perform unit maintenance on organization equipment, excluding construction and communication/electronic equipment. Outside help for communications assistance will be provided through your battalion HQ S3 officer; support may also be provided by the designated communications team in your AO. (The QM FSC, DS performs unit equipment maintenance, except construction equipment and COMSEC equipment. The QM FSC, M performs unit maintenance on all unit equipment except communications equipment and COMSEC equipment.)

- *Unit required support*. QM FSC, DS depends on appropriate elements of corps or theater Army for health, religious, financial, personnel/administrative services, and supplemental transportation support. Requirements for these services may also depend on HNS. The light equipment, maintenance company (TOE 43209L000) will support the company for construction equipment and maintenance. Because the company provides its own food service support, no additional support is required. The QM FSC, M is dependent on appropriate elements of corps or theater Army for combat health support, religious, financial, personnel/administrative services, and supplemental transportation support. It is dependent on the QM supply company, direct support (TOE 42447L000), for water support; and, supported unit for supplemental supply, communications, maintenance support, and security support when SLCR sections/teams are deployed independently (of parent unit). Also, it's dependent to the unit that it's attached for communications equipment maintenance.

- *Unit mobility*. QM FSC, DS is required to transport 75 percent of its TOE equipment and supplies in a single lift using its own authorized vehicles. It can transport 125,500 pounds (9,321.0 cubic feet) of TOE equipment with its own vehicles, but requires more transportation support to move the remaining 46,317 pounds (3,719.8 cubic feet) of TOE equipment. QM FSC, M operational elements (SLCR section/team) are 100 percent mobile.

Unit Designation Code. The FSC capabilities are determined by the personnel strength levels authorized in its TOE. The QM FSC, DS is coded as a type B organization (a category II unit), or as being a TOE strength level 1 organization. At TOE strength level 1, the company is operating at 100 percent full strength. At TOE strength level 2, the company operates at 90 percent capacity. At TOE strength level 3, the company operates at 80 percent capacity. The QM FSC, M, however, is not adaptable to a type B organization. For more on strength levels, status reporting, and unit categories, see ARs 71-13, 220-1, and 310-25. Any additional company equipment needs are acquired through specific authorization and supportive documents. These are --

- *Unit equipment authorizations*. The equipment your personnel need is identified by several types of documents. These include your TOE and CTAs. Refer to AR 310-49 for directions on how to request additional equipment that your unit requires, but is not prescribed by your TOE.

- *Other unit equipment authorizations*. The TOE provides only certain types of items; it does not prescribe low-cost or expendable items. Some items of equipment needed to do your mission fall into these categories. Without these items, your personnel cannot perform their duties. Items of clothing and equipment, components of sets and kits, repair parts, tools, and expendable items are authorized by specific TMs, SBs, and related authorization documents.

COMMUNICATIONS

Communications services will differ depending on whether the company is deployed in the COMMZ or in the corps area. TAACOM units install, operate, and maintain a network of area signal centers in the COMMZ. The corps communications system operates in the combat zone and provides communications for corps units. Therefore, you need a good working communications system for unit C^2. Communications set up necessitates certain command measures to be taken: establish and provide communication C^2 and guidance in the form of individual and unit responsibilities.

Establish Communication C^2. Your company must communicate with the HHC of the QM S&S battalion or other assigned HQ elements, the COSCOM or TAACOM MMC, supported units, and internal elements. Refer to Figures 1-3 and 1-4 on the company's communication system setup. Since the (shower element or SLCR) sections/teams are not collocated with the company headquarters, communications assets for each need to be working properly for the whole company to do its mission.

Provide Communications Guidance. Ensure the allocation of radio or other telecommunication equipment is documented in the company's TSOP. In the TSOP, include details of the telephone system, priorities for laying wire or assisting the signal team in this matter, and any responsibilities for assisting with the system setup. The TSOP should set up the identification of primary and alternate personnel operating the system and designate a time or schedule for operating shifts. Upon setting up operating sites, company designated personnel and unit elements should enter the net within a reasonable time or within the time schedule set by higher headquarters using procedures in FM 24-19.

NOTE: See FM 63-1 for more information on the principles and developments in communications systems because communications equipment and systems in the corps are changing. The MSE system is replacing the old area communications system. SINGARS and IHFR are replacing the current FM-VHF (AN/VRC-12) and AM-SSB (AN/GRC-106) series radios.

Section II

OPERATIONAL CONCEPT

This section is for company headquarters personnel.

ADMINISTRATIVE SECTION OPERATIONS

The mission of the administrative section is to support the company elements. It is responsible for the effectiveness of company operations.

Capability. Administrative section provides C^3I supervision and direction to include tactical direction to the company elements. Within this section is the supply element that supports the company with supplies and TOE equipment. The FSC will rely upon higher headquarters for added administrative and logistical support. These actions interdict with the respective higher headquarters elements.

- *Battalion S1 and PAC support.* Provide personnel service to your company. The company's personnel administrative sergeant will assist the battalion PAC section as needed. Ensure their capabilities and the means to secure your support are in the battalion administrative SOP, letters of instruction, or as a supplement directive for your unit administrative SOP/TSOP. Doctrine for personnel service support is in FM 12-6 and TCs 12-16 and 12-17. The company only needs a limited number of administrative regulations, pamphlets, and FMs on hand to conduct its business.

- *Battalion S4 support*. Headquarters support through the S4 office will be available for FSC as needed. Supply operations basically consist of requesting, receiving, storing, protecting, issuing, and turning in of supplies. The S4 section plans, coordinates, and supervises organizational supply support, maintenance, and food service activities of assigned or attached units. (This planning process covers the arming, fueling, and maintenance support of the units.) This includes pertinent portions of the unit environmental stewardship program. Particular materials and wastes in maintenance, food service and supply room operations, environmentally safe maintenance operations, and the unit recycling program. Also, the S4 is responsible for the execution of the COB. For more information on administrative personnel service and supply support activities, see FMs 10-27-3, Chapters 2 and 3, and 100-5.

NOTE: As mentioned previously, all NBC operations and training procedures for all company elements will be directed and monitored within the company HQ by the designated NBC NCO. The NBC NCO ensures that all company personnel comply to the principles of NBC defense actions, according to procedures found in FMs 3-3, 3-4, 3-5, and 3-100.

Additional Requirements. The company's primary battlefield responsibilities are given below. HQ FSC, DS personnel will be supported by the battalion PAC and other battalion support personnel/ elements to conduct these actions:

- Maintain personnel accountability.

- Report casualties.

- Receive and process replacements.

- Initiate request for personnel actions: awards, decorations, promotions and reductions, transfers and discharges, classification, evaluations, emergency leaves, and UCMJ actions.

- Coordinate and provide mail and MWR support.

- Coordinate team for religious support.

- Provide for physical conditioning and relief from battlefield stress.

- Initiate requests for financial actions.

MAINTENANCE SECTION OPERATIONS

The maintenance section, supervised by the motor maintenance sergeant, is the company's motor pool element. The mission of this section is to perform unit maintenance on the company's wheeled vehicles, MHE, power-generated equipment, and CTA items.

Capability. The maintenance capability of this section consist of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies. Unit maintenance, therefore, is largely preventive maintenance. See DA Pamphlet 750-1 for more information on unit PMCS. Listed below are the personnel and their responsibilities supporting maintenance operations.

- *Light-wheeled vehicle mechanics*. Perform unit maintenance on all vehicles assigned to the company. To maintain effective maintenance management and operational tasks, these vehicle mechanics must ensure responsibility for equipment and efficient maintenance procedures to include safety and training. Safety precautions listed below in Tables 2-1 and 2-2 (pages 2-7 and 2-8) should be observed. Maintenance capabilities depend on time available, tool authorization, and availability of repair parts. Maintenance that cannot be performed within this section is sent to a support activity directed by higher headquarters.

- *Equipment receipt and parts specialist*. Supports the daily maintenance operations IAW the company's PLL, using either the automated (ULLS-G) or non-automated request procedures.

- *Quartermaster and chemical equipment repair specialist*. Supports daily maintenance operations on chemical equipment and all field service equipment, including shower apparatus.

- *Power-generator equipment repair specialist*. Services and maintains the company's generator sets.

- *Motor maintenance sergeant*. As stated earlier, supervises the unit's maintenance requirements. He ensures maintenance efficiency. Also, he ensures personnel do not perform maintenance operations beyond

their capability. His duties require preventing maintenance backlogs, preparing work assignment sheet(s), monitoring work procedures, and analyzing maintenance man-hours.

Table 2-1. Safety precautions for maintenance areas

Hazard	Preventive Measures
Vehicle	• Use ground guides to move vehicles in the area. Use two guides to help drivers back up vehicles. • Place chock blocks against each vehicle. • Do not refuel vehicles in maintenance tent. • While refueling: •• Turn off engine. •• Connect ground wire to vehicle. •• Have a fire extinguisher handy. • Disconnect the ground cables of the battery whenever working around a vehicle. This may prevent someone from starting the vehicle when other personnel are still working on it.
Personal	• Remove rings and/or watches before performing maintenance tasks to avoid electrical shocks. • Pocket identification tags so that they will not get caught in operating equipment during maintenance. • Wear protective clothing/goggles while welding. • Wear MOPP gear, as required, when working in contaminated areas. Wear additional protection (wet weather suit or the mechanic's overalls) over MOPP gear to avoid degradation of such gear by petroleum products.
Work Area	• Clean up spilled liquids at once. • Wrap stored chisels and other sharp tools to prevent injury.

Table 2-2. Night operations maintenance procedures

• Perform only emergency repairs (those repairs necessary to return equipment to a serviceable condition).
• Obtain and position repair parts to support night operations.
• Mark tools and equipment with fluorescent tape or paint.
• Modify light sets to provide subdued lighting (only minimum light required).
• *Train personnel to use night vision aids and GPS.
*NOTE: All company personnel should be trained in night vision aids and GPS.

The Army Maintenance Management System. TAMMS is the key to good maintenance management. TAMMS records give the command element the data needed to manage equipment resources. These records enable the commander and his staff to assess modification work orders and repair parts requirements to include evaluating equipment operation/availability, deficiencies, and failure frequency. DA Pamphlet 738-750 contains specific instructions on the preparation and use of maintenance system forms. See Table 2-3 (pages 2-9 and 2-10) for key TAMMS records to be used. TAMMS records are categorized into three types: operational, maintenance, and historical.

- *Operational records*. Used for planning maintenance operations, identifying the best use of equipment, controlling equipment usage, and managing operators.

- *Maintenance records*. Used for deterring equipment readiness and reliability and for usage/support in logistics requirements. They are used for managing maintenance scheduling, inspection procedures, and repair work loads.

- *Historical records*. Document the permanentness of the receipt, operation, maintenance, and disposal of equipment.

Maintenance SOP. A company maintenance SOP should be developed. It will ensure that all personnel know what is expected of them. It may be a separate SOP (motor pool) or part of the company TSOP. The SOP should include the following information:

- Responsibilities of company personnel.

- Unit maintenance measures (including preventive and operator maintenance).

- Motor stable procedures.

- Procedures for completing forms and records.
- Maintenance element layout plans.

Table 2-3. Key TAMMS records

Type Record	Form	Purpose
Operational	DA Form 2401 (*Organization Control Record for Equipment*)	Used to consolidate listing of all equipment dispatched. Provides ready identification of user and location of equipment while in use.
	DD Form 1970 (*Motor Equipment Utilization Record*)	Used to control equipment use. Sometimes referred to as trip ticket. Filled out for each vehicle dispatched. Records miles or hours and fuel and oil consumption.
Maintenance	DA Form 2404 (*Equipment Inspection and Maintenance Worksheet*)	Used to record equipment faults found during operator's daily inspection, periodic services, and inspections by maintenance activities. Parts requirements go to Automated Logistics Specialist (PLL clerk).
	DA Form 2405 (*Maintenance Request Register*)	Used to consolidate record of job orders (DA Form 2407) initiated, received, and processed by maintenance activities. Used at unit level to record number of maintenance requests submitted to supporting maintenance units.
	DA Form 2406 (*Material Condition Status Report*)	Used to report condition of equipment so that defects can be corrected.
	DA Form 2407 (*Maintenance Request*)	Used to request maintenance from a supporting unit and record details of maintenance performed.
	DA Form 2408-14 (*Uncorrected Fault Record*)	Used to record equipment faults that have not been corrected by maintenance.
	DD Form 314	Used as record of scheduled and

	(*Preventive Maintenance Schedule and Record*)	performance maintenance services. Maintained for each item requiring periodic services by unit maintenance personnel.

Table 2-3. Key TAMMS records (continued)

Type Record	Form	Purpose
Historical	DA Form 2408-9 (*Equipment Control Record*)	Used to obtain initial basic equipment acceptance and identification information. Also used to update information on ownership, location, usage, transfer, gain, loss, overhaul, and disposition.
	DA Form 2409 (*Equipment Maintenance Log* [*Consolidated*])	Used to record complete maintenance history of equipment item.

- Procedures for storing and safeguarding equipment, repair parts, tools, and supplies.
- Safety precautions. See Table 2-1 for safety precautions.
- Procedures for night operations. See Table 2-2 for these procedures.
- Recovery and evacuation procedures (including recovery and evacuation of contaminated items).
- Procedures for maintaining PLLs.
- Inventory procedures.
- Publications procedures.
- Training procedures.
- Tables of measurement equivalents. See FM 10-13, Appendix B for these equivalents.

NOTE: Helpful maintenance publications include AR 735-5; DA Pamphlets 750-1 and 710-2-1; FMs 43-5 and 43-12; and, the latest copies of The Maintenance Update and Unit Supply Update. See FM 10-27-3, Chapter 5, and FM 10-27-1, Chapter 1, for more information on maintenance operational procedures and job responsibilities according to MOS.

FIELD KITCHEN SECTION OPERATIONS

The mission of the field kitchen is to provide the best possible food service support to soldiers on the battlefield by receiving rations, storing and protecting rations, preparing and serving meals, and keeping required records.

Capability. The FSC operates a tactical field kitchen site to feed its soldiers. The field kitchen is the mobile kitchen trailer type. This trailer-mounted field kitchen (MKT-75, MKT-75A, or MKT-82) is a collection of food preparation and serving equipment mounted on a trailer chassis, moved either by a 2 1/2-ton or 5-ton medium cargo truck. Figure 2-1 (page 2-12) shows a MKT. Use FM 10-23 for information on cooking and serving meals on the kitchen trailer. The field kitchen enacts the following characteristics --

- *Company food service personnel and the MKT*. Remain with the company headquarters unless you, the commander, need to dispatch your cook(s) to help feed your company element(s) or section(s)/ team(s).

- FSC element(s) or *section(s)/team(s)*. Will normally be fed by the unit it is supporting.

The Army Field Feeding System. AFFS provides three quality meals a day to the soldier. These meals consist of individual MRE, and group meals (T-, B-, and A-rations), or a combination of these meals, including enhancements and supplements, or UGR B-rations and UGR A-rations along with enhancements (for example, fresh fruits, vegetables, eggs, and bread). The T-ration is packaged in modules with 18 or 36 meals to a module and 24 modules to a pallet. Each module contains all the components of a meal, including condiments and disposal eating ware. UGRs will be used when the tactical situation permits and refrigeration is available. Disposition of the field kitchen feature these aspects --

- *Field kitchen supervisor*. The food operations sergeant runs the field kitchen. He directs the company cooks (food service personnel) on the daily field kitchen operations.

- *Field kitchen operations*. It will be performed IAW FM 10-23 and be developed into a kitchen SOP (as part of the company's TSOP) for food service mission operation. A daily meal production schedule with written instructions is developed to supplement the field kitchen SOP. These instructions detail the day-to-day and meal-by-meal basis of individual responsibilities, work procedures and standards. They also give the acceptable kitchen methods to be used.

- *Field kitchen meal cycle*. It is urgent that the commander set up the meal cycle for the unit. This will be determined by instructions from higher headquarters (S-4), supply availability, OPTEMPO, and most importantly the unit's METT-TC situation. The food operations sergeant must be given the appropriate guidance in time to request rations for the unit. This will vary between 2 to 5 days in actual operation (and to 60 days in a programmed training environment).

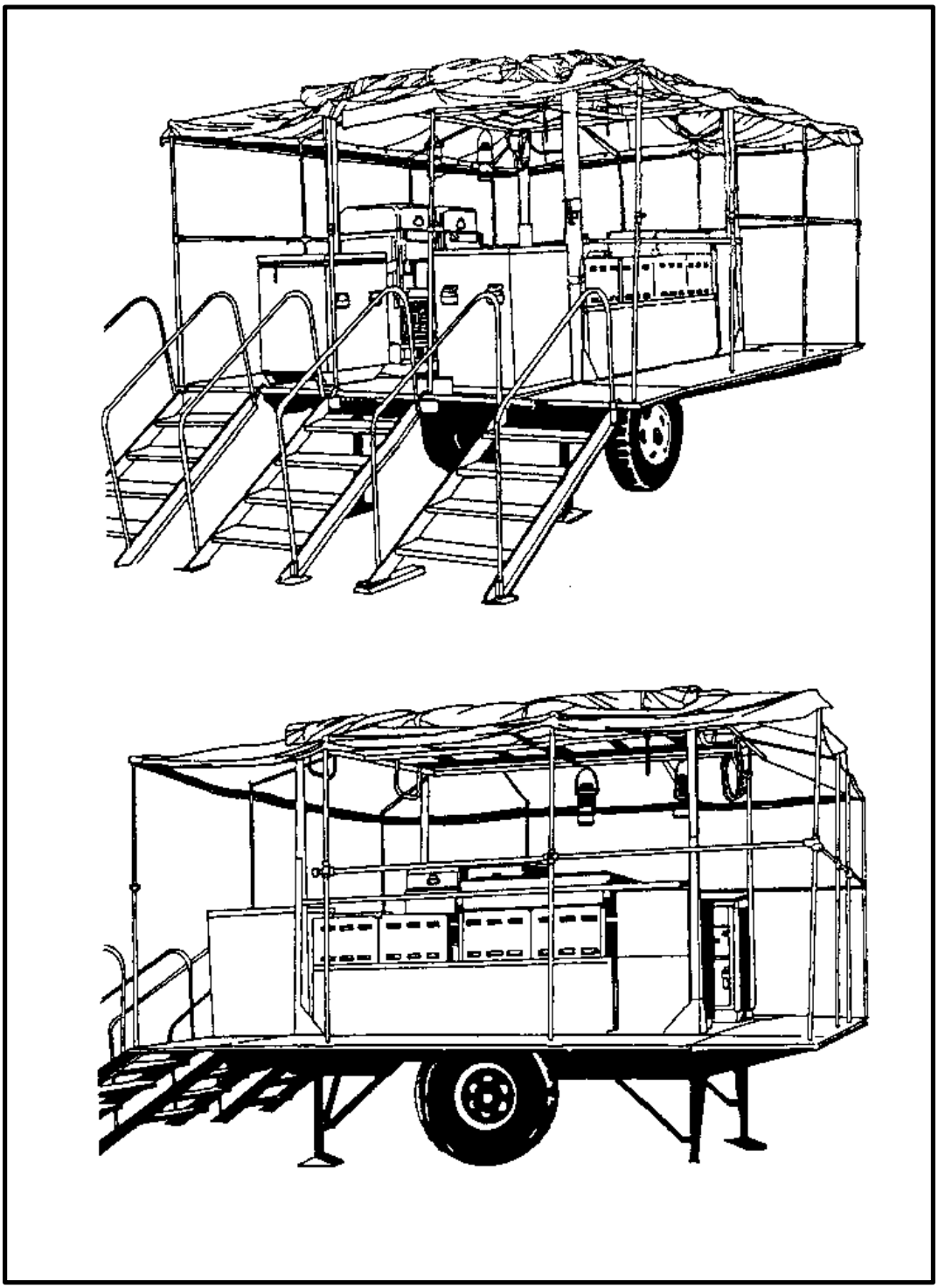


Figure 2-1. Trailer-mounted field kitchen: front and side views

Additional Field Feeding Requirements. Food service operations also require that provisions be made for water, ice, refrigeration, and trash removal. These are explained next.

- *Water*. Water used in field feeding operations must be potable, unlike that which is used in the SLCR teams. Water is picked up at an approved source and maintained in the field kitchen area in 400-gallon water trailer(s) or 5-gallon cans. Water is inspected by a field sanitation team or supporting medical elements. A good planning factor for water need in preparing food is to plan a requirement of 64 to 86 (an average of 75) gallons per 100 soldiers per day. This includes water for beverages on the menu, but not for refilling canteens or for personal sanitation. Refer to FM 10-23 for more information on food preparation requirements. FM 10-52 gives information on individual water requirements.

- *Ice*. Ice is obtained through the ration break point; or, it may be obtained through HNS, or a commercial source. All ice must be inspected for consumption or use; if trained veterinary personnel are not available to inspect the ice, preventative medicine personnel may be required to do this. Ensure inspections are done before accepting receipt of the shipment. Receipt of ice from a field ration break point is inspected by the Class I officer; and, a final inspection on all received ice is done by the food operations sergeant.

- *Refrigeration*. One of the determinations for how many and how often the A-ration is used is the capability for refrigeration. The MKT does not have organic refrigeration capability, but does come with an ice chest able to hold certain perishable items for up to 24 hours. A-ration meals will be determined by available refrigeration. Therefore, in certain field operations, refrigeration may depend on host-nation support.)

- *Trash removal*. FM 21-10 gives procedures for waste disposal. While the food service is a large contributor to the problem, there are other parts of the unit that will generate trash. The commander needs to determine actions to be taken to ensure federal, state, local, or host nation laws are abided regarding trash disposal. These procedures should be put into the unit's SOP/TSOP. It is very important to dispose of all garbage properly to avoid leaving signature trails. If possible, make arrangements to back haul garbage. UGRs come with plastic bags for waste disposal. Since garbage takes last priority on any vehicle, make the bundles as small as possible by nesting items (for example: plates, cups, and empty tray packs) to take minimal space.

CHAPTER 3

*QUARTERMASTER FIELD SERVICE COMPANY, MODULAR: SHOWER, LAUNDRY, AND CLOTHING REPAIR (SLCR) PLATOONS

This chapter is for the all company personnel.

(*NOTE: The functional performance measures of the FSC, designed in accordance to either TOE 42414LO (FSC, DS) or TOE 10414L0 (FSC, M), is to provide required hygienic service support to troops in the field. Unit entities of the FSC such as S/L, CR, and SLCR perform the same, basic field service support operations (i.e. showers, laundry, and limited-clothing and textile repairs). The organizational structure for these entities, though, may be fashioned differently as identified in Chapters 1 and 2. This chapter will concentrate on operations performed by the SLCR platoons of the FSC, M. Mission actions of the entities that make up the FSC, DS (i.e. S/L and CR sections) will mirror the SLCR sections/teams field service applications. The FSC, DS will function in its present day TOE/MTOE organizational structure until redesigned as the FSC, M.)

Section I

MISSION

PURPOSE OF SLCR OPERATIONS

The SLCR platoons provide command and control of personnel and equipment support in giving warm showers, laundered clothing, and clothing repair service to soldiers in the field. These soldiers will be provided at least one shower per week. Laundered clothing will consist of washing and returning to the soldiers their own clothing with name tags, organizational patches, and skill badges. The concept of individual "wash and return" laundry support allows each soldier to turn in 12 to 15 pounds of personal laundry per week. Clothing and limited, lightweight textile repairs performed by the CR element are limited to individual clothing of units being supported with shower and laundry services. Laundered clothing includes necessary repairs that are returned to the supported personnel within 24 hours.

OPERATIONAL COMMAND STRUCTURE

The two SLCR platoons consist of a platoon headquarters and three SLCR sections or teams. See Figure 1-1. SLCR sections/teams may be separately dispersed across the battlefield. They allow each team to operate independently in support of approximately 500 troops per day or 3,500 troops per week or collectively based on personnel strength or organizational elements to be supported. Each SLCR section/team may be tasked organized to support a designated area or assigned unit(s). The supported unit receiving SLCR services may be tasked by higher headquarters to provide meal support to SLCR personnel.

Operational Command Structure. Command element personnel have certain responsibilities with regard to field, mobile SLCR operations. These operations are a theater army or corps asset that is assigned to the TAACOM or the COSCOM. Field services require close coordination between those who provide the support and those who receive it. See Figure 3-1 (page 3-2) for command and support channels for SLCR sections/teams. These command elements' responsibilities are --

Theater Army. The TA provides overall command and control. It sets up priorities, assigns missions, and allocates resources according to the TA commanders' concept of operations.

Theater Army Area Commander. As set up by the TA, the TAACOM commander provides service support to the units in its area of operations. The TAACOM ACofS, Services develops policies and plans for the provision and the location of field services assets; and, to their divisional and non-divisional units is one of service, cooperation, and assistance. The supported units coordinate their requirements through logistical channels.

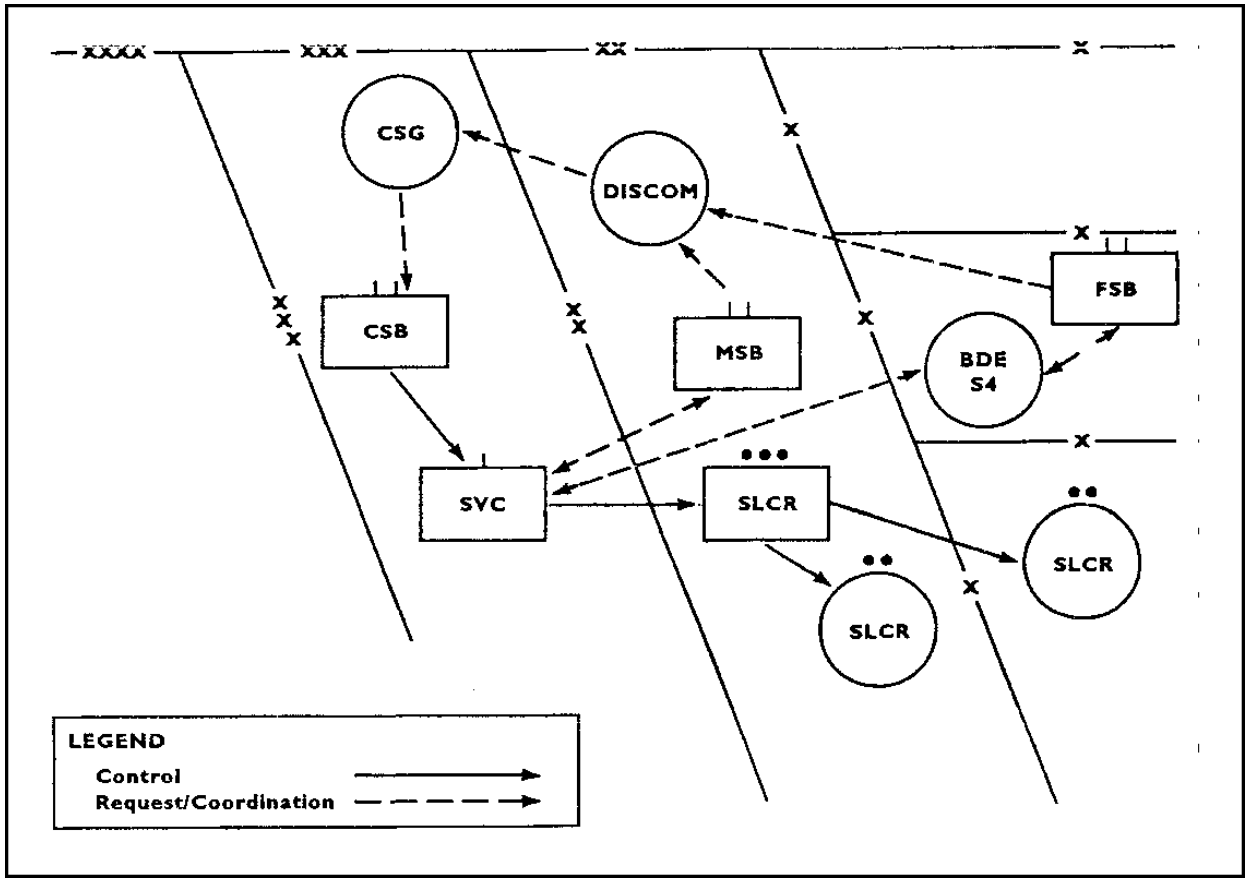


Figure 3-1. Command and support channels for SLCR sections/teams

Corps Support Commander. The COSCOM commander commands and controls assigned and attached units. The COSCOM ACofS, Services, develops and plans for the provision and the location of field service assets and their frequency of use. The COSCOM relationship with divisional and non-divisional units is one of service, cooperation, and assistance. The supported units coordinate the requirements through logistical channels. Detailed operational information is provided to these units in an administrative logistics order.

Division Support Command Commander. The DISCOM commander commands and controls organic and attached units of the DISCOM. The DISCOM SPO is the principal staff advisor to the DISCOM commander in the field services area. The DISCOM commander advises division commanders and staff about CSS operations throughout the division. The DISCOM support operations section and MMC provide planning and coordination to ensure sustainment support for all division and

attached units. The supported units coordinate their requirements through logistical channels. The following personnel coordinate closely to provide SLCR operations:

- Supported unit logistics officer.
- COSCOM ACofS, Services.
- DISCOM SPO Officer.
- Supply officer of the MSB.
-

NOTE: Detailed SLCR operational information is provided to the supported unit in the administrative-logistics order.

Battalion Operations Officer. The responsibility for SLCR services begins at the battalion level where operations are planned, organized, controlled, and directed. The battalion operations officer directs the following actions:

- Determines the general area for the site selection.
- Arranges with preventive medicine or water treatment specialists to test the water.
- Arranges for the distribution of water to operational sites if adequate fresh water is not available.
- Arranges for additional help as required for the setup of the site.
- Arranges for site personnel to have their meals with supported units, if required.
- Publishes the source of supplies to support operational requirements.
- Sets up SOP/TSOP that provide for reports and records.
- Sets up a battalion loading plan which incorporates the FSC's transportation requirements.
- Coordinates with area units for environmental considerations.
- Coordinates with supported units to move and defend the operating sites.
- Coordinates release times, communications, and possible succeeding missions for the unit.

Company Commander and XO. The company commander delegates authority for mission operations to the his XO, platoon leaders, and section/team leaders. If the company is operating as a separate unit and not as an element of a battalion, then, the company commander may also have to perform the duties of the battalion operations officer. The XO will help the CO in running the company's administrative areas. See Chapter 2, Section I for the duties of company headquarters elements. The CO and/or XO direct the following actions:

- Gives orders and information on scheduling changes to platoon or section leader.
- Verifies that preventive medicine personnel or water treatment specialist personnel have checked the water supply.

- Coordinates with supported unit(s) for personnel to provide help with S/L operations.
- Ensures the coordination of meals and billeting for his troops with the supported unit.
- Inspects field operations periodically.
- Ensures requests for supplies are forwarded to the source of supply.
- Participates in battalion staff meetings and conferences.

Platoon Leader. The platoon leader coordinates platoon functions with other units. Based on the platoon sergeant's recommendations, he approves or disapproves selected sites. If there is doubt about the water supply, then, he coordinates through the company to the battalion operations to get preventive medicine personnel to test the water. He also plans for site security and coordinates this effort through battalion operations. He prepares and maintains SLCR platoon's status report and briefs CO/XO on SLCR operations as required.

Platoon Sergeant. The platoon sergeant supervises and monitors SLCR platoon operations; and, advises the chain of command (CO, XO, and platoon leader) on SLCR operations. The platoon sergeant --

- Selects field sites for platoon headquarters.
- Supervises site selection for platoon operations.
- Prepares SOP/TSOP for platoon operations.
- Sets up training schedules for SLCR platoon training and monitors the training.
- Assists in preparing the SLCR platoon status report.
- Coordinates scheduling needs with supported units for the platoon sections/teams on SLCR activities.
- Inspects SLCR field sites.
- Consolidates SLCR administrative records/reports and supply requirements and forwards them through chain-of-command channels.
- Makes sure that personnel receive meals, billets, and perform in area security.
- Assumes the platoon leader's duties in the absence of the platoon leader.
- Directs PMCS of platoon equipment.

SLCR Section/Team Chief. The section/team chief works under the supervision of the SLCR platoon sergeant. The SLCR section/team chief --

- Provides input for the SOP/TSOP for SLCR operations.

- Selects operating sites for SLCR section/team.

- Supervises the layout and setup of the site, which includes advising on and conducting operational inspections; and, ensures the SLCR section/team is complying with environmental standards IAW SOP/TSOP and guidelines/directives from higher headquarters.

- Reports to SLCR platoon sergeant/platoon leader on status of SLCR section's/team's operations, which includes preparing (consolidating) and maintaining administrative records/reports.

Shower NCO. The shower NCO is supervised by the SLCR section/team chief. The shower NCO supervises the day-to-day shower activities to include issuing daily shower work orders. He --

- Provides input for the SOP/TSOP for showering and delousing support operations.

- Assists on selecting operating site(s).

- Supervises the layout and setup of the site(s).

- Sets up shower and delousing equipment load plans.

- Enforces operational safety rules and precautionary measures to include executing environmental standards.

- Develops and distributes the work schedules.

- Ensures that a separate shower schedule is set up for males and females.

- Notifies the SLCR section/team chief on any problem(s) regarding site operations.

- Prepares, maintains, and submits required records/reports to SLCR section/team chief.

- Determines shower supply requirements and forwards request(s) through supply support channels.

  •• Obtains flooring materials for the building of duckboards or pallets for walkways and shower tents. He supervises the construction.

  •• Obtains materials for building storage bins and shelves as needed to expedite shower operations. He supervises the construction.

- Coordinates with supported unit(s) personnel on delousing requirements.

- Coordinates with preventive medicine personnel to test water, if required.

- Inspects section's/team's equipment and supervises PMCS activities as needed.

- Ensures shower operations are being performed to standards.

- Conducts unit and individual training as required.

Laundry NCO. The laundry NCO is supervised by the SLCR section/team chief. The laundry NCO supervises the day-to-day laundry activities to include issuing daily laundry work orders. He --

- Provides input to the SOP/TSOP for laundry operations.
- Assists on selecting operating site(s).
- Supervises the layout and setup of the site(s).
- Sets up laundry equipment load plans.
- Enforces operational safety rules and precautionary measures to include executing environmental standards.
- Develops and distributes work schedules.
- Notifies the SLCR section/team chief on any problem(s) regarding site operations.
- Determines laundry supply requirements and forwards request(s) through supply support channels.
- Prepares, maintains, and submits required records/reports to SLCR section/team chief.
- Inspects section's/team's equipment and supervises PMCS activities as needed.
- Ensures laundered items are returned to appropriate personnel and/or organization(s) within 24 hours.
- Conducts unit/individual training as required.

Shower and Laundry Specialists. S/L specialists perform the day-to-day activity taskings for S/L operations. They--

- Operate section equipment and perform PMCS.
- Perform shower and laundry operations.

NOTE: Under the supervision of shower personnel, the supported unit's personnel may assist in the following actions: set up and dismantle of shower point(s)/operations and delousing equipment; and, conduct delousing operations. Supported unit's personnel will be responsible for securing their unit's valuables during showering and delousing operations. Supported unit will coordinate for medical support personnel in delousing operations.

- Perform required S/L reports, records, and inventory data.

Fabric Repair NCO. The fabric repair NCO works under the direct supervision of the SLCR section/team chief. The fabric repair NCO supervises the day-to-day fabric repair activities and issues daily (clothing and limited, light textiles) repair work orders. He--

- Provides input for the SOP/TSOP for repair operations on clothing and limited, lightweight textiles.
- Assists on selecting operating site(s).
- Supervises the layout and the setup of the site(s).
- Sets up fabric repair, equipment load plans.
- Enforces operational safety rules and precautionary measures to include executing environmental standards.
- Develops and distributes work schedules.
- Notifies the SLCR section/team chief on any problem(s) regarding site operations.
- Prepares, maintains, and submits required records/reports to SLCR section/team chief.
- Inspects section's/team's equipment and supervises PMCS activities as needed.
- Determines fabric repair supply requirements and forwards request(s) through supply support channels.
- Ensures repairs are performed to standards.
- Supervises pickup and receipt of repaired laundry and limited, lightweight textiles.
- Conducts unit/individual training as required.

Fabric Repair Specialists. Fabric repair specialists perform the day-to-day activity taskings for repairing clothing and limited, lightweight textiles. They--

- Operate section equipment and perform PMCS.
- Make necessary repairs on clothing and (limited) lightweight textiles IAW TMs 10-8400-252-23 and 10-8400-203-23, FM 10-16, and SB 10-523.
- Perform required shop records, reports, and inventory data.

Site Selection Requirements. The mission assigned to the FSC by higher headquarters is the chief consideration used in selecting a SLCR site for operations. (In most instances, the units that the laundry site supports deliver and pick up their laundry and repair articles at the designated site. The units that the shower site supports provide the trucks that are used to deliver the soldiers for shower operations.) The SLCR site selection depends upon the mission. When possible, the SLCR site is located near the units or the commands that are supported. The location should have plenty of clean water, proper drainage (gentle sloping terrain), good roads, and natural cover and concealment.

Water Requirements. The S/L elements of the SLCR section/team must have an ample supply of clean water, which can be non-potable. Each mobile laundry unit uses about 350 gallons of water per hour. Each nine-head shower uses over 1,200 plus gallons of water per hour; the twelve-head shower uses over

1,200 plus gallons of water per hour. LADS uses 240 gallons of water per 20-hour period. This water must be as free from impurities as possible. Considerations for water include --
NOTE: The SLCR section/team chief must ensure that the wastewater does not pollute the water that is used for drinking, cooking, and bathing.

- *Water allotment*. IAW AR 700-135, the office of the surgeon general requires that each soldier take a shower and change clothes at least every seven days for health reasons, regardless of climatic conditions. Laundry and shower requirements are based on this weekly cycle. The recommended water consumption factor for hot, cold, or temperate climates is 6.5 gallons per soldier per day for laundering of clothing and 3 gallons per soldier per day for showers. As a rule, it takes 3 gallons of water for every pound of clothing processed and a flow rate per shower head of 2.5 gallons per minute. Table 3-1 (pages 3-9 and 3-10) shows the water planning data used for laundry and shower operations.

NOTE: Remember, S/L operations do not need potable water for normal operations in most climatic areas, but the water must be disinfected. The water may require some treatment to remove foreign mater and microorganisms. When non-potable water is used for showers, signs are posted warning soldiers not to drink it. The Army water doctrine requires that potable water be used in an arid environment.

- *Water acquisition*. Currently, there is no standard form to request water for field laundries or showers. Normally, the platoon sergeant or the section sergeant/team leader selects a site that has an abundant water supply. In arid environments or where potable water must be supplied, the SLCR sections/teams coordinate their potable water requirements with the FSC HQ, which coordinates through the battalion to the MMC. Two water sites are always selected: one for immediate operations, the other for site relocation or movement when required. Preventive medicine personnel must test water for purity. If the water is not clean enough to drink, SLCR personnel must post signs telling troops not to drink it. Potable and disinfected non-potable water will be used through the shower units at different times. Non-potable fresh water can be used to operate the laundry unit. The degree of treatment of this raw water depends on its condition. The Army water purification units use four water treatment processes to treat raw water: coagulation and flocculation, filtration, reverse osmosis, and disinfection. See TB MED 577 and FM 10-52-1 for water treatment measures.

Table 3-1. Laundry and shower planning data

LAUNDRY WATER PLANNING DATA

A Gallons Per Load (A/B)	B Pounds Per Load	C Gallons Per Pound	D Pounds Per Soldier/Week	E Pounds Per Soldier/Day (D/7)	F Gallons Per Soldier/Day (C x E)
180	60	3	15	2.14	6.42

NINE-HEAD SHOWER WATER PLANNING DATA

A Minutes Per Shower	B Cycles Per Hour (60/7)	C Soldiers Per Cycle	D Soldiers Per Hour (B x C)	E Usage** Factor	F Showers Per Hour (D x E)
7	8.6	9	77.4*	.70 Division .85 Corps .90 COMMZ	54 66 70

G Gallons Per Hour (Equipment)	H Gallons Per Soldier/Week (G/F)	I Gallons Per Soldier/Day (H/7)
1,200	22.20 Division 18.20 Corps 17.10 COMMZ	3.20 Division 2.60 Corps 2.50 COMMZ

*The 77.4 showers per hour assumes a constant flow of traffic where nine persons would instantaneously replace the persons using the showers without any break in the sequence.

**The usage factor is based on unscheduled maintenance, late troop arrival, and working requirements of the supported unit.

Table 3-1. Laundry and shower planning data (continued)

TWELVE-HEAD SHOWER WATER PLANNING DATA

A Minutes Per Shower	B Cycles Per Hour (60/7)	C Soldiers Per Cycle	D Soldiers Per Hour (B x C)	E Usage** Factor	F Showers Per Hour (D x E)
7	8.6	12	103.2*	.70 Division .85 Corps .90 COMMZ	72 88 93

G Gallons Per Hour (Equipment)	H Gallons Per Soldier/Week (G/F)	I Gallons Per Soldier/Day (H/7)
1,200	16.70 Division 13.60 Corps 12.90 COMMZ	2.30 Division 1.90 Corps 1.80 COMMZ

*The 103.2 showers per hour assumes a constant flow of traffic where twelve persons would instantaneously replace the persons using the showers without any break in the sequence.

**The usage factor is based on unscheduled maintenance, late troop arrival, and working requirements of the supported unit.

- *Water areas*. The following measures are taken for water use and acquisition.

•• Areas in towns and cities. Towns and cities usually have a water system which can support operations. SLCR sections/teams use this system when it is available.

•• Areas without fresh water. When SLCR sections/teams operate in an area without a supply of fresh water, the 3,000-gallon collapsible water tank can be used. Delivery of water must be coordinated through supporting water transportation teams or the supported unit.

•• Areas with hard water. When the field laundry is in a hard water area, it is important to use the proper type and amount of detergent.

Fuel Supply. Proper planning and coordination of fuel support through supply channels are required if operations are to start up immediately on arrival at a site. Table 3-2 gives the hourly planning requirements for each piece of SLCR equipment.

Table 3-2. SLCR fuel planning data

Component	Gallons Per Hour	Type Of Fuel
10-KW Generator	1.09	Diesel
M85 Water Heater	2.50	Diesel
Dryer	2.10	Diesel
3-KW Generator	0.84	MOGAS
5-KW Generator	0.57	Diesel
M80 Water Heater	2.50	Diesel
Delouser	0.35	MOGAS

Terrain. The SLCR section/team chief must choose a firm, sloping, and well-drained area that will support the SLCR equipment and the vehicles in any weather. He must allow enough space for tents, vehicle parking, and vehicle turn-around area.

Roads. The SLCR section/team chief selects a site that is near a traveled road or road network so that SLCR services are available to supported units. Inside the operating site, there must be enough space for parking vehicles, room for the vehicles to turn around, and room for handling the numbers of soldiers at the site at any one time. The SLCR section/team chief plans the layout for roads in the area so that vehicles can get to the required place and out again. A one-way traffic flow is usually the best, especially, when there are blackout or restricted light conditions.

Cover And Concealment. A site is selected which provides natural protection from air or ground attack. Camouflage screens and nets are used to conceal the operational site. If camouflage screens and nets are not available, natural camouflage is used, such as tree limbs or shrubbery. A protected slope or grove of trees makes for a good windbreak. The SLCR section/team chief should also think about using available buildings for operations, taking advantage of road systems, and blending into built-up areas. The SLCR section/team chief pays particular attention as to where wash water drains, as this could draw attention to the operational areas.

NOTE: Seasonal (environmental) and artificial camouflage will best protect the SCLR operational area(s) against attack. These types of camouflage are checked periodically for wear and tear, decay (especially for natural camouflage materials), and replaced often or as needed.

Layout and Setup of SLCR Section/Team Elements. After a site is selected, you must lay out and set up your equipment. Think about layout planning, workflow planning, and equipment setup for --

Laundry Element. The work area and the bivouac area should take advantage of all natural and artificial concealment elements. Take these measures:

- *Layout planning*. It is sometimes necessary to have two or more SLCR sections/teams in the same place to provide the required support for a command or organization. Suggested layouts for a single laundry element and for two or more laundry elements, including operational equipment and set up, are shown in Figures 3-2, 3-3, 3-4, and 3-5 (pages 3-12 through 3-15). Depending upon METTC-TC and higher headquarters guidance, the shower and/or laundry elements for either TOE 42414L0 or 10414L0 may be utilized separate from each other. (The requirement ,though, is to have the SLCR section/team to perform as a whole unit entity.) Note these planing consideration areas:

  •• Receiving and shipping area. Set up separate tents for receiving and shipping operations, when possible. Separating the two operations prevents crowding and confusion. Place tents so that they can be reached easily for delivering or picking up laundry. Ensure that the traffic flow pattern allows this. However, one GP large tent or a 48- by 20-foot TEMPER may be used to combine these two operations together into a single operating site.

  •• Laundry work area. The laundry work area should be set up next to the shipping and receiving tent. For the M-85 series equipped unit, a GP large tent is ideal for the work area since it can accommodate two laundry trailers. If the TEMPER is being used, add on to its structure.

NOTE: LADS will not fit within a GP large tent. LADS is being constructed to withstand the effects of exposure, and options are being considered for the use of a shelter system with LADS.

  •• Bivouac area. Normally, a GP medium tent or compatible TEMPER is used to billet laundry personnel.

- *Work flow planning*. The laundry NCO plans the work flow. He plans for bulk and/or individual laundry. He bases his plans on the following considerations.

  •• Receiving area. The receiving area is where soiled laundry is delivered. The soiled laundry is processed and sent to the wash and dry area.

  •• Laundry work area. The laundry is washed, extracted, and dried in this area. Upon completion, it is sent to the shipping (pickup) area.

  •• Shipping area. The laundry is processed for delivery to the supported unit; or, because of METT-TC conditions, the supported unit will come back for its pickup.

- *Setup of equipment*. Mobile laundry units must be placed in position before the GP large tent or TEMPER that is used for the laundry work area is set up. Some components are stored or mounted on the mobile laundry unit for shipment and storage. During use, remove stored components from the mobile

laundry unit. Ensure that water supply, water drainage, and electrical connections are considered when the mobile laundry units are positioned. For all setup, operational, and maintenance procedures for your specific mobile laundry unit, use the FMs 10-3510-209-10, 10-3510-220-10, or 10-3510-222-10.

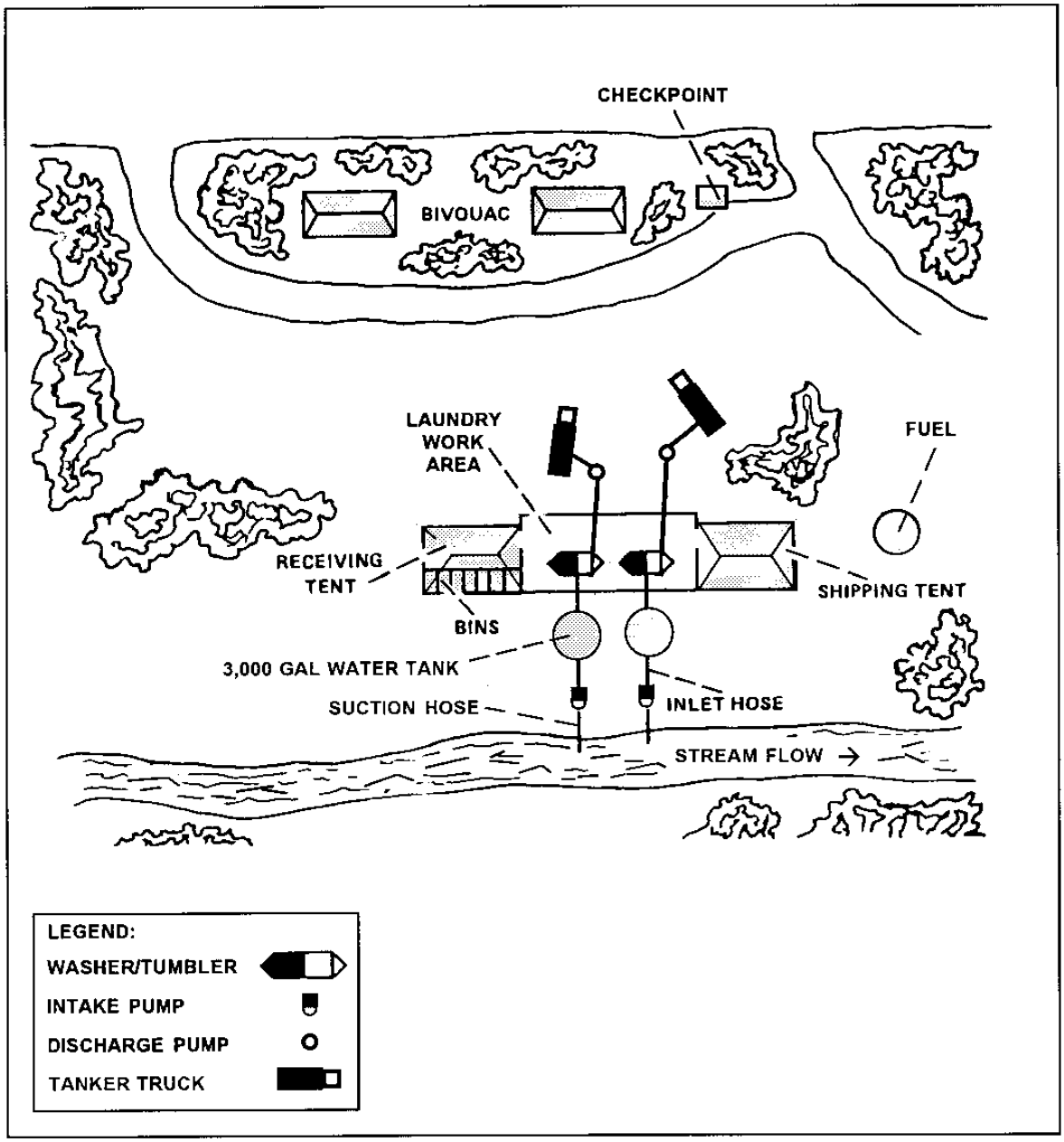


Figure 3-2. Overview of a suggested layout for a laundry operation

(NOTE: Figure 3-2 depicts laundry operations under TOE 42414L0.)

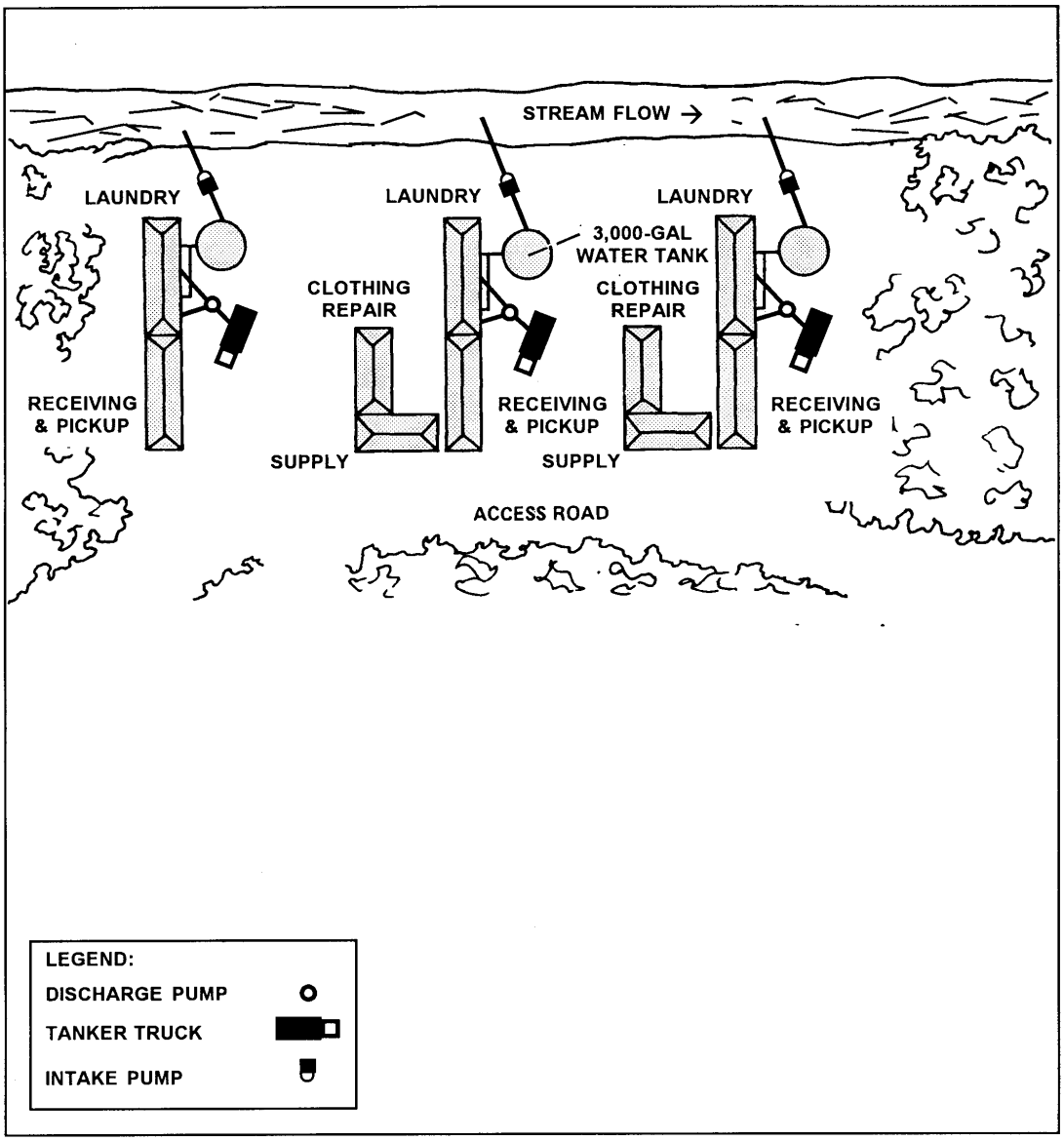


Figure 3-3. Overview of a suggested layout for two or more laundry operations

(NOTE: Figure 3-3 depicts laundry operations under TOE 42414L0.)

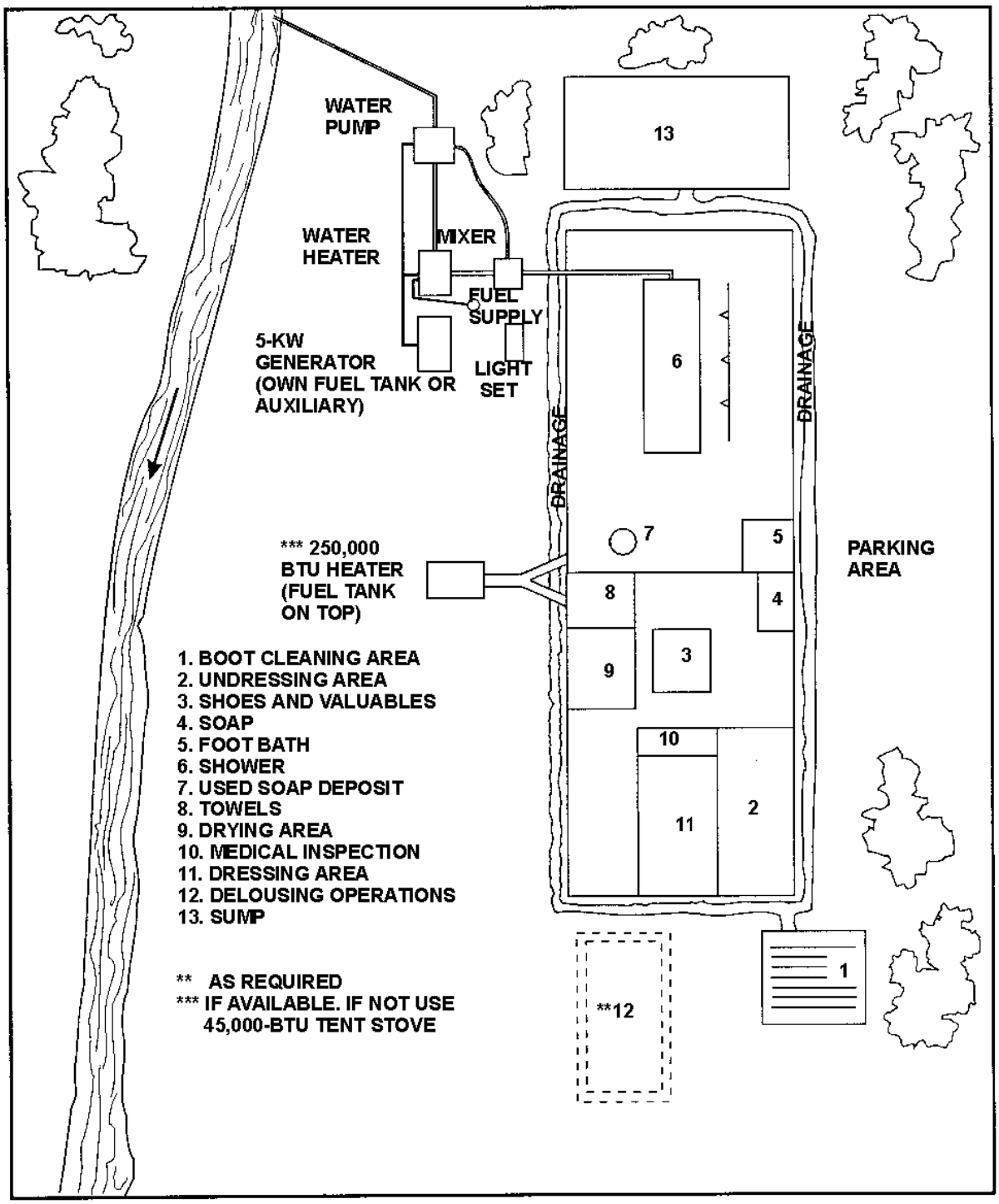


Figure 3-4. Suggested shower layout

(NOTE: Placement description #4 is a soap dispensing/disposal or storage area. A required soap area is needed for those personnel who did not bring their required washing soap to shower tent or for those disposing their used soap.)

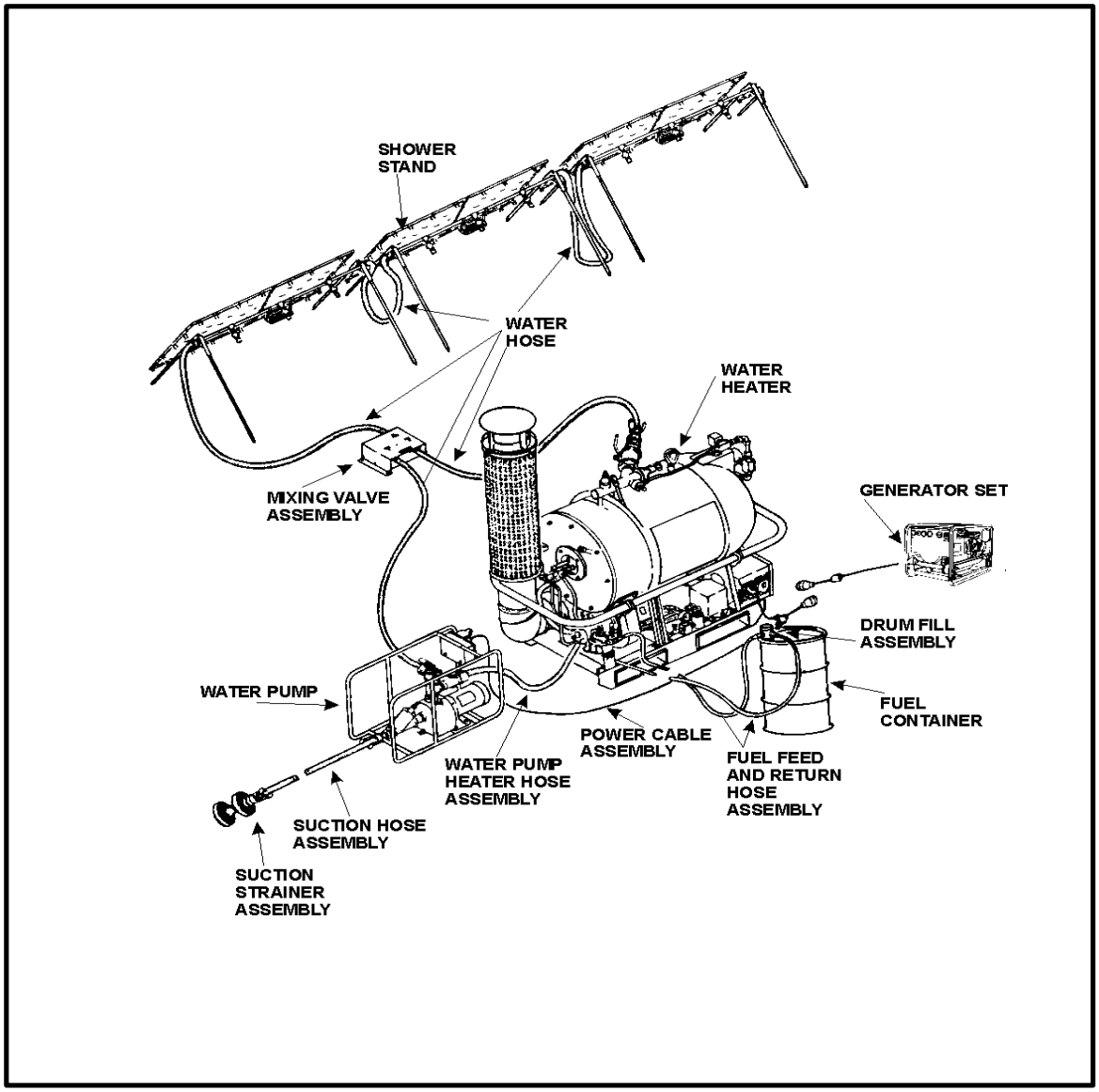


Figure 3-5. Shower equipment setup – nine-head shower unit

Clothing and Limited, Lightweight Textile Repair Element. The work and bivouac areas of the CR element should take advantage of all natural and artificial cover and concealment factors. The following measures are taken:

- *Layout planning*. Collocate the fabric repair element with the laundry element. Most items for fabric repairs have to be laundered before being repaired.

•• Shop operations area. Set up of the clothing and repair operations is co-located in the receiving and shipping tent(s).

•• Bivouac area. Normally, use a GP medium tent or compatible TEMPER tent to billet fabric repair personnel.

- *Work flow planning*. Normally, one end of the fabric repair tent is selected as the receiving area. This is where the customer delivers items for repair. The middle portion of the tent is selected as the repair work area. This is where the sewing machines are set up. The other end of the tent is selected as the shipping (pickup) area. This is where the finished items are inspected and processed for return to the customer.

- *Set up of equipment*. Ensure that laundry carts can maneuver between the sewing machines and in the center aisle. Consider the electrical connections when the sewing machines are being positioned.

S/L Elements. The work areas (applicable to SLCR activities, too) and the bivouac areas should take advantage of all natural and artificial camouflage elements. Take these collocated, AO measures:

- *Layout planning*. Sometimes, it is necessary to set up two or more S/L "subsections/teams" in the same place to provide the required support for a command or organization. These elements can operate as a separate "entity" section or as a combined S/L "entity" section (under TOE 42414L0). Suggested layouts for a single S/L section and for two or more S/L sections are shown in Figures 3-6 and 3-7 (pages 3-18 and 3-19). This requirement may be required for the S/L element of the SLCR section/team, depending on higher headquarters directive and influence of METT-TC.

- *Work flow planning*. The shower NCO and laundry NCO will coordinate their plans for proper work flow processing. They base their plans on mission requirements. The mission may call for a shower only operation or for a S/L operation. Delousing support operations must be planned, if needed. If delousing is required, then, a separate tent must be used for the delousing mission.

•• Shower layout. Each shower setup requires two GP medium tents or one 48- by 20-foot TEMPER tent. An additional GP medium tent or one 16- by 20-foot TEMPER is required to support the delousing operation.

•• S/L collocation layout. Each S/L setup requires GP medium tents or necessary TEMPER or modular tents. These GP tents or TEMPER/modular tents are joined together. Two GP medium tents or one 48- by 20-foot TEMPER will support showering and clothes changing needs. Laundry operations will be set up in either one GP large tent or one 48- by 20-foot TEMPER. Refer to Figure 3-7 (page 3-19) for layout scheme.

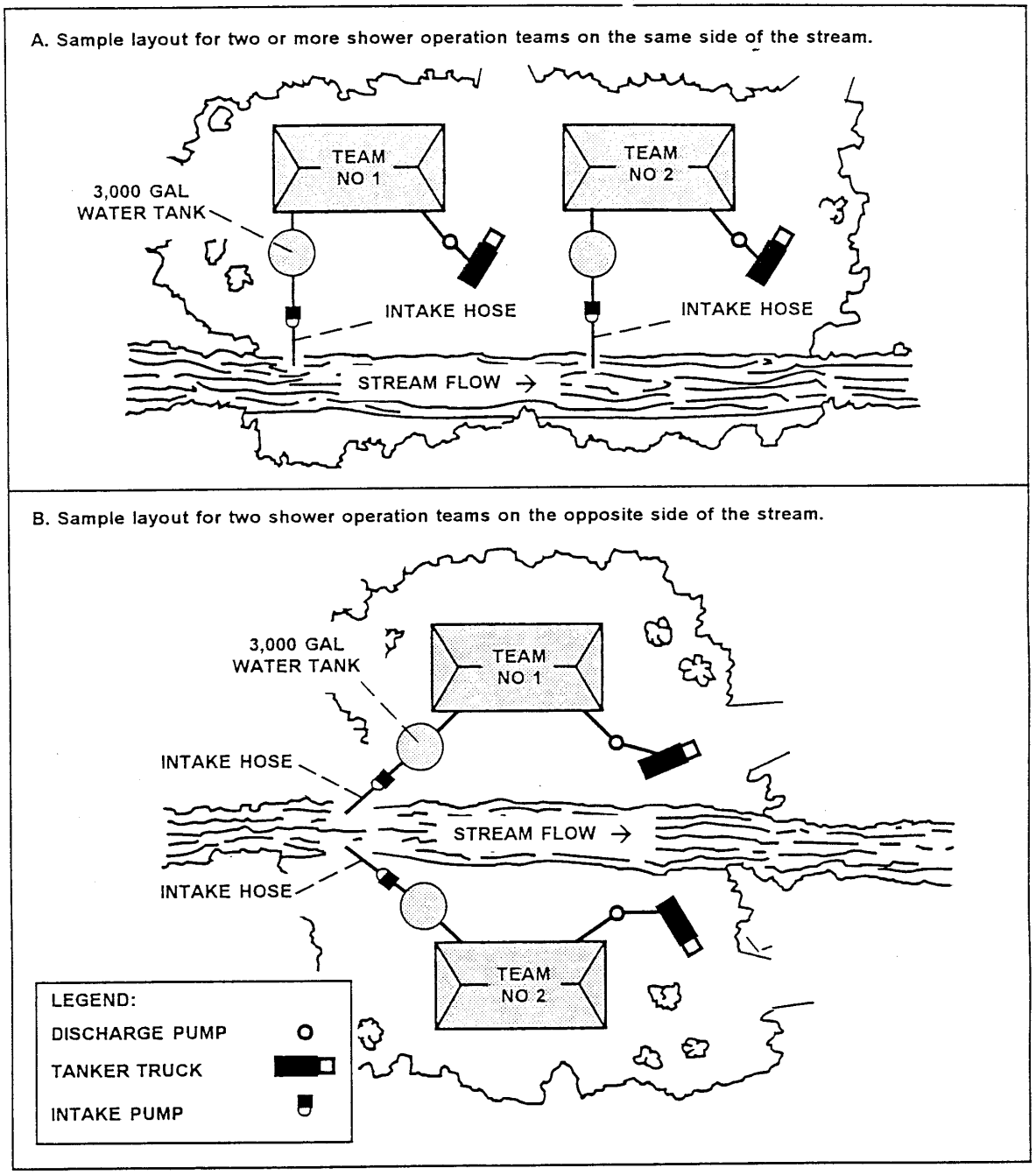


Figure 3-6. Shower layouts

(NOTE: Figure 3-6 depicts shower operations under TOE 42414L0.)

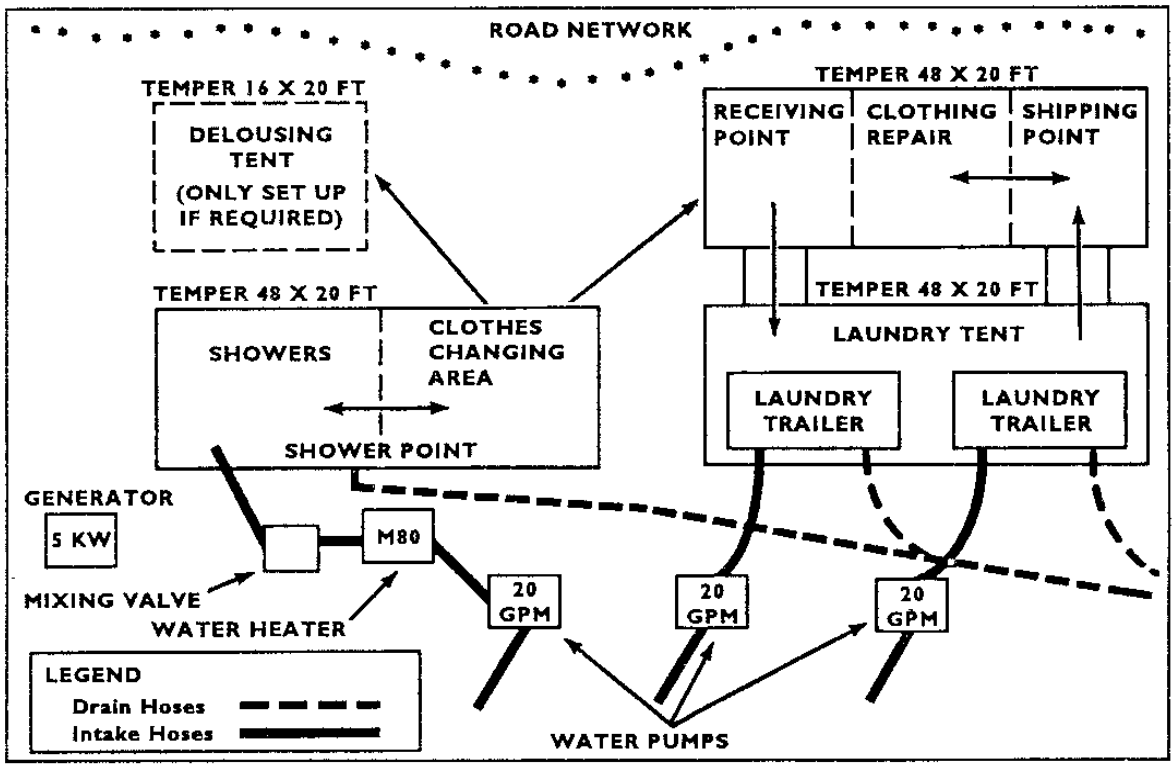


Figure 3-7. Suggested composite site layout for one SLCR section/team operations under TOE 10414L0

- *Setup of equipment*. Locate the water pump no more than 10 meters from the water source. Locate all equipment to support the shower operations outside the tent on the same side. This eases operation, PMCS, and the monitoring of equipment during operations.

- *Drainage system*. Dig a ditch to carry wastewater to a point that is downstream from the intake hose. Ensure that the drainage ditch runs completely around the shower area. If rules for protecting the environment do not allow *used* water to go into the stream or into the ground, then, the commander, according to AR 700-135, must check with the local environmental agency that has jurisdiction over the area of operations. The environmental agency will give instructions concerning the proper disposition of the water.

SLCR PLATOON HEADQUARTERS FUNCTION

Platoon headquarters serves as the command and control element of the SLCR sections/teams. Its functions consist of supervising, directing, and coordinating showers, laundry, and clothing limited, lightweight textiles repair operations for supporting elements and the FSC itself. The platoon sergeant's duties, as supervisor of platoon SLCR operations, are to--

- Determine mission requirements.
- Prepare OPLANS.
- Set up and monitor platoon and SLCR sections'/teams' training and preventative maintenance procedures.

- Consolidate SLCR sections'/teams' production reports and schedules.

The platoon headquarters functional requirements consider --

POL Requirements. Planning guides and factors are available that give fuel consumption rates for estimating petroleum requirements for generators, heating equipment, pumping equipment, and wheeled vehicles. This information is provided in an automated POL software package. The OPLOGPLN is obtainable from Commander, US ARMY CASCOM, Directorate of Combat Developments for Combat Service Support, ATTN: Planning Factors Branch (ATCL-CFP), 3901 A Avenue, Suite 220, Fort lee, VA 23801-1809. You may E-mail for them at OPLOGPLN@LEE-DSN1.ARMY.MIL. Ensure you include your return address on all correspondence methods used. Planning factors may also be obtained in FMs 10-13 and 101-10-1.

Personnel Requirements. The achievement of the SLCR platoon's mission is of the utmost importance to the overall company mission. However, if the SLCR platoon personnel are not provided with their basic needs, the mission cannot be met. The platoon leader ensures that his soldiers are being fed and that they are being provided with suitable living quarters. He ensures that enough personnel are available to secure the defense of the platoon area. Note the following measures:

- *Billeting*. The TOE shows the number of personnel authorized for setting up the SLCR platoon. Using this number of personnel, the platoon sergeant and/or SLCR team/section chief calculates the tentage requirements by referring to TM 10-8340-211-13. This TM gives the square footage for tents so that the number of soldiers per tent can be computed. Use TM 10-8340-224-23P for modular, extendable tent or TM 10-5410-229-14 for the TEMPER tent requirements. The allotted foot space per soldier for fixed military billeting facilities/barracks is in AR 210-50.

- *Meals*. The platoon sergeant and/or SLCR section/team chief informs higher headquarters of the names of soldiers to be fed (for accountability) and meal requirements. He tells the soldiers of the mealtimes and locations. The platoon sergeant and/or SLCR section/team chief computes meal requirements as follows:

NUMBER OF SOLDIERS x 3 MEALS PER DAY x
NUMBER OF DAYS OPERATING = MEAL REQUIREMENTS

- *Security*. The platoon sergeant and/or SLCR section/team chief determines the number of soldiers needed to secure the platoon/section/team area(s) as directed by higher headquarters. Either is responsible for selecting soldiers for guard duty and for briefing them on their responsibilities and duties. Occasionally, the supporting unit provides the security guards.

- *OPLANS*. The purpose, content, and format of OPLANS are given in FM 101-5. OPLANS contain the following information:

  - Situation.
  - Mission.
  - Assignment of tasks.

•• Support and assistance to be provided. Additional requirement considerations include --

••• Site selection and supply requirements must be determined before the OPLANS are prepared.

••• The size of the platoon or section/team and the amount of assigned equipment determine the number of soldiers required to set up a SLCR site. See TMs 10-8340-211-13, 10-5410-229-14, or 10-8340-224-23P for the number of soldiers required to pitch your specific tents.

Platoon Training. The SLCR platoon sergeant and section/team NCOs set up a training schedule for equipment training, ARTEPs/MTPs, and common task training. The platoon sergeant conducts periodic checks on the training to ensure that it is based on current doctrine. He also is the master trainer of junior sergeants of the platoon. He is directly responsible for all they do or fail to do. The platoon sergeant personally trains and checks them to see that they are fully trained in their duties. Section/team NCOs train their subordinates to perform collective/individual tasks to prescribed standards.

Preventive Maintenance Programs. The platoon sergeant prepares a schedule for SLCR preventive maintenance activities. The schedule is monitored to ensure that the preventive maintenance is performed according to the appropriate TMs. DA Form 2404 is checked for completeness and correctness and for the reporting of non-repairable deficiencies to organizational maintenance. The platoon sergeant periodically checks the platoon equipment to ensure that all deficiencies not corrected by the operator have been recorded. DD Form 1970 is periodically checked for completeness and correctness. The platoon sergeant checks the REMARKS column of DD Form 1970 to ensure that fuel and oil were added to the equipment at appropriate maintenance intervals. Detailed instructions for filling out DA Form 2404 and DD Form 1970 are in DA Pamphlet 738-750. The platoon sergeant reviews the following forms to ensure that equipment is scheduled for services: DD Form 314, DA Form 2405, DA Form 2406, and DA Form 2407. More information on these forms is in DA Pamphlet 738-750. Use unit maintenance procedures on the M85-series laundry unit as prescribed in TMs 10-3510-209-24, 10-3510-220-10, and 10-3520-222-10; for showers use TM 10-4510-206-14 (nine-head) and TO 50D1-3-1 (twelve-head); and, use TM 10-3530-207-14 for the trailer mounted, clothing repair shop.

Production Reports. Each SLCR element prepares daily production reports. The SLCR platoon sergeant consolidates these reports upon receipt from the SLCR section/team chiefs. He then submits them to higher headquarters. The SLCR platoon sergeant receives information from the supporting unit on the number of male and female soldiers scheduled for SLCR activities so that a time schedule can be prepared. He informs higher headquarters and supporting units of the SLCR hours of operation and location. The following report forms are used.

- *DA Form 4765-R.* The front of this form is used to record operating personnel and hours of operations. The reverse is used to record the amount of laundry processed and the types of supplies used.

- *DA Form 4766-R.* Pending a revision and name change to this form, the front of this form will only be used to record units served, number of personnel processed, processing times, and types of supplies used. *The backside to this form will not be used, since clothing exchange operations are no longer applicable.* Refer to Table 2-3 for other forms that can be used.

COMMUNICATIONS

Refer to Chapter 1, Figures 1-2 and 1-3 for proposed wire net and radio system for FSC and its SLCR platoons and section/team elements. Use the same C^2 procedures to set up your communications net as identified in the TSOP and directions or orders received from higher headquarters. Also, see FM 100-6 on information operations. Use FMs 24-1, 24-19, and 24-35 for conducting information communication capabilities and procedures.

Section II

SHOWER SECTION

ORGANIZATION FOR OPERATIONS

Shower personnel will meet the needs of supported units by providing warm showers. This service helps to provide a hygienic need and a moral uplift to the soldier in the field. Shower capabilities and operations are explained next.

Capabilities. The shower operational element has the following attributes:

- Under TOE 10414L0, shower element consists of ten shower specialists. This section works 10 hours a day. If the 9-head shower system is used, it provides shower service for 500 soldiers a day. If the 12-head shower system is used, it services 750 soldiers a day. The shower element in the SLCR section/team configuration may be set up at a fixed site, based on required support needed. Under TOE 42414L0, shower element consists of three shower specialist. Each shower section works 10 hours a day, providing shower service for approximately 18, 500 per week at the rate of one shower per man per week. The shower element may be setup at a fixed site or moves from time to time to provide services to troops in forward areas.

- Prior coordination through support channels and conditions of METT-TC determine the next location for both FSC, M and FSC, DS. Shower elements under TOE 42414L0 serving non-divisional elements usually set up and operate at a site in a corps or theater army area.

- Shower elements may be attached to a division or a corps and may furnish services to units of less than company size. They may also be used to increase the capabilities of fixed-strength shower and laundry elements.

Shower and Laundry Operational Concept. S/L operational concept consist of the following actions:

- Supported personnel will arrive at the shower point with their dirty laundry and a change of clothing to wear after they shower. After showering, they will go to the laundry point and turn in up to 15 pounds of dirty clothing (TOE 10414L0). (Under TOE 42414L0, the requirement exists for turning in only 7.9 pounds of dirty clothing.) The soldiers place their dirty clothing in mesh bags: one mesh bag for the soldier's BDUs and laundry bag, and one for his socks, T-shirts, and underwear. Under TOE 10414L0,

mesh bags will only be used in containing the dirty laundry. Mesh bags will be identified and secured by one or more of the following methods:

- Mesh bags will be identified by pre-stamped number(s) on the outside of the bag.

or

- If the mesh bag has a draw string, the current Army numbered laundry pin set will be used. Mesh bags will be identified and secured with two numbered laundry pins.
- Mesh bags without a draw string will be secured using the US Air Force pin system. This system uses a very large pin to secure the mesh bag so contents do not spill out. Check CTA 50-970 for ordering required pins.

NOTE: Under TOE 42414L0 (QM FSC, DS), the "mesh bag system" is not used. The standard US Army "pin numbering system" is still to be used. Under TOE 10414L0, QM FSC, M will make use of the "mesh bag system." Under each TOE (10414L0 and 42414L0), required administrative records and reports keeping is prepared and maintained as needed.

- Clothing needing repair will be identified when turned in for cleaning.

- The dirty clothing is laundered, repaired (if needed), and returned to the supported unit or soldier within 24 hours. If supported unit or soldiers are moved out of the SLCR area before the 24-hour turnaround time, coordination may be made with the supported unit for pickup. Or, the SLCR section/team uses its unit vehicles to deliver clean and repaired individual laundry to the supported unit or battalion S4 area as it depends on METT-TC.

- When medical personnel determine that mass delousing is required, a delousing station is set up. It's manned by supported unit personnel, under the supervision of shower point personnel. Shower personnel will train the supported unit's personnel how to set up, operate, and dismantle the delousing equipment. A medical representative must be present during mass delousing operations. The supported unit coordinates the presence of medical personnel with their supporting medical facility. More details on delousing operations will be explained later in this chapter.

NOTE: Delousing operation, when required, is performed with shower operation.

SHOWER EQUIPMENT SETUP

Depending on METT-TC and/or higher headquarters directives, two or more SLCR sections/teams (or S/L elements under TOE 42414L0) may be located together to provide the needed services. When fresh or potable water must be brought in by water tank trucks or by POL tanks that have been flushed out for water use, the water is stored in 3,000-gallon fabric collapsible tanks. The section/team NCO changes his layout plan to allow plenty of room for the 3,000-gallon tank or tanks. The pump works the same way with water from a tank as it does with water from a stream. The shower element, usually collocated near the laundry element, establishes its set up based on these features:

S/L Points. When two or more S/L points operate in the same area, the section/team chief or the section/team NCO(s) must be sure the intake hoses are located at about the same point. See Figure 3-6 for shower layout diagrams. If the two "teams" are on opposite sides of the same stream, the intake hoses and

drainage ditches are located at about the same points. (Under TOE 42414L0, laundry platoons stay in the company area, and the shower "teams" deploy forward.)

NOTE: In conjunction with showering when delousing operations need to be done, requiring power equipment, a GP medium tent or a 16- by 20-foot TEMPER tent can be requested. Delousing should not take place in the tents where soldiers are undressing, showering, or dressing. Soldiers should be fumigated outside in good weather when there is no wind. However, if there is bad weather, fumigating should take place in a separate tent.

Shower Element. When the shower element arrives at the operating site, the driver backs the 2 1/2-ton truck as close as possible to where the equipment will be placed. The tents are unloaded first and set up. Then, the duck-boards are placed in the tents for flooring. Use Figure 3-5 as a guide for positioning shower equipment. The water pump, water heater, and generator must be placed on level ground.

NOTE: A plate mounted on the water heater gives pre-operation, during-operation, and post-operation instructions. TM 10-4510-206-14 for your shower unit is kept in a canvas pocket attached to the generator. See this TM for set up and operational data on the shower equipment. Equipment setup envolves --

- *Water pump setup*. To set up the water pump, shower personnel follow these steps:

  •• Connect the suction hose strainer to the male end of the 25-foot, 1-inch water hose. Secure the coupling locking levers.

CAUTION
To prevent equipment damage, ensure that hose couplings are free of dirt or foreign matter and that coupling gaskets are in place before coupling hoses.

  •• Connect female end of water hose to water pump suction port.

  •• Place water pump on level surface about 20 feet from water source> Ensure suction lift does not exceed 15 feet.

  •• Place suction hose assembly and strainer into water source using one of two methods:

    ••• Place strainer on mound of stones or gravel and make large piles of stones upstream from strainer to divert debris from strainer.

    ••• Build a tripod made of tree branches, saplings, timber, or some type of construction material and suspend strainer from tripod. Build a barrier using tree branches or some type of construction material upstream from strainer to prevent leaves, weeds, or other debris from entering the strainer.

NOTE: Since the "new" strainer has a disk-like format, there may not be a need to construct piles of stones or gravel or tripod. See TM 10-4510-206-14 as needed.

- *Shower stand setup*. To set up the shower stand, shower personnel take the following steps:

  •• Personnel assemble each shower stand by inserting the four legs into the sleeves of each riser. Erected shower stand is about 20 feet from the mixing valve. Connected sections of shower stand are done by using the 7 1/2-foot, 1-inch water hose.

  •• A cap is placed on the shower stand end connector. See TM 10-4510-206-14 for more details on setting up the shower unit. See Figure 3-5 for diagram on shower equipment setup.

  •• Before operations start, signs are posted to alert soldiers not to brush their teeth or rinse their mouths in the shower.

- *Water heater setup*. To set up the water heater, shower personnel take the following steps:

  •• Place the water heater on level ground about 5 feet from the water pump. Construct, if possible, a suitable shelter or windbreak for the water heater to conserve fuel.

  •• Connect the male coupling of the 1 1/2-inch water hose to the water pump. Connect the female end of the hose to the water heater intake.

  •• Connect the female end of the 7 1/2-foot, 1-inch water hose to the water heater and the male end of the hose to the HOT fitting on the mixing valve.

  •• Connect the male end of the 7 1/2-foot, 1-inch hose to the water pump outlet and the female end of the hose to the COLD fitting on the mixing valve.

  •• Install the elbow on the water heater with a slight turn to the right to seat the pin in the slot.

  •• Insert the smokestack and guard assembly through the bracket onto the elbow.

  •• Tighten the screw on the bracket to secure the smokestack and guard assembly.

CAUTION

The exhaust duct becomes very hot when the shower unit is operating. To prevent severe burns, soldiers must not touch the duct while the equipment is in use.

- *Fuel connection setup*. To connect the fuel set up, shower personnel perform the following steps:

  - Place the fuel container about 5 feet from the water heater.

WARNING

Fuel used with the shower unit is highly flammable and may be dangerous to human life if handled improperly. All fuel fittings must be tightened firmly with a wrench to prevent leaks. Recheck all fittings when the water heater is operating to ensure no fuel leaks with the system under pressure.

  - Screw the drum fill adapter into the fuel container.

  - Connect the fuel line from the pump filter to the suction fitting on the drum fill adapter assembly.

  - Connect the fuel line from the pump to the return fitting.

  - Connect the cable assembly to the water heater, water pump, and power source.

WARNING

Use only specified fuel. Failure to do so may result in injury to personnel or equipment.

CAUTION

Lack of lubrication may cause pump damage when straight gasoline is used as fuel. To avoid failure, 1 quart of oil must be mixed with each 5 gallons of gasoline used.

- *Generator setup*. Moving the 5-kilowatt generator for the twelve-head shower unit (or the 3-kilowatt generator for the nine-head shower unit) requires extra help. The generator set is placed 15 to 20 feet from the water heater and the same distance from the water pump so that the three pieces of equipment are in a straight line. Since the 5-kilowatt generator weighs 960 pounds, it needs to be mounted in a trailer or positioned for operation by a forklift. See TM 5-6115-584-12 for more information on the 5-kilowatt generator and TM 5-6115-271-14 for the 3-kilowatt generator.

  - The generator must not tilt more than 15 degrees. If the generator is not already mounted on a skid-board, the section/team members use planks, pallets, or ammunition boxes to level it.

  - Section/team members check the switch operating the blower and fuel pump of the water heater to ensure it has been turned off. They also make certain that the water pump motor switch is turned off. The members of the shower team connect the two power cord cables to the generator receptacle box connections. One cable goes to the water pump receptacle connector and the other cable to the water heater receptacle connector.

  - Shower operators ground the generator to an underground metallic water system, a metal rod, or a buried metal plate. The ground lead must be as strong as a number 6 copper wire. The ground must be a 5/8-inch solid rod or a 3/4-inch pipe. Soldiers drive in one 3-foot section, then screw in the next section. They continue this until they reach a depth of at least 8 feet so that they reach groundwater. When they remove the rod, they tap it to loosen the ground around it. Then they remove one section at a time. When the ground is too hard to drive in the ground rod, shower personnel use a metal plate of at least 9 square inches. They get this made at a maintenance activity and have one section of the ground rod welded to the plate. They bury the plate to a depth of about 4 feet and keep the soil damp at all times.

- *Fire extinguisher*. Personnel place a CO_2 or dry chemical fire extinguisher beside the shower equipment. They must use the extinguisher for all electrical and petroleum fires. Dirt or sand may be used on these fires, but NEVER use water to put out an electrical or petroleum fire.

- *Drainage system*. As previously stated in this text, a ditch should be dug to carry wastewater to a point downstream from the intake hose. The drainage ditch should run completely around the shower area. If rules for protecting the environment will not allow the used water to go into the stream or the river, battalion operations personnel will decide where drainage ditches must be dug.

  - As much as 1,200 gallons of water an hour for the 12-head shower may be generated from each shower system. The ditch, therefore, must be wide and deep enough to take care of this water. The depth of the drainage ditch will depend on the type of soil and the slope of the area. A ditch of 1 foot wide and 3 feet deep will usually be satisfactory. Ditches should be located away from the parking lot so that the area will not get muddy. Discuss the drainage ditch construction with environmental engineer support element for EPA restrictions.

  - Where wastewater cannot be emptied into a stream, a drainage soakage pit should be built about 100 feet from the shower area. It should be large enough to take care of

peak lows. If water has to be hauled away for disposal, it may be pumped into a 3,000-gallon collapsible, fabric water tank for temporary storage.

- *Portable duct-type heater and space heater*. When the shower element is operating in a cold climate requiring heat in the tents, personnel set up a 250,000-BTU heater or a 45,000-BTU space heater.

  •• When the 250,000-BTU heater is used, shower operators must be sure that the heater is level so that the fuel will flow evenly. They attach the asbestos-lined ends of the ducts to the heater and, then, attach the canvas ducts. When longer ducts are needed to heat the shower tent, the section chief prepares a request for extension ducts for the heater. Personnel run one duct to the shower tent. The duct, with the steam from the showers, will be enough to warm the tent. The heater is placed outside the tent.

CAUTION

This heater is dangerous because the fuel tank is on the heating element. It may explode if soldiers are not very careful. For this reason, sandbags should be placed around the heater. The bags should be stacked at least as high as the top of the fuel tank. **DO NOT LIGHT THIS HEATER WHEN IT IS WARM.**

  •• In some cases, a stove or space heater is used to warm a tent. Personnel position the stovepipe so that it goes through the hole in the tent top and extends higher than the tent. As a safety precaution, they install draft diverters and shields around the stovepipe opening. Also, all personnel should be trained in building and maintaining stove fires. They should practice and understand all fire precautions. See TMs 10-8340-211-13, 10-8340-224-23P, and 10-5410-229-14 on tents; and TMs 10-4500-200-13 and 5-4500-201-12 on space heaters.

SHOWER EQUIPMENT MAINTENANCE

Shower personnel must perform daily operator, PMCS on shower equipment. TM 10-4510-206-14 gives detailed equipment maintenance information. When shower equipment operators find faults they cannot correct, they list them on DA Form 2404 and send the form to unit maintenance. They must inspect the equipment regularly, so that they can find defects and correct them before serious damage or equipment failure results. The shower equipment maintenance checks and services are given below.

Water Pump Maintenance. Shower personnel perform the following maintenance checks and services:

- *Before operations* --

  •• Check the pump for possible damage.

  •• See that the drain port is closed.

  •• Inspect the strainer to be sure it is clean, has no leaks, and is properly positioned.

- Check power cord to see that it is properly connected and has not cracked.
- Check the hoses for twists or kinks in connections.
- See that the suction lift is not more than 15 feet.

- *During operations* --
  - Inspect the hoses for leaks and kinks in connections.
  - See that the strainer is still properly positioned.
  - Recheck the 15-foot distance of suction lift.

- *After operations* --
  - Inspect the water line strainer for dirt, breakage, and leaks.
  - Inspect the suction strainer to see that it is not dirty or clogged.

Five-Kilowatt or Three Kilowatt Generator Set Maintenance. Shower personnel must perform the following maintenance checks and services:

- *Before operations* --
  - Check the fuel tank to see that it is full and does not leak.
  - Check the oil level and add oil if the level is low.
  - Check the air cleaner for dirt.
  - Inspect the fuel filter for water, dirt, and cracks.
  - Check the power cord cables for loose or broken connections and for cracked insulation.
  - Inspect all meters for broken glass or loose mountings.
  - Check the starter rope and replace if worn or frayed.
  - Check the fuel line for loose connections.

- *During operations* --
  - Check the meters for cracked glass, loose mountings, and faulty operation.
  - Check for overheating or excessive vibration.

- Check for fuel leaks.

- *After operations* --

  - Inspect fuel lines, connections, fuel tank, and filter.

  - Check instruments for broken lenses and loose connections.

  - Inspect wiring to see if insulation is cracked or worn and if connections are loose.

CAUTION

Before servicing any part of the generator set, personnel must make sure the engine has been turned off.

Water Heater Maintenance. The shower equipment operators must perform the following maintenance checks and services:

- *Before operations* --

  - Check the nozzle and electrode holder on the burner for secure mounting. Ensure that connections on the lead assemblies are secure.

  - Ensure that the blower shutter operates freely and check the blower mounting.

  - Check the line connections on the fuel pump. Prime the pump and check it for leaks.

  - Be sure their are no broken lenses on any instruments and that connections are secure.

  - Check motor rotation of pump and burner. If the motor rotation is incorrect, change or reverse the motor's two power leads.

  - Check the operation of all valves and controls.

  - Be sure the exhaust duct is properly connected and without any breaks or leaks.

- *During operations* --

  - Check sight glass for steady flame.

  - Check hoses for water leaks and to see that they are not twisted.

- Watch the exhaust duct to see that the exhaust is a light haze. If the exhaust is black, adjust the shutter to get proper intake of air.

- Be sure that valves and controls are operating properly.

- Check the fuel lines to see that they are not leaking.

- *After operations* --
  - Inspect the exhaust duct for damage.

  - Check the water hoses for obstructions.

  - Check the glass on the instruments for breakage or loose connections.

  - Make certain the blower and motor are mounted properly and that the shutter operates freely.

  - Check the lead assemblies for source connections.

  - Check the nozzle and electrode holder for secure mounting.

  - Drain all water from the system to prevent freezing.

Fuel Drum Maintenance. Shower unit operators must perform the following maintenance checks and services:

- *Check fuel drum for* --

  - Fuel level in drum.

  - Fuel leaks.

- *Inspect the fuel lines for* --

  - Proper connections.

  - Any leaks.

Shower Stand Maintenance. The shower unit operators must perform the following maintenance checks and services:

- *Before operations* --

  - Ensure shower heads are not dirty or clogged. If so, they are cleaned.

  - Check the connections of the supply hoses to ensure they are secure and hoses are not twisted or knotted.

- *During operations* --

    - Check the flow of water to see that there is a steady, even stream.

    - See that the water drains downstream from the suction (intake) hose.

- *After operations* --

    - Check shower heads to see if they need cleaning.

    - Check hoses for leaks.

Fire Extinguisher. The shower unit operator checks the fire extinguisher to be sure the seal is not broken and the gage has the proper charge. Personnel check the tag on the extinguisher every 30 days to be sure the inspection is up-to-date.

SHOWER SERVICES

The shower point is staffed with at least three shower personnel. Supported units must provide their own guards to protect their personnels' valuables and weapons. The following shower implementation measures are taken.

Unit Schedules. Each supported unit receives a scheduled time for SLCR operations to ensure that services are provided in an orderly manner, meets METT-TC conditions, and coincides with supported units' availability. Female soldiers are scheduled separately from male soldiers. After their showers, the supported soldiers must take their clothing to the laundry turn-in point.

Shower Traffic Flow. Soldiers who are to receive showers follow these steps:

- Each soldier brings their soiled laundry in their laundry bag with a filled-in DA Form 2886 (Figure 3-8, page 3-33), plus a set of clean clothing to be changed into after showering. (NOTE: On DA Form 2886, the soldier will make a note to identify what items, how many, and required repair to be taken.) When METT-TC does not allow this, commanders may arrange for its unit supply representative to take the soldiers' soiled clothing to the laundry point. With the help from supported unit personnel, the soldier turns over their laundry bag of soiled clothing and set of clean clothing. Their laundry bag and clean clothing are left in the undressing/dressing tent in a reserved area. Each soldier gets a receipt or a claim check for their laundry bag and set of clean clothing so that each soldier can get back their own clothing after showering. Supported unit personnel will provide guards to protect individuals' valuables, dirty laundry, and clean clothing while soldiers are showering.

- Prior to turning in one's laundry bag and set of clean clothing, the soldier will start at the boot cleaning area to scrape any mud and dirt from his boots. See Figure 3-4 for the shower processing area setup.

- The soldier leaves his helmet, valuables, and boots in the undressing/dressing reserved area. (It's advised to give each soldier a numbered tag to be used for a receipt or claim check. This "claim check" is the same for one's "receipt" (return) of their laundry bag and set of clean clothing. Supported unit must provide the necessary "claim checks." Supported unit will also have their own personnel to process this action, if needed.)

LAUNDRY LIST FOR MILITARY PERSONNEL
For use of this form, see AR 210-130; the proponent agency is ODCSLOG.

DATE: 22 Jan XX

LAST NAME–FIRST NAME–MIDDLE INITIAL (Please print): WALLACE, LARRY F.

GRADE	MARK	BUNDLE NUMBER
E4	W-6512	A9

COMPANY: Co V, 2d QMS BDE

ORGANIZATION	STATION
ARMY	Fort LEE, VA

BUNDLE				HANGER			
QTY	ARTICLE	IN	OUT	QTY	ARTICLE	IN	OUT
1	BAG	✓	✓	1	COAT, BDU	✓	✓
1	BELT	✓	✓		COAT, UTILITY		
	BRASSIERE				JACKET, FIELD		
	CAP, BDU				SHIRT, SS		
2	CLOTH, WASH	✓	✓		SHIRT, LS		
	COAT, PAJAMA				SKIRT		
3	DRAWERS	✓	✓		SLACKS		
	DRAWERS, WOOL			2	TROUSER, BDU	✓	✓
2	HANDKERCHIEF	✓	✓		TROUSER, JEAN		
	PANTIES				TROUSER, UTILITY		
3	SHIRT, T	✓	✓	(Note: 1 BDU			
	SHORTS, R&A			Trouser needing			
	SLIP			left-inside			
	SOCKS, BLACK			leg seam resewed)			
	SOCKS, WOOL						
	TROUSER, PAJAMA						
2	TOWEL, BATH	✓	✓				
	TOWEL, HAND						

THE STATEMENT BELOW MUST BE READ AND SIGNED BY PATRON

The Government will receive and consider claims from patrons for loss of or damage to the items listed herein if such loss or damage occurs while the items are in the possession of the Government. Claims should be submitted by the patron to the laundry officer as soon as practicable and be accompanied by the laundry slip. Experience indicates that missing items are most often recovered if claims are submitted within two weeks after the patron becomes aware that items are missing.

The contents herein do not exceed authorized piece limitations and are the personal property of the undersigned.

SIGNATURE OF PATRON: Larry F. Wallace

LISTER	CHECKER	MARKER	BUNDLER
RCS	JB	JB	MM

DA FORM 2886 FEB 82 — EDITION OF JAN 77 IS OBSOLETE — BUNDLE COPY

Figure 3-8. Annotated copy of DA Form 2886 (Laundry List for Military Personnel)

NOTE: The unit being serviced provides a person(s) to issue and collect the receipts/claim checks.

- Each soldier brings a 2-ounce cake of soap for washing. Soap is the responsibility of the individual soldier.

- The soldier then enters the shower area. He may remain under the shower for as long as seven minutes. He may leave his used soap in the available disposal can or other designated container. Shower personnel will keep a special logbook to account for the number of soldiers allowed to enter the shower area at a given time. This cumulative data is transferred to DA Form 4766-R. See Figure 3-9 below.

BATH AND CLOTHING EXCHANGE ACTIVITY RECORD

For use of this form, see FM 10-280; the proponent agency is USA TRADOC

☐ Daily ☒ Weekly ☐ Monthly
(Check appropriate block)

BATH POINT

ORG: 516th FSC 30th Sup & SVC Bn TEAM NO: Shower Team 3 LOCATION: CT 267336 DATE(S): 8-14 NOV 1995

Units Serviced	No. Men Processed	Time Started	Time Stopped	Equip Down-time	Reason
13th FB BN, 3D ART	492	0800 1300	1200 1700	———	———
HQ + HQ Co, 20th INF BDE HQ + HQ Co, 2D INF BN, 38th INF	432	0800 1300	1200 1600	———	———
Co A, 2D INF BN, 30th INF Co B, 2D INF BN, 30th INF	372	0800 1300	1200 1500	———	———
HQ + HQ Co, 3D INF BN, 30th INF Co C, 2D INF BN, 30th INF	463	0800 1300	1200 1600	———	———
Co A, 3D INF BN, 30th INF Co B, 3D INF BN, 30th INF	372	0800 1300	1200 1500	———	———
Co C, 3D INF BN, 30th INF HQ + HQ Co, 1ST INF BN, 30th INF	463	0800 1300	1200 1600	———	———
Co's A, B, C, 1ST INF BN, 30th INF	558	0800 1300	1200 1730	———	———

SUPPLIES

Items	ON HAND LAST RECORD	Amt Used	ON HAND THIS RECORD	Amount Required
SOAP, 2-OZ CAKE	6,000 CAKES	3,152 CAKES	2,848 CAKES	3,152 CAKES
FOOT POWDER, 1-OZ CAN	6,000 CANS	3,152 CANS	2,848 CANS	3,152 CANS

DA FORM 1 MAR 79 4766-R

Army-Fort Lee, Va. -8604-86-900-1

Figure 3-9. Sample of DA Form 4766-R (Bath and Clothing Exchange Activity Record), front side

- After showering and disposing of one's soap, the soldier returns to the dressing area to dry off.

NOTE: Soldiers are asked to furnish their own towels; this arrangement should be coordinated with the supported unit before it arrives.

- Before dressing, the soldier receives a hygiene inspection by medical personnel, especially looking for body lice. After this inspection, the soldier puts on his clean clothing and picks up his valuables, boots, helmet, and weapon(s), using his "claim" check, if used.

NOTE: If 5 percent or more of the unit members are infected with body lice, the entire unit goes to the delousing area to be deloused. If fewer than 5 percent are infected, personnel are issued appropriate medical disinfectant and are told to disinfect themselves as needed. They may also be told not to take showers for at least 24 hours.

RECORDS AND REPORTS

Higher headquarters usually requires each shower element to keep records on all activities and to submit reports either daily, weekly, or monthly. This need requirement is based on the following action and is recorded and reported on required documents stated below:

Reporting Requirement. The reporting cycle depends on the schedule set by the battalion.

Shower Activity Records. The section chief is responsible for obtaining activity records from each shower element, combining the figures, and submitting a consolidated report to higher headquarters. Copies of these records are kept with SLCR platoon headquarters and FSC headquarters. Shower data are reported on --

- *DA Form 4766-R*. This form (Figure 3-9) is used to report the activities of a shower point. See STP 10-57E14-SM-TG for the individual task on how to prepare this form.

- *Section records*. A shower element gives showers in 10-hour shifts. Schedules for the work must be prepared and posted. During the first hour of a shift, the shower element performs before-operation PMCS. After eight hours of providing shower service, shower personnel perform after-operation PMCS, refuel equipment, and complete its activity report.

DELOUSING SUPPORT OPERATIONS

Due to improved personnel hygiene training and practice over the years, and the absence of prolonged combat operations from static field positions (trenches, bunkers), there has been no documented requirement for mass delousing of US Army soldiers in recent history. Adherence to DA-established hygiene standards by soldiers, as outlined in FM 21-10, will render lice infestation a thing of the past. The risk of a mass delousing requirement for US Army soldiers is very small. Delousing of EPWs or civilian detainees may be handled as an ad hoc requirement directed by the corps or theater commander. If needed, it will be supervised by medical personnel and assisted by other CS and CSS personnel as appropriate. Delousing equipment will be maintained by the FSC. As the maintainer of the delousing equipment, the laundry and shower specialist of the FSC will train supported personnel how to set up, operate, and

dismantle the delousing equipment. Supported unit personnel will operate the delousing guns and refill delousing canisters. Delousing support operations take on the following execution requirement:

Identifying Delousing Need. Soiled clothing and dirty skin are good breeding grounds for lice. Lice often attach themselves and their eggs to body hair and clothing seams. They spread diseases by feeding on the blood of their victims. Since these diseases may be fatal, the victims must be protected from lice. Use the disinfectant agent recommended by the medical authorities.

Using the Delousing Outfit. When large numbers of personnel must be deloused, the delousing outfit is used. This outfit is shown in Figures 3-10, below, and 3-11 (page 3-37). It makes it possible to disinfect quickly both personnel and the clothing they are wearing. The portable delousing unit is mounted on a tubular skid frame. The accessory or storage box is mounted on top of the frame. The chief parts of the unit are the engine and the compressor. Function of each part is --

- *Engine*. The one-cylinder, gasoline-driven engine provides power to run the unit. The crankcase holds 2 pints of oil. The fuel tank holds 1 gallon of gasoline.

- *Compressor*. The compressor is powered by the engine. It provides a filtered flow of air to the manifold. The 10 hoses and delousing guns are attached to the manifold openings. The compressed air goes through the delousing guns at 25 PSI.

- *Accessory or storage box*. The accessory or storage box is held to the frame with locking clamps. The box contains the 10 hoses, 20 canisters, and 10 air guns that are used for disinfecting. Eleven operator face masks, the starting rope, and a dry chemical fire extinguisher are also stored in the box.

NOTE: A fire extinguisher is always available during operation of the delousing outfit.

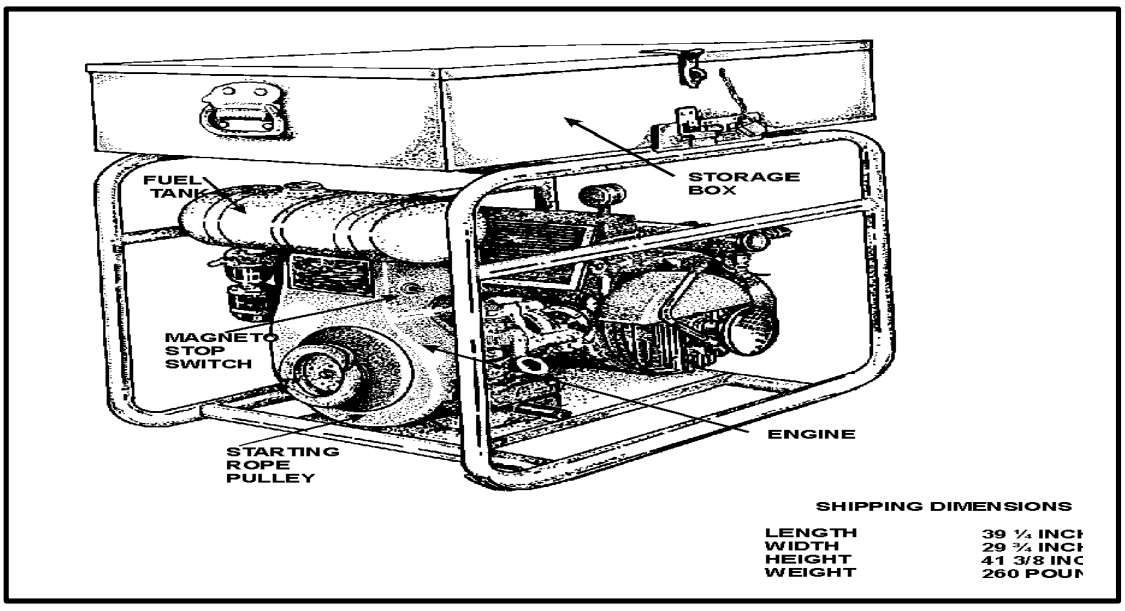


Figure 3-10. Delousing outfit (left front view)

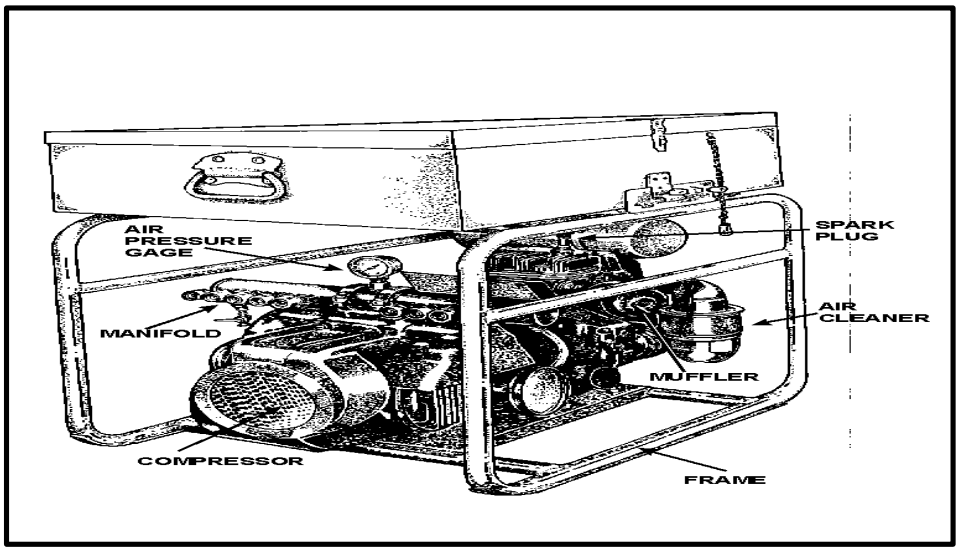


Figure 3-11. Delousing outfit (right rear, three-quarter view)

Delousing Procedures. Operators position the delousing outfit so that the exhaust is outside if a tent is used. They allow space for ventilation around the delousing unit, because of the heat it generates. It takes 11 men to operate the outfit; 10 operate the dusting guns, and 1 person refills the canisters. Members of the unit that are receiving the service man the guns and refill the canisters. Delousing actions may consist of --

Power Fumigating. Delousing guns will provide about a 2-gram dose of disinfectant with each pull of the trigger. It takes only a moment of pressure on the trigger when the power fumigator is being used. When power fumigating soldiers, operators will perform the following steps.

- Tell a soldier to loosen collar and belt and to stand holding hat or helmet in hand as shown below in Figure 3-12. The figure shows only places where the soldier would be power fumigated.

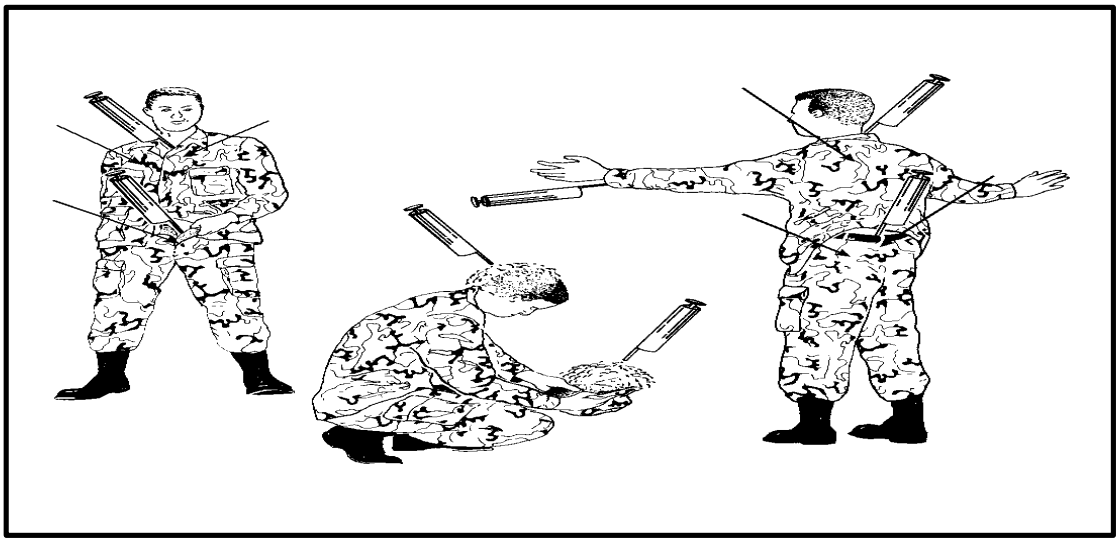


Figure 3-12. Areas for delousing personnel

- Fumigate the head first. One pull of the trigger is enough. The soldier should then massage his head so that the disinfectant is evenly distributed throughout his hair.

- Dust inside of the hat and/or helmet.

- Insert the gun into the right sleeve next to the skin with the arm held out to the side at shoulder height and direct one pull of the trigger toward the armpit. The soldier being disinfected should cover his face and turn their head away from the gun.

- Insert the nozzle in the front of the shirt at the collar and direct one pull of the trigger to the right armpit, one to the stomach, and one to the left armpit. The operator stands in front, and the soldier leans forward with his head tipped back.

- Insert the nozzle in the front of the trousers next to the skin and direct one pull of the trigger toward the right leg, one between the legs, and one toward the left leg.

- Insert the nozzle at the collar in the back of the shirt. Direct one pull of the trigger toward the right shoulder, one to the small of the back, and one toward the left shoulder. The operator should stand in front of the soldier. The head of the soldier should be bent on his chest. The operator must ensure the collar itself is fumigated, because lice are often found there.

- Insert the nozzle in the back of the trouser next to the skin and direct one pull of the trigger towards the right leg, one to the center, and one to the left leg.

Hand Fumigating. When personnel use the hand fumigator (duster), only two full strokes on the fumigator are needed. Operators learn the exact timing through experience.

Delousing Outfit Operational Setup Instructions. Before operators start the delousing outfit, they make sure it is leveled. They use wooden blocks if leveling is needed. When they fill the fuel tank, they provide a metal-to-metal contact between the container and the fuel tank to keep sparks from forming when the gasoline flows over the metal surface. Operators must also take the following actions:

- Remove the hoses, fumigating guns, canisters, and face masks from the accessory or storage box.

- Connect the 10-hose assemblies to the 10 connectors on the air manifold.

- Fill the fumigating guns three-fourths full, or to the line inside the canister, with the disinfectant agent. Connect the guns to the hoses and listen to the clicking sound to show that the connection has been made.

- Attach the canisters to the guns.

- After these preliminary steps are completed, operators follow the starting instructions IAW TM 10-4230-203-14. Delousing operations begin when the air pressure gage reads 25 PSI.

3-11. **NBC DECONTAMINATION**

As previously stated in Chapter 1, Section I, the FSC *will not* provide laundry decontamination support and showers are not required for troop decontamination of chemical and biological agents. However, for radiation decontamination, a shower may or may not be needed. If MOPP gear is used against NBC fallout, no showers will be needed. However, if MOPP is not used and personnel are contaminated in the hair and on the skin, showering will be needed to remove this contamination fallout. When the FSC or its SLCR section/team is to provide required decontamination support, then, this application imposes the following mission objectives.

Set Up NBC Shower Operations. Setup of a shower area for contaminated personnel effected by radiation fallout will be located in an area outside the normal SLCR section's/team's operational area. The FSC or shower element of the SLCR section/team will coordinate through or be directed by S3 operations office for a shower decontamination location. At the same time, the S3 will coordinate for medical personnel assistance and with the nearest chemical support element. Chemical personnel, using radiacmeter(s), will monitor radiation level at the shower decontamination site and advise on disposal of contaminated clothing, equipment, and textiles. Medical personnel will carry out required and necessary radiation treatment care. Prior planning for such an occurrence as this should be set up in the FSC's and SLCR sections'/teams' SOP/TSOP. It includes the appropriate chain-of-command channels and EPA guidelines to implement decontamination fallout operation, whether it be a special mission tasker or a self-imposed unit responsibility. The following decontamination procedures and actions should be started by shower team personnel.

- Shower personnel wear appropriate MOPP gear in handling personnel needing shower decontamination; this information should be identified in the FSC's and SLCR sections'/teams' TSOP.

- DA Form 4766-R (Figure 3-9) is used to identify supported units and record the number of personnel processed through the shower decontamination site.

- Shower personnel will destroy washing soap and towels used in shower operations. Additional measures to be taken encompass the following:

    - The most common ways to dispose of heavily contaminated items are by burning or burial.

    - Coordination by the shower personnel through FSC headquarters element in this operation must get permission from the S3 office before burning any contaminated articles.

    - Since a decontamination element will be in the area assisting in monitoring radiation level, they may be tasked to help in the disposal operation. FSC and SLCR section/team should develop this action into its TSOP. More information on NBC avoidance, protection, and decontamination procedures can be found in FMs 3-3, 3-4, and 3-5.

Disposal of Contaminated Shower Water. Water used for shower decontamination contains contaminated matter. This water must not be allowed to drain into the clean water supply reservoir. To dispose of this contaminated wastewater, a drainage pit or interlocking drainage pits should be constructed by using engineer support personnel to prepare disposal area(s). Shower personnel are not able to do this construction because they do not have the equipment for this job. The following wastewater measures to be taken are --

- *Coordinate* with higher headquaters for disposal. Location of the wastewater must be reported to higher headquarters, and EPA regulations and local policy guidelines must be followed. EPA guidelines and restrictions should be set up in the FSC's and SLCR sections'/teams' TSOP.

- *Identify* wastewater site. The location of the wastewater site must be marked with the appropriate NBC markers shown below in Figure 3-13.

- *Implement* wastewater disposal application. Also, contaminated wastewater (in conjunction with the field service shower equipment) may dispose of wastewater into a collapsible water tank(s) or pumped into tanker truck(s). Responsibility for the arrangement for tanker truck(s) for wastewater disposal will be with the headquarters, FSC.

NOTE: Decontamination of shower equipment will be processed by the decontamination element advising and assisting the shower element, as authorized through the chain of command.

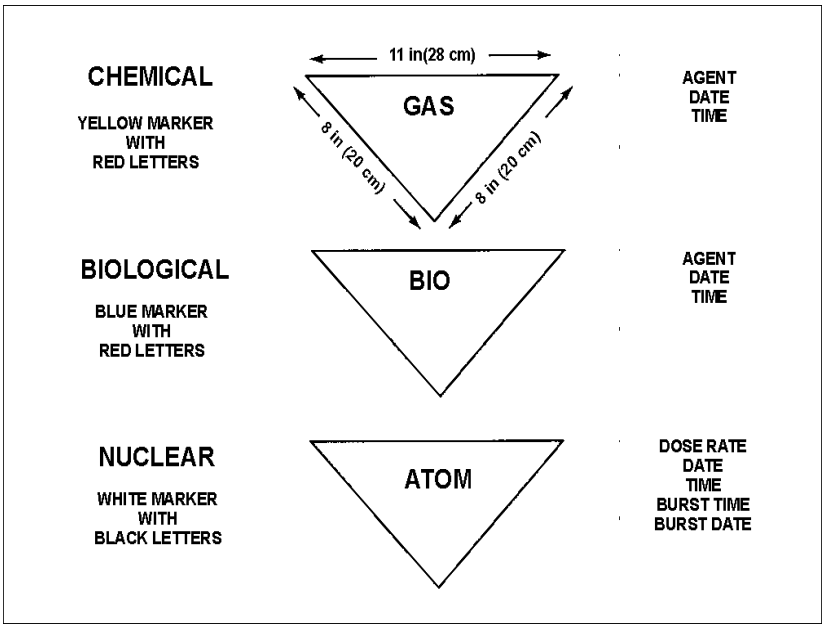


Figure 3-13. Markers for contaminated land areas

Section III

LAUNDRY SECTION

3-12. ORGANIZATION FOR OPERATIONS

In the SLCR section/team, laundry personnel will consist of an appropriate number of personnel to provide support to a brigade or division/non-division units, using the various M-85 series mobile laundry units. S/L elements of the SLCR section/team may also be tasked organized to accommodate a particular strength support requirement.

Composition of Laundry Element. Laundry service allows soldiers to meet The Surgeon General's standard of changing clothes at least every seven days and permitting the soldier to turn in up to 15 pounds of dirty laundry per week. This increased capability can be handled with the fielding of the LADS with its innovated reduced water usage technology. One LADS will replace every two mobile laundry units; for example, two LADS (machines) mounted on a flatbed trailer will replace four M-85 series laundry units.

Performance of Laundry Element. The laundry element will --

- Process and deliver clean laundry to the supported unit within 24 hours, or at a mutually acceptable time and location set by the laundry personnel and supported unit.

- Develop contingency plans in the event supported units relocate or METT-TC conditions change mission operations. Contingency plans may have the supported unit's supply NCO (or other designated person) deliver soil laundry, pick up clean laundry, and issue clean laundry to the soldier when METT-TC conditions are favorable (or allowable).

- Coordinate closely with supported unit(s) to set up detailed instructions to supported soldiers on laundry service procedures.

- Provide limited laundry support for selected seasonal, special purpose, and OCIE. This is in the event of a light work load in laundry requirements for personal clothing. Items in these categories, however, will be turned in through normal supply channels to the organization in the rear area designated responsible for contracting or arranging HNS for laundry support.

LAUNDRY SERVICES

As soldiers turn in their soiled clothing, they must identify clothing needing repair. All soiled clothing is cleaned. Items needing repair are sent to the fabric repair area. Clean clothing and repair items are turned in to the shipping area. In this area, repaired items are matched up with the individual's (or unit's) cleaned laundry and returned to the individual soldier for pickup or unit pickup. This depends on arrangements worked out with the supported unit(s) or METT-TC conditions. Information on clothing

repair service will be explained in Section IV of this chapter. The following data described next supports laundry services for personal laundry, the individual "wash and return" policy and the requirement, if tasked, to support bulk laundry or organizational items. All emphasis by the FSC is, however, to provide individual laundry service support by its SLCR sections/teams.

Types of Laundry. The three types of laundry are bulk, organizational, and individual. The method of processing laundry depends upon the type. See Table 3-3 (page 3-43) for a description of typical items sent to mobile field laundry for cleaning. The following is a description of each laundry type.

Bulk Laundry. Bulk laundry consists of clothing and textile items that are washed for return to stock or repair. If tasked, the mobile field laundry element sorts bulk laundry by color and type of fabric before washing it. If needed, it separates the laundry by size after washing. These items will be washed and returned to its organization.

Organizational Laundry. When a unit or organization sends all of its laundry to the mobile field laundry element in bulk form, the laundry is called organizational laundry. This kind of laundry is handled differently than bulk laundry. It is washed separately so that the same items are returned to the unit that sent them to the mobile field laundry. Organizational laundry differs from individual laundry in that the mobile field laundry element is not responsible for keeping each soldier's clothing separate when it is sent as part of an organizational work load.

NOTE: Bulk and organizational laundry support is a mission of the laundry and renovation company. However, since this company is unresourced, this mission may be assumed by the FSC as METT-TC conditions dictate and/or receipt of directions from higher headquarters. A likely "scenario" will have bulk and organizational laundry being done through HNS or by contracting elements. Again, METT-TC circumstances and directions from higher headquarters will set up the requirements for this mission.

Individual Laundry. Individual laundry service is like commercial service. The mobile field laundry element returns each soldier's clothing to him after it is washed and dried (and repaired). It also uses self-stamped numbered mesh bags and/or Army or Air Force pin system to identify each soldier's laundry and to ensure that the soldier's clothing is returned to him.

Planning Laundry Work Flow. The laundry NCO plans the work flow based mainly on individual bundles (or bulk or organizational laundry support, if FSC is tasked with this mission). His work plans are based on these actions being --

- Supported personnel or unit delivers soiled laundry to the receiving area.

- Laundry personnel with required help from supported unit at the receiving area will place the individual's soiled laundry into identified mesh bags. One bag is used for socks, T-shirts, and underwear, and the other for his BDUs and laundry bag.

NOTE: In bulk operations, the laundry is classified by color and type of fabric, and identified IAW DA Form 1974. See Figure 3-14 (page 3-44). Bulk laundry will not be placed into mesh bags for washing or drying. Bulk laundry will be kept together throughout the laundry process from the receiving area through the shipping area.

Table 3-3. Typical items of individual or bulk laundry sent to mobile field laundry

Type of Facility	Items Laundered
Hospital	• Bed linens (sheets, pillow cases, mattress covers, and blankets) • Towels • Operating gowns • Pajamas • Robes • Shower shoes
Individual/bulk laundry facility	• Socks • Underwear • Field uniforms • Towels
Clothing and textile renovation facility	• Clothing • Blankets • Mattress covers • Belts • Canteen covers • Shelter halves • Combat packs

LAUNDRY LIST
(MEDICAL TREATMENT FACILITY AND ORGANIZATION)
For use of this form, see AR 210-130; the proponent agency is DCSLOG

DATE: 10 Apri/ 19XX

FROM (Organization): 2294th FLD SVC Co, APO AP 96259-0552

TEL EXT:

TOTAL PIECES: 2,440 (2,450)

QTY	ARTICLE	QTY	ARTICLE
	Apron		Napkin
	Bag, barrack or duffel		Pad, bed
	Bag, laundry		Pants, pajama
	Bag, sleeping		Pantsuit, top
	Bathrobe, adult		Pantsuit, bottom
	Bathrobe, infant		Pillow
	Blanket, cotton		Pillowcase
	Blanket, crib		Parka
400	Blanket, wool		Rag, (lb)
	Cap, food handler		Sheet, bed
410	Cap, field		Sheet, fitted
	Case, bag, sleeping		Shirt, scrub, OR
	Cloth, wash		Shirt, sweat
	Coat, convalescent		Shirt, wool
	Coat, food handler		Shirt, utility
	Coat, pajama		Shoes, canvas
	Coat, operating		Shoes, athletic
	Coveralls		Smock, physician
	Cover, mattress	410	Socks, (pr)
	Cover, mayo		Spread, bed
	Cover, helmet		Tablecloth, lg
	Curtains, shower		Tablecloth, sm
	Drapes (sq. yd.)		Towel, bath
	Drapes, tie (pr)		Towel, hand
(410)	Drawers 400	410	Trousers, field
	Dress, hospital, white		Trousers, food handler
	Gloves, (pr)		Trousers, OR, green
	Gown, operating		Trousers, sweat
	Garment, surgical		Trousers, poly, wh
	Hood		Trousers, utility
	Jacket, field		Uniform, nurse
	Liner, jacket	410	Undershirt
	Mat, bath		Wrapper
	Mop		

NOTE: Corrections to DA Form 1974 are initiated in the same manner as in DA Form 2886. Circle the incorrect quantity in red, and beside the article description, write the correct quantity. The incorrect figure in the TOTAL NO. OF PIECES block is circled in red, and the correct figure is inserted.

FOR THE LAUNDRY	FOR THE ORGANIZATION
SIGNATURE (Receiver): Roland A. Long	SIGNATURE (Delivered by): SFC Walter B. Jess
SIGNATURE (Shipper): James E. Booker	SIGNATURE (Pickup by):

DA FORM 1974, JUN 86 EDITION OF OCT 79 IS OBSOLETE

*U.S. GPO: 1990-256-821

Figure 3-14. Sample of DA Form 1974 (Laundry List (Medical Treatment Facility and Organization))

- Laundry personnel put the mesh bags in canvas laundry baskets to take to the washing machines. Each basket holds about one 60-pound washer load. Laundry personnel place the laundry mesh bags in the washing machine for cleaning; then, the extractor to remove most of the moisture.

NOTE: A daily, weekly, or monthly laundry production report will be sent to the battalion S4 office through appropriate chain-of-command channels. Remember, retain all necessary reports, for administrative accountability.

- Laundry personnel place the laundry in the dryer-tumbler. Drying time and temperature depend on the fabric type.

- Laundry personnel place the dry laundry mesh bags into the canvas baskets to take to the shipping (pickup) area.

- Laundry personnel sort or separate the laundry from mesh bags at the shipping area and pack it back into the individual's laundry bag(s) for individual (or unit) pickup. Items needing repair before being returned to individual's laundry bag(s) are processed by fabric repair specialists.

LAUNDRY PROCESSING PROCEDURES

To implement the individual laundry "wash and return" policy (or supporting a bulk or organizational laundering tasked mission), necessary procedures must be taken. To do this, take these steps --

Set Up Laundry Turn-In Schedules. Before setting up any new laundry turn-in schedules, personnel should review historical records, such as checking previously completed DA Forms 4765-R. See Figure 3-15 (page 3-46). These records will provide the following information:

- Number of operating personnel (by job title) processing laundry during each shift.

- Number of hours the shift operated.

- Amount of laundry processed under the previous records. This includes bundles from individuals and pieces from organizational, salvage, and hospital units.

- Types and amounts of supplies used.

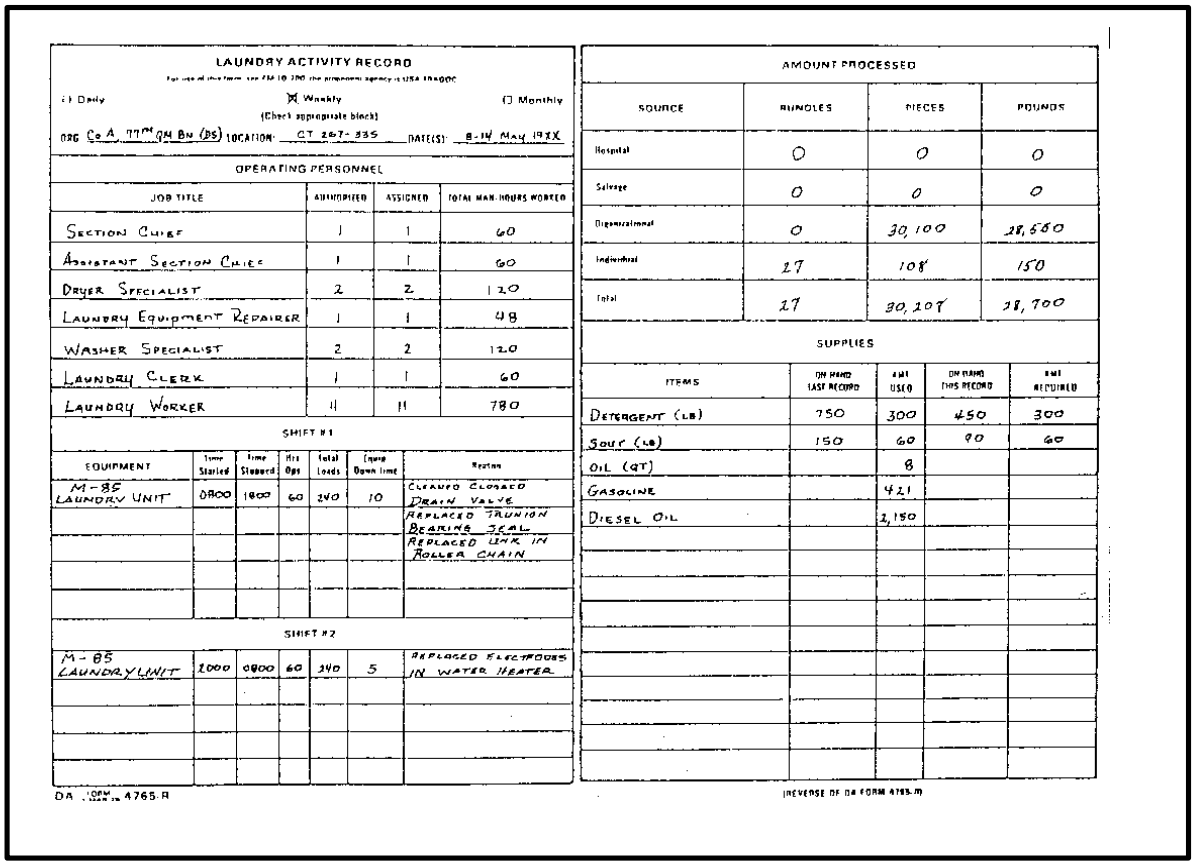
Use DA Form 2886. This form is used for processing individual laundry. See Figure 3-8. The form is made up of three copies separated by carbon paper. The disposition of each copy is as follows:

- The *first copy* is the bundle copy. The soldier, submitting his laundry, fills in this copy, completing the heading, lists the quantities of each item he wants laundered, and puts the copy with his laundry bag. Any item needing repair (sewing) will be identified as a NOTE at the end of the item description area. The note should state what needs repairing and how many.

- The *second copy*, the hanger copy, is used only when outer garments, such as field jackets, will be put on hangers at the laundry. If the soldier is not going to use this copy, he removes it.

NOTE: This "second" copy is usually not used in a field environment.

- The *third copy*, the patron's copy, is kept by the soldier who sends the laundry items.



LAUNDRY ACTIVITY RECORD

For use of this form, see FM 10-350; the proponent agency is USA TAGOC

( ) Daily (X) Weekly ( ) Monthly
(Check appropriate block)

026 Co A, 77TH QM Bn (DS) LOCATION: CT 267-335 DATE(S): 8-14 May 19XX

OPERATING PERSONNEL

JOB TITLE	AUTHORIZED	ASSIGNED	TOTAL MAN-HOURS WORKED
Section Chief	1	1	60
Assistant Section Chief	1	1	60
Dryer Specialist	2	2	120
Laundry Equipment Repairer	1	1	48
Washer Specialist	2	2	120
Laundry Clerk	1	1	60
Laundry Worker	11	11	780

SHIFT #1

EQUIPMENT	Time Started	Time Stopped	Hrs Ops	Total Loads	Equip Down Time	Remarks
M-85 Laundry Unit	0800	1800	60	240	10	Cleaned Closed Drain Valve
						Replaced Trunion Bearing Seal
						Replaced Link in Roller Chain

SHIFT #2

M-85 Laundry Unit	1000	0800	60	240	5	Replaced Electrodes in Water Heater

DA FORM 4765-R

AMOUNT PROCESSED

SOURCE	BUNDLES	PIECES	POUNDS
Hospital	0	0	0
Salvage	0	0	0
Organizational	0	30,100	28,550
Individual	27	108	150
Total	27	30,208	28,700

SUPPLIES

ITEMS	ON HAND LAST RECORD	AMT USED	ON HAND THIS RECORD	AMT REQUIRED
Detergent (LB)	750	300	450	300
Soap (LB)	150	60	90	60
Oil (QT)		8		
Gasoline		421		
Diesel Oil		2,150		

(REVERSE OF DA FORM 4765-R)

Figure 3-15. Sample of DA Form 4765-R (Laundry Activity Record)

Check and Mark Individual Bundles. When individual bundles of laundry are received, personnel must check and mark each item. This process depicts the following performances:

Checking. When individual laundry comes into the receiving area, a checker empties one laundry bag at a time on a table. He removes the DA Form 2886 and checks each item to be sure the listing is correct. If he finds an incorrect listing, he circles the quantity on the list and writes the correct quantity beside it in red pencil. He puts a check mark in red in the IN column beside each correct entry. He writes his initials in the CHECKER block at the bottom of the form.

NOTE: In the QUANTITY and IN blocks, all corrections, check marks, and initials should be in red. The soldier initiating the change places his initial in red in the MARKER block.

Marking. Identified individual laundry items will be placed into self-stamped mesh bags. Laundry going into mesh bags with a drawstring will be pinned, using the standard Army block letter/number pin set to the outside of the bag. Laundry going into mesh bags without a draw-string will be pinned using the US Air Force 5-inch pin system. See TO 50D1-3-1 for US Air Force laundry system operations. In the BUNDLE NUMBER block of DA Form 2886, the laundry personnel write in red the identifying mesh bag number or the block letter/number pin from the pin tray, if this is being used. The mesh bag number or block letter/number pins used are identified in DA Form 2886 statement block (THE

STATEMENT BELOW MUST BE READ AND SIGNED BY PATRON). As a protective measure, each soldier should mark all their clothing items on the collar and waistband with their SSN.

NOTE: Organizational laundry will use the standard US Army block letter/number pin system. Laundry personnel pin each item of clothing as noted in Table 3-4.

Table 3-4. Proper locations for marking pins on organizational laundry

Item	Place Pinned
Caps	• In sweatband
Fatigue and field jackets; shirts	• In front near bottom of button side
Handkerchiefs; towels, washcloths	• Together as close to a corner as possible
Socks	• Together at top
Trousers and drawers	• In fly on button side
Undershirts	• At bottom in back

Classifying Items of Individual Laundry. As stated before, the soldier's soiled clothing will be classified according to color and materials, and placed into two mesh bags. Mesh bags will be placed into separate canvas baskets and taken to the laundry trailer unit. A full basket holds about one washer load. The soldier's soiled laundry will be separated into the two mesh bags as follows:

- White cotton items and colored cotton items (for example, towels, washcloths, and underwear) are placed in one mesh bag.

- Wool items and durable-press items (for example, socks and BDUs) are placed in the second mesh bag.

Process Organizational and Bulk Laundry. As discussed in Chapter 1, Section II, the laundry and renovation company, GS, is to receive, classify, laundry, renovate, and temporarily store clothing and lightweight laundered textiles. This company, then, will process organizational and bulk laundry items. (As stated earlier, because this unit is presently not resourced, the FSC may be tasked with this mission, or it may become a HNS or contractor mission.) Each process is described next.

Organizational Laundry Processing. Organizational laundry brought in by a unit has usually been separated into bundles of like items. For example, all the field jackets may be in one bundle and all trousers in another. A checker verifies the DA Form 1974. See Figure 3-14. He makes sure all of

the items have been received. When like items from different units are laundered, the section chief makes sure that each unit's items are processed separately. He does this to be sure that each unit gets its own clothing back.

Bulk Laundry Processing. Bulk laundry items that are to be returned to stock in a hospital or a renovation and textile facility are not marked. Laundry personnel sort bulk laundry items into wool and cotton loads. Then they separate each of these classes into white and colored items.

Wash the Load. Washing removes soil and dirt from clothing and textiles. The washing process consists of sudsing, rinsing, and souring. See Appendixes E and F, respectively, for washing formulas and dry weights of standard clothing items. Washing terms are explained in the Glossary for clarification.

Use Washing Formulas. Washing formulas are listed in Appendix E. These formulas give the following data for --

- Number of sudsing operations; the amount of water, detergent, and other additives needed; the time required; and the water temperatures for each operation.

- Number of rinsing operations, the time required, the amount of water, and the water temperature.

- Amount of sour to be added, if needed.

- Methods to be used for restoring water-repellency; mothproofing woolen items; and, laundering durable press garments, white cotton polyester uniforms, and white arctic snow camouflage uniforms.

Extract the Load. Extracting is the process of removing water from clothing and textiles. See TMs 10-3510-209-24, 10-3510-220-10, and 10-3510-222-10 for extracting operations; this processing procedure depends on with what (TOE) M85-series mobile laundry unit you are operating.

NOTE: Laundry wastewater is disposed of by emptying downstream away from intake operations with coordination approval from local EPA. If wastewater cannot be emptied into a stream, it can be drained into a sump pit or pumped into a 3,000-gallon collapsible fabric tank to be hauled away for disposal. Disposal coordination should be set up during laundry set-up operations through the S-3 office. Laundry equipment maintenance is done between shift operations. See TMs 10-3510-209-10, 10-3510-220-10, and 10-3510-222-10 for these required procedures.

Process Finished Laundry. After the laundry has been washed and dried, it is taken to the shipping area to be processed for pickup by the individual supported soldier (or delivered to the unit, as dictated by METT-TC conditions). Processing actions for individual, organizational, and bulk laundry are as follows:

Processing Finished Individual Laundry: A checker takes the DA Form 2886 out of the file and uses chalk to write the mesh bag number or the pin tray numbers from the forms on the sorting table. He sorts the clean laundry and places all garments and laundry with the same mesh bag number or letter and pin tray number beside the corresponding letter and number on the sorting table. He counts the number of each type of garment and checks the count against that shown on the form. If everything checks out, he (removes the pin from mesh bag, if used,) puts the laundry in the laundry bag. He puts his initials in blue in the BUNDLER block, located at the bottom of DA Form 2886 if the bundle is complete. He ties the form to the top of the laundry bag with the drawstrings.

Processing Finished Organizational Laundry. When a laundry section/team handles laundry for only one unit, its personnel are not required to sort the finished laundry. They check the laundry for quantity and place it in containers marked with the unit name. If unit "lots" of less than a washer load are washed together, the checker must sort the items carefully so that each unit receives the same items it turned in initially.

Processing Finished Bulk Laundry. Resizing is the only processing needed for finished bulk laundry. Methods for resizing clothing are given in Appendix G. Resizing is needed only when a laundry section/team is supporting a clothing and textile maintenance or hospital facility.

OPERATING SUPPLIES AND SPECIAL SUPPLIES

Appendix E describes supplies kept on hand at the SLCR section/team site, especially the laundry element, and special supplies needed to decontaminate radioactive clothing, treat clothing for water, or mothproof woolens. Requirements for operating supplies is based on --

NOTE: Mesh bags have been added to CTA 50-970 and can be procured for laundry use. The purpose of the mesh bag system is to allow a more sanitary means for handling soiled laundering and to reduce the loss of individual laundry.

Determination of Supplies Needed. The quantity of supplies needed for the mobile field laundry services is based on the quantities used in past operations or missions. These vary according to the local conditions. If there are no production records for laundry personnel to use, then they use the number of persons or units that the laundry is to support with laundry service to estimate the supplies they need. A mobile laundry element that handles four washer loads an hour uses 11 ounces of detergent and 2 ounces of sour per washer load. If the SLCR section/team operates in two 10-hour shifts each day, it will require the following supplies for 15 days of operation:

- Detergent, laundry powder -- 825 pounds.
- Sour, laundry -- 150 pounds.

Establish Laundry Records and Reports. A mobile field laundry element in a combat zone must send information to its higher headquarters on its operations. Use the following forms to report this information.

- DA Form 2886, Figure 3-8, is used for laundry done on an individual basis.
- DA Form 1974, Figure 3-14, is for organizational or bulk laundry service.
- DA Form 4765-R, Figure 3-15, is used to show the daily, weekly, or monthly activities of a mobile field laundry section or team. The report gives the following information on laundry operations:
  - •• Total man-hours worked.
  - •• Operation data on each shift and total production of the SLCR section/team.
  - •• Data to provide supply personnel with information they need to keep enough repair parts and operating supplies on hand to ensure efficient laundry operations.

- Data to help the commander when he prepares his monthly command reports.

Section IV

CLOTHING REPAIR AND LIMITED, LIGHTWEIGHT TEXTILE REPAIR SECTION

ORGANIZATION FOR OPERATIONS

Clothing and limited, lightweight textile repairs are performed by the SLCR section/team in support of S/L operations. This CR element will need at least four to five fabric repair specialists, one or two inspector/classifier of clothing and textiles, and a section NCO. The CR element will be further subdivided into two 10-hour shifts or longer to support S/L services. Repairs are limited to individual clothing and limited, unit lightweight textile repairs. These operations will be collocated with the laundry shipping area. See TM 10-3530-207-14 on setting up, operating, and dismantling procedures; equipment usage; and, maintenance applications and supplies used for the trailer-mounted, clothing repair shop.

CLOTHING REPAIR AND LIMITED, LIGHTWEIGHT TEXTILE REPAIR SERVICES

Fabric repair specialists are assigned to the FSC to repair clothing and limited, lightweight textile items. These specialists are also authorized (in selected maintenance TOEs) to repair medium-weight and heavyweight textiles. They repair canvas and fabrics used on vehicles and items such as seat covers, tarpaulins, cargo covers, and swim barriers. The FSC fabric repair specialists are authorized clothing repair clothing shops (trailer-mounted) and the canvas worker's tool kit. The fabric repair specialists in maintenance companies are authorized the canvas and glass shop (shelter-mounted) and the canvas worker's tool kit. It is important to note that the fabric repair specialists assigned to an FSC do not have the equipment to repair mediumweight and heavyweight fabrics like tents and tarpaulins.

CLOTHING REPAIR AND LIMITED, LIGHTWEIGHT TEXTILE REPAIR OPERATIONS

CR with limited, lightweight textile repair functions will be closely associated with S/L operations. Repairs will be limited by time requirements as explained next. As stated earlier, grossly damaged clothing, determined by CR personnel as being too unserviceable and unrepairable, will be turned in by the soldier through his supply element for one-on-one replacement. CR operations will consist of the following processing actions:

Repair Turn-In Procedures. At the laundry point, laundry personnel will have identified the soldier's mesh bag with a color-code tag to show his laundry needs repair services, based on turn in DA Form 2886 data. (This color-code tag also applies to servicing organization or bulk laundry needing repairs, if FSC is tasked or assigned this support mission.) Laundry personnel will send items needing repair to the CR element through the receiving point in their identified, tagged mesh bag with attached DA Form 2886. Clothing items not needing repair after laundering are turned in by the laundry personnel to the shipping point in their mesh bags, identified by the soldier's DA Form 2886. At the receiving and shipping point and repair area, CR actions implement the following --

Receiving and Shipping Point Measures. Field service receiving point personnel verify laundered clothing from the mesh bags with its attached DA Form 2886. After verification, items are placed in the soldier's respective laundry bag. Items needing repair are laid on top of the other laundered items in the soldier's laundry bag with attached DA Form 2886 and are turned over to the CR section for

servicing. Laundry bag items not needing repairs are kept in the shipping point for pickup or delivery. After repairs, CR personnel assemble repaired items back into the soldier's respective laundry bag, and return it to the shipping point for pickup or delivery.

Repair Measures. Repairs will be done within the set 24-hour objective for laundry turnaround. Repairs will be done by these standards:

- No single repair shall exceed five minutes in duration and no item of clothing will be repaired if total repairs exceed 15 minutes.

NOTE: See TM 10-3530-207-14 for operator and maintenance instructions on the trailer-mounted, clothing repair shop. See FM 10-16, TMs 10-8400-252-23 and 10-8400-201-23, and SB 10-523 to repair clothing and limited, lightweight textiles.

- Any items exceeding the time limitations will be returned to the soldier for replacement through normal supply channels. Table 3-5 (page 3-52) shows a list of the repairs that can be made by the SLCR sections and the approximate time for each repair.

- Items determined unserviceable and unrepairable will be returned to the soldier for his disposal. The soldier should take the appropriate supply action through his unit supply sergeant to immediately replace the item.

Pickup and Delivery Procedures. Pickup of the laundered and repaired items is done by having the individual soldier return for his personal laundry bag at the shipping point according to the SLCR section's/team's services time schedule; or, the SLCR section/team will deliver laundered and repaired items to the supported unit. However, as directed by higher headquarters and/or on METT-TC conditions, and prior (direct) coordination action with the FSC or SLCR section/team, the supported unit's supply sergeant or his authorized representative will return for pickup of laundered and repaired items.

NOTE: Pickup or delivery of organizational or bulk laundry and repaired items by FSC (SLCR sections/teams), if tasked or assigned this mission, is given to the supported unit's authorized supply representative(s).

Table 3-5. Types of clothing repairs and repair times by fabric repair specialists in SLCR section/team

	Approximate Time

Repair	(Minutes)
Sew name tag	4
Sew US Army tag	4
Sew unit insignia	3
Replace button	1
Darn small holes, rips, and tears	5
Iron on patch	5
Restitch seams	5

CHAPTER 4

EMERGING CONCEPT AND SYSTEMS

This chapter is for all company personnel.

Section I

EMERGING CONCEPT

CONCEPT PREVIEW

An emerging concept and several new systems will impact on S/L and CR operations. This emerging concept formalizes a team organization where these services will be collocated. This concept (i.e. SLCR section/team) is presented in chapters 1, 2, and 3. Force XXI concept will impact the doctrine and structure of the Army's ability to conduct, sustain, and win wars in the 21st century.

QM FIELD SERVICE COMPANY, MODULAR

As discussed previously, the QM FSC, M (TOE 10414L00) is designed as the phase-in replacement for the QM FSC, DS. See Figure 1-1. Its field service, application functions, basically, mirror the QM FSC, DS. Difference between the two companies is the assigned company, personnel strength number and the use of LADS as a replacement for the M85-series mobile, laundry trailer unit. Until LADS is fielded, QM FSC, M will use the M85s authorized under its base TOE data. Also, note the different support capabilities of each company as described in chapter 3. QM FSC, M will display the following mission support attributes:

- *Support concept*. With implementation of the TOE for the QM FSC, M, areas of EAC will be supported by HNS, contractors, or through self-help service methods.

- *AO employment*. The FSC, M will employ in the corps forward or division rear area with its SLCR sections'/teams' AO as far forward as the maneuver battalion, dependent on METT-TC.

- *Capabilities*. The functional operations of company personnel and unit elements are the same as the QM FSC, DS. See specifics as described in chapters 2 and 3.

SOLDIER SUPPORT

In a fluid and fast moving tactical environment envisioned in future armed conflicts, the Army will require a greater capability for S/L support to the maneuver soldier. Major initiatives in S/L support are being studied and formalized for development and fielding to FSCs. These new systems are identified and discussed next. Expected fielding of some of these systems will occur in the near future.

Section II

NEW SYSTEMS AND MATERIALS

SHOWER INITIATIVES

Containerized showers are being developed which will allow for faster setup and dismantling, better control of wastewater, and increased mobility. The following shower systems are being considered --

IUSHOW. This system is lightweight and rugged. It sets up and dismantles rapidly. The IUSHOW is mobile, and can provide showers to two to four soldiers at one time (or more than one shower per week). This system will provide small detached units a shower capability when they cannot be supported by an organized QM shower unit. This system will be a CTA item available to most units.

SUS. The SUS is a mobile, lightweight shower unit intended for use by forward deployed forces. It can be erected within 15 minutes and operated by the using unit. The SUS provides a hot shower capability. It will not replace the shower elements from the FSC. The components of the SUS include a water heater, a shower module, and a shelter. Each component will weigh no more than 75 pounds. The SUS can provide showers for at least 16 soldiers within a 50 minute period. As a supplement to the SLCR section/team capability, the SUS will help reduce disease and nonbattle injuries as well as improve morale.

LAUNDRY INITIATIVES

The major initiative in the laundry arena is the development and fielding of a dry-cleaning system. Another initiative is the containerized self-service laundry/mobile laundry-mat. These systems are given below.

LADS. Presently, LADS is a recyclable, water-based system. This system will use about 240 gallons of water per 20 hours of operation. It will produce about 400 pounds of clean laundry per hour. Consequently, the system will reduce the number of operators required by 75 percent. In the far future, however, it is hoped that this system, using an environmentally safe solvent, will end the requirement for water in laundry operations. The closed-loop system will regenerate the solvent for unlimited use. Replacement solvent would be required for what is lost through maintenance, evaporation, or improper operation. LADS will be containerized to make setting up and dismantling faster.

CSSL/Mobile Laundry-Mat. CSSL/Mobile laundry Mat will be used in the rear areas to supplement or take the place of contract or HNS provided services. It will be operated by user unit personnel. The system would provide laundry support (15 pounds per soldier) for up to 150 soldiers per day. Use of this system in rear areas will help to free up FSC assets to provide greater support to forward deployed troops.

CURRENT S/L SUPPORT ALTERNATIVES

Pending the development and fielding of the new field services equipment with greater output, there are several alternative capabilities for augmenting present S/L support with equipment available in the current Army inventory or which can be procured commercially. The alternatives provide soldiers increased hygiene capability over and above that required solely for health reasons. These alternatives include

equipment suitable for S/L support provided by the unit, as well as self-help cleansing and laundry by the individual soldier. These S/L support alternatives are --

Self Help Projects. For maneuver units and some CS units deployed in a tactical environment, support through unit self-help efforts may be limited. Logically, CSS units are generally better able to use unit self-help procedures as well as HNS and contract support based on their mission and location on the battlefield. This frees the FSC to provide maximum support to soldiers in the forward area.

S/L Supplements. Appendix H in this manual provides a listing of both Army standard and commercial items available to commanders and soldiers. It may be used to supplement the support service provided by the FSC. Use of this or similar equipment is essential to maintain a level of personal hygiene over and above that which is required purely for health reasons. Commanders must capitalize on field expedient capabilities available to the unit and soldier to assist in achieving and sustaining the highest, practical quality of life for the soldier.

IMPLEMENTATION OF FORCE XXI

Reductions in U.S. military structure and resources has resulted by the end of the Cold War. Information Age Technology advances are creating a revolution in military affairs. It demands a reevaluation of the roles, structure, doctrine, and business practices of the U.S. Army, ensuring that it can continue to fight and win the Nation's wars in the 21st century. Force XXI, therefore, is the U.S. Army's approach in planning to reengineer and redesign America's Army for the 21st century.

Power Projection Logistics. The Army's power projection logistics strategy focuses on enhancing the Army's ability to project power (employment) as a strategic force from the CONUS, including forces stationed in peacetime locations outside CONUS. This tenet of "power projection logistics" focuses on the strategic capabilities of U.S. forces to mobilize, distribute, and sustain itself and allies in the 21st century. This power projection, logistics concept centers on the principals of power support logistics initiatives listed in Table 4-1 (page 4-4).

Battlespace Logistics. Battlespace logistics perception is derived from the basic doctrine, terminology, and operational concepts for Force XXI as given in TRADOC Pamphlet 525-5. Battlespace logistics consorts to a logistics continuum consisting of soldiers, civilians (DOD and contractors), organizations, modular support forces, and an integrated, intelligent, and networked information system.

FORCE XXI SERVICE SUPPORT FOR BATTLESPACE LOGISTICS

Force XXI field service operational support will achieve battlespace logistics. It will cause to effect a strategic mobility implementation as a joint or combined modular element (and employ a fully synchronized and compatible Active and Reserve CA, CS and CSS organizations). It will operate under a concept of assured support. It will have a predictive push and responsive pull type interface between provider and customer with the assurance of required support on time, where required, with required quantities or services. Support efforts will be coordinated by employing an intelligent, valued-added, networked system electronically linked with compatible, assured communications, operating in real time. Communications and real-time situation awareness will use a digitized, space-based, simultaneous, and anticipatory automation (computer) system. It will use knowledge-based versus echelon sequential processing. Too, it will use a cost effective and transparent communication flow, showing visibility of assets throughout the system.

Table 4-1. Principles of power support logistics

- Total asset visibility
- Integrated sustainment maintenance
- Army strategic mobility program
- Total distribution program
- Improved communication capability
- Split-based operations
- Modularity configuration of forces
- Improved digitization assets
- Joint logistics doctrine
- Central asset management

APPENDIX A

SUGGESTED SOP FORMAT

A-1. HEADING

The heading should contain--

a. Designation.
b. Location or mailing address.
c. Date of issue.
d. Number.
e. Title (Standing Operating Procedure).

A-2. BODY

The body should contain brief but comprehensive instructions relating to each of the following, when applicable:

a. General.
   (1) Subject.
   (2) References.
   (3) Purpose and scope.
   (4) Definitions, when necessary.
   (5) Mission.
   (6) Assignment.
   (7) Capabilities.
   (8) Organizations.
   (9) Host Nation Support.

b. Command.
   (1) Command post.
   (2) Liaison officers.
   (3) Procedure guides.
   (4) Orders.
   (5) Intelligence.
   (6) Communications.

c. Security and Defense.
   (1) Plan.
   (2) Conduct.
   (3) Responsibilities.
   (4) Measures.
   (5) Weapons.
   (6) Mines and booby traps.
   (7) Air and ground attack.
   (8) Rear operations.
   (9) Reconnaissance.
   (10) Fighting positions.
   (11) Patrols.

d. Movements.
   (1) Order of march.
   (2) Distances between vehicles.
   (3) Maximum speeds: day/night.
   (4) Reconnaissance.
   (5) Feeding.
   (6) Refueling.
   (7) Halts.
   (8) Air and ground protection.
   (9) NBC protection.
   (10) Limited visibility and smoke operations.
   (11) Night movement.
   (12) Guides.
   (13) Vehicle information.
   (14) Control Officer.
   (15) Trail officer.
   (16) Loading.
   (17) Communications during march.

e. Personnel.
   (1) Military justice.
   (2) Strength reports.
   (3) Decorations and citations.
   (4) Prisoners of war.
   (5) Casualties.
   (6) Refugees.

f. Administration.
   (1) Office management.
   (2) Field kitchen.
   (3) Unit supply.
   (4) Unit maintenance.
   (5) Section/team (prerequisite).
   (6) Safety and EPA requirements.

g. Training.
   (1) General.
   (2) Responsibilities.
   (3) Objectives.
   (4) Directives.
   (5) Phases.
   (6) Equipment.
   (7) Schools.
   (8) CTTs, STXs, ARTEPs.
   (9) Records and reports.

A-3. **ENDING**

The ending of a typical SOP should contain--

a. Unit commander's signature.
b. List of enclosures/annexes.
c. Distribution.
d. Authentication, if applicable.

APPENDIX B

FRATRICIDE PREVENTION

Introduction

The problem of fratricide is as old as warfare itself. It is a complex problem which defies simple solutions. Fratricide is defined as "the employment of friendly weapons, with the intent to kill the enemy or destroy his equipment and facilities, which results in unforeseen and unintentional death, injury, or damage to friendly, neutral, or noncombatant personnel." This is obviously a broad definition. This appendix focuses on actions leaders take with current resources to reduce the risk of fratricide. Second, it identifies actions that leaders and crews take to stop friendly fire incidents when they occur.

Magnitude of the Problem

The modern battlefield is more lethal than any in history. The pace of operations is rapid. The battlefield's nonlinear nature creates command and control challenges for all unit leaders.

Our ability to acquire targets using thermal imagery exceeds our ability to identify targets as friend or foe. The accuracy and lethality of modern weapons makes it possible to engage and destroy targets at these extended acquisition ranges.

Add to this the problem of battlefield obscuration. Rain, dust, fog, smoke, and snow degrade the ability to identify targets by reducing the intensity and clarity of thermal images. The effects of battlefield obscuration must be considered when relying on thermal identification.

On the battlefield, positive visual identification cannot be the sole engagement criterion at ranges beyond 1,000 meters. Situational awareness is key and must be maintained throughout an operation.

Following are recommended actions to take at crew and leader level, if a friendly fire incident occurs.

Crew actions when victims of friendly fires. The crew should--

* React to contact until you can recognize friendly fire.
* Report the following on the next higher unit net:
  - Receipt of friendly fire.
  - Location, direction, and firing vehicle.
  - Visual recognition signal to cease fire.
* Request for medical help as needed.
* Not to return fire when you positively identify the firing element as friendly.

Crew actions when engaging friendly fires. The crew should--

Cease fire.

Report the following on the next higher net:

- The engaged friendly force (if unknown, report number and type of vehicles).
- Location.
- Direction of friendly force and distance to victim.
- Type of fire.
- Target effects.

Crew actions when observing a friendly fire incident. The crew should--

* Seek cover and protect self.
* Report the following on the next higher net:
  - o Engage friendly force.
  - o Location.
  - o Direction of friendly force and distance to victim or firer.
  - o Type of fire.
  - o Target effects.
* Provide a visual friendly recognition signal.
* Provide assistance as needed when safe.

Leader actions. Leader actions focus on identifying and stopping the friendly fire incident and establishing controls to prevent its recurrence. Leaders should--

* Find or stop firing.
* Conduct in-stride risk assessment.
* Identify or implement controls to prevent recurrence.

Preventative Measures

Reduction of fratricide risk begins with the planning phase of an operation. It continues through the execution of the operation.

The following are considerations for identifying fratricide risks in the planning, preparation, and execution phases of a given operation.

Planning phase. A good plan which is well understood helps to reduce fratricide risk. The following considerations help indicate the potential for fratricide in a given operation:

* The clarity of the enemy situation.
* The clarity of the friendly situation.
* The clarity of the commander's intent.
* The complexity of the operation.
* The planning time available to all levels.

Preparation phase. Additional fratricide risks may become clear during rehearsals. Consider--

* Number and type of rehearsals.
* Training and skill levels of unit and individuals.
* The habitual relationships between units.
* The endurance of the soldiers conducting the operation.

Execution phase. During execution, instride risk assessment and reaction are necessary to overcome unforeseen fratricide risk situations. Consider--

* Intervisibility between adjacent units.
* Amount of battlefield obscuration.
* Ability or inability to positively identify targets.
* Equipment similarities or dissimilarities between enemy and friendly vehicles.
* Vehicle density on the battlefield.
* The tempo of the battle.

Risk assessment must be conducted at all levels during the planning, preparation, and execution phases of all operations. Identification of fratricide risk factors is conducted at every level and the results clearly communicated up and down the chain of command. Table B-1 (page B-3) provides a format for considering fratricide risk in the context of mission requirements. It also suggests fratricide reduction measures and has a quick-reference risk assessment chart.

Table B-1. Fratricide risk assessment chart

FACTORS	LOW (1)	MEDIUM (2)	HIGH (3)
1. Understand Plan:			
*Cdr's Intent	Clear		Foggy
*Complexity	Simple		Complex
*Enemy Situation	Known		Unknown
*Friendly Situation	Clear		Unclear
*ROE	Clear		Unclear
2. Environment:			
*Intervisibility	Favorable		Unfavorable
*Obscuration	Clear		Obscured
*Battle Tempo	Slow		Fast
*Positive Target ID	100%		0%
3. Control Measures:			
*Commo	Relationships	Organic	Joint/Combined
*Audio	Loud/Clear		Jammed
*Visual	Well Seen		Obscured
*Graphic	Standard		Not Understood
*SOPs	Standard		Not Used
*LNOs	Proficient		Unsure
*Location Or Navigation	Sure		Unsure
4. Equipment: (Compared To Us):			
*Friendly	Similar		Different
*Enemy	Different		Similar
5. Training:			
*Indiv Proficiency	MOS Qual		Untrained
*Unit Proficiency	Trained		Untrained
*Rehearsal	Multiple		None
*Habitual Relationship	Yes		No
*Endurance	Alert		Fatigued
6. Planning Time (1/3 To 2/3 Rule):			
*Higher HQ	Adequate		Inadequate
*Own HQ	Adequate		Inadequate
*Lower HQ	Adequate		Inadequate
Overall Fratricide Assessment	Low 26-46*	Medium 42-62*	High 58-78*

*Commander may use numbers as the situation dictates. Numbers alone may not give accurate fratricide risk assessment status.

Fratricide Reduction Measures

These fratricide reduction measures are provided as reminders for prudent or appropriate actions to reduce fratricide risk. They are not directive in nature, nor intended to restrict initiative. Apply these to METT-T situations as appropriate:

* Maintain *SITUATIONAL AWARENESS*--current intelligence, unit locations or dispositions, denial areas (minefield or FASCAM), contaminated areas (ICM or NBC), SITREPS, and METT-T.
* Ensure *POSITIVE TARGET IDENTIFICATION*. Review vehicle and weapon ID cards; know at what ranges and under what conditions positive ID of friendly vehicles and weapons is possible.
* Establish *COMMAND CLIMATE* that stresses *FRATRICIDE PREVENTION*. Enforce fratricide prevention measures and constant supervision of execution of orders and performance to standard through use of doctrinally sound tactics, techniques, and procedures.
* Recognize the signs of *BATTLEFIELD STRESS.* Take quick effective action to deal with it and maintain unit cohesion.
* Conduct individual and collective (unit) *FRATRICIDE AWARENESS TRAINING,* target identification or recognition, fire discipline, and leader training.
* Develop a *SIMPLE, DECISIVE PLAN*.
* *Give COMPLETE and CONCISE MISSION ORDERS.*
* *Use SOPs* that are consistent with doctrine to simplify mission orders. Periodically review and change as needed.
* Strive for *MAXIMUM PLANNING TIME* for you and your subordinates.
* Use *COMMON LANGUAGE* or vocabulary and doctrinally correct *STANDARD TERMINOLOGY AND CONTROL MEASURES* (for examples, fire support coordination line, zone of engagement, restrictive fire line).
* Ensure thorough *COORDINATION* is done.
* Plan for and set up good *COMMUNICATIONS.*
* Plan for *COLLOCATED CPs,* as appropriate to the mission (for example, passage of lines).
* Establish or designate *LIAISON OFFICERS* as appropriate.
* Make sure *RULES OF ENGAGEMENT* are clear.
* Consider the effects of *KEY ELEMENTS OF TERRAIN* analysis on fratricide (observation and fields of fires, cover and concealment, obstacles and movement, key terrain, and avenues of approach).
* Conduct *REHEARSALS* whenever situation allows time to do so.
* Be in the right place at the right time. Position location or navigation equipment. Know *YOUR LOCATION and LOCATIONS OF ADJACENT UNITS* (left, right, leading, and following on). Synchronize tactical movement.
* Include *FRATRICIDE INCIDENTS* in after-action reviews.

Maintaining situational awareness at all levels is key to fratricide reduction. Units must develop techniques, similar to those listed, to gain and maintain situational awareness in SOPs:

* Eavesdropping on next higher net.
* Cross talk on radio between units.
* Accurate position reporting and navigation.
* Training and use or exchange of LNOs.

Rehearsals are a primary tool in identifying and reducing fratricide risk. Consider the following when conducting rehearsals:

* Brief-backs ensure subordinates understand the commander's intent. They often highlight areas of confusion, complexity, or planning errors.
* The type of rehearsal conducted impacts on the risks identified.
* Rehearsals should extend to all levels of command and involve all key players.
* Ensure subordinates know where fratricide risks exist and what to do to reduce the risk.

Graphics are a basic tool that commanders at all levels use to clarify their intent. Graphics add precision to their concept and communicate their plan to subordinates. As such, graphics are very useful in reducing the risk of fratricide. Commanders at all levels must have absolute understanding of the definitions and purpose of operational graphics and techniques of their employment. See FM 101-5-1 for the definitions of each type of graphic control measures.

Fratricide Risk Considerations

The format in Table B-2 (pages B-6 and B-7) parallels the five-paragraph OPORD. The considerations or factors listed key on fratricide reduction and are structured where they would likely appear in the OPORD. This is not a change to the OPORD format nor an addition.

Table B-2. Format for fratricide reduction

PARAGRAPH 1: SITUATION

a. Enemy Forces:
- o Equipment and uniform similarities.
- o Language.
- o Deception capabilities and past use.
- o Similarities which could lead to fratricide.
- o Location.

b. Friendly Forces:
- o Similarities or differences in allied forces' language, uniform, and equipment (combined operations).
- o Differences in US services equipment and uniform (joint operations).
- o Similarities which could lead to fratricide.
- o Differences which could prevent fratricide.
- o Deception plan.
- o Location of your unit and adjacent units (left, right, leading, or follow-on).
- o Location of neutrals and noncombatants.

c. Attachments and Detachments:
- o Do attached elements know the previous information?
- o Are detached elements supplied the previous information by gaining units?

d. Own Forces:
- o Status of training (individual, crew, or unit) skill.
- o Fatigue (at the time of the operation or sleep plan).
- o Acclimatization to area of operations.
- o Equipment (new, old, and mix; status of NET).
- o MOPP requirements.
- o Weather:
  - oo Visibility (light data and precipitation).
  - oo Hot or cold (effect of weapons, equipment, and soldiers).

e. Terrain:
- o Topography and vegetation (urban, mountain, hilly, rolling, flat, desert, swamp or marsh, prairie or steppe, jungle, dense forest, or open woods).
- o OCOKA.

PARAGRAPH 2: MISSION

Is the mission, with associated tasks and purposes, clearly understood?

PARAGRAPH 3: EXECUTION

a. Task Organization:
- o Has unit worked under this organization before (familiarity)?
- o Are SOPs compatible with the task organization (especially with attached units)? Uniform and equipment: Are special markings or signals needed for positive identification (cat's eyes, chemical lights, or panels)?
- o What special weapons or equipment are to be used? Do they look or sound like enemy weapons or equipment?

Table B-2. Format for fratricide reduction (continued)

b. Concept of the Operation:

- o *Maneuver*. Are main and supporting efforts identified to ensure awareness of greatest fratricide danger?
- o *F ires (direct and indirect).*
  - oo Priorities of fires identified.
  - oo Target list(s).
  - oo Fire execution matrix and overlay.
  - oo Location of denial areas (minefields or FASCAM) and contaminated areas (ICM or NBC).
  - oo Location of all supporting fire targets identified in OPORD or OPLAN (overlays).
  - oo Aviation and CAS targets clearly identified.
  - oo Direct fire plan.
  - oo FPF.
  - oo Sector limits (check and verify).
- o *Engineer.*
  - oo Barrier breaching -- Are friendly minefields, including FASCAM and ICM dud contaminated areas, known?
  - oo Are obstacles identified, along with approximate time for reduction/breaching? *Task to each subordinate unit.* Are friendly forces identified, as appropriate, for each subordinate maneuver element?
- o *Tasks to CS and CSS units.* Are friendly forces identified to CS and CSS units?
- o *Coordinating instructions.*
  - oo Rehearsal -- Will one be conducted? Is it necessary? Direct and indirect fires included?
  - oo Brief-back necessary?
  - oo Constraints and limitations. Are appropriate control measures clear and in OPORD or overlay? Are they known by everyone who has a need to know (assembly area, attack position, line of departure, axis of advance or avenue of approach or direction of attack, phase lines, objective(s), movement times, restrictive fire lines, fire support coordination line, zone of engagement, limits of advance, main supply route, coordination points, LP or OP, challenge, and password)? What is the plan for using these control measures to synchronize the battle and prevent fratricide?
  - oo Target or vehicle identification drills.
  - oo What is the immediate action drill or signal for "Cease fire" or "I'm friendly" if element comes under unknown or friendly fire? Is there a backup action?
  - oo Include guidance in handling dud munitions (ICM and CBUS).

PARAGRAPH 4: SERVICE SUPPORT

- o Ensure train's location and identification marking are known by everyone.
- o Ensure medical and maintenance personnel know routes between train and units.

PARAGRAPH 5: COMMAND AND SIGNAL

a. Command:

- o Where is the location of the commander and key staff?
- o What is the succession of the command?

b. Signal:

- o Do instructions include signals for special and emergency events? Do instructions include how we identify ourselves to aircraft?
- o Do instructions include backup for code words and visual signals for all special and emergency events?
- o Are signal operating instructions distributed to all units with a need-to-know (higher, lower, left, right, leading, or following)?

APPENDIX C

MISSION-KILL OPERATIONAL DATA

MISSION-KILL CONCEPT

Historically, mission-kill operations have been employed throughout man's war-fighting history. Contaminated or poisoned projectiles to induce angry wounds and the creation of paralyzing fear to reduce or eliminate the will to fight have been used by warring forces.

Examples of mission-kill weapons used to weaken materiel include setting of fires against stone fortress walls. The fires caused the walls to crumble and allowed heavily armored knights on horseback to attack armored knights on foot. In WWII, examples of mission-kill weapons involve Soviet use of air defense searchlights to blind German tank crews at night and the scattering of tetrapods by Allied partisans and commandos to attack German truck tires; and, during Vietnam conflict, the use of punjstake booby traps by the Vietcong.

Although mission kill has long been an integral part of military force, its military utility is sometimes not recognized. Many prefer to think primarily in terms of "hard-kill" weapons. So, the development and use of some mission-kill weapons is often passed over in favor of the hard kill. The arguments for this center on the idea that hard-kill weapons are intended to destroy the target and lead to faster, more reliable defeat of opposing hostile forces. Certainly, this is true for many types of targets, but not for all. What is often overlooked is that mission-kill capabilities offer unique effects or may be more cost effective in some cases. Increasing complexities of modern battlefield and potential to develop mission-kill capabilities are getting increased attention as more and more people recognize both their historic military applications and their applications in modern combat. Perceptions are given way to the reality that mission-kill weapons can increasingly contribute to the defeat of the hostile force and can do so with speed, economy, and reliability.

MISSION-KILL EFFECTS

A wide variety of mission-kill weapon effects have conceptual potential for the successful mission kill of military targets. Examples of some of these are described in the following paragraphs. The listing here does not imply that the concept has or does not have military utility. These effects are listed for illustrative purposes only.

Blast

Blast mission-kill is the use of rapidly increasing air pressure to cause mechanical or structural damage to materiel or to wound personnel.

Antimateriel effects. Mission-kill blast effects to materiel include but are not limited to: crushing roofs of vehicles or structures; overturning vans and light vehicles; deforming skins of missiles, aircraft, or light vehicles; deforming antennae; blowing open combat vehicle hatches; and damaging optics. The following blast effects are not considered to be mission kill: blowing down trees or rubble, sympathetic detonation of explosives, flattening tents or temporary structures, initiation of flying projectiles, or debris such as broken glass.

Antipersonnel effects. Mission-kill blast effects to personnel include damage to the lungs, eyes, and ears.

Sources of blast effects. Blast effects may occur in training or combat and may result from proximity to weapons fire, aircraft overflight, or proximity to detonating explosives. Blast effects to personnel and materiel in combat may come from a wider range of sources including nuclear weapons; aircraft overflight;

weapons firing (especially high-velocity weapons); detonations of conventional mines and explosives; detonation of enhanced explosives or fuel-air explosives; concussion grenades; or aerial bombs, missiles, and rockets.

Biological

Biological mission kill includes the use of bacteria, viruses, or toxins to disable enemy soldiers by rapid onset of disease or debilitation of functions. It does not include killing enemy soldiers and does not include any effects to domestic or military animals or to vegetation.

Legality. The deliberate use of biological agents is prohibited by the United States and international laws. Discussion is included here because of the real possibility of potential opponents to disregard international law and because of the potential for unintentional use or spread of biological agents.

Antimateriel effects. There are currently no practicable antimateriel mission-kill effects from biological agents. Future effects may include damage and loss of equipment materials including canvas, seals, gaskets, and lubricants.

Antipersonnel effects. Antipersonnel mission-kill biological effects include a wide range of incapacitation of body functions, rendering soldiers unable or unwilling to perform their intended military function or mission.

Sources of biological effects. Biological mission-kill effects such as disease may occur from accidental exposure to appropriate bacteria, virus, or toxins primarily as a result of hygienic practices. Biological mission-kill effects may also result from the deliberate introduction of bacteria, viruses, or toxins to the battle area through the use of sprays, conventional munitions, special operations forces, or other techniques.

Directed Energy

Directed energy mission-kill is the use of electromagnetic energy, such as visible light, infrared, millimeter waves, microwaves, or x-rays, to disable susceptible military targets by damaging or destroying a critical component of the military target.

Antimateriel effects. Mission-kill effects to materiel include inducement of mechanical damage, overheating of components, inducement of electrical currents, or inducement of other effects to cause a variety of types of damage or system malfunction.

Antipersonnel effects. Directed energy mission-kill antipersonnel effects cover a very wide range.

Sources of directed energy mission-kill effects. Directed energy mission-kill effects can occur in training or combat. Effects in training or combat can occur when susceptible personnel or equipment are accidentally exposed by getting too close to nonweapons-directed energy sources such as radio transmitters, radars, electronic warfare jamming devices, television transmitters, television or communications microwave relays, laser range finders, laser designators, laser jammers, and similar devices. Some of these mission-kill effects are also sometimes technically categorized as electromagnetic interference or electromagnetic effects. Directed energy warfare is the use of and defense against directed energy weapons and devices in combat. Mission kill is one of a very large continuum of DEW effects on targets. The large variety of DEW target effects are used to provide a very wide range of combat functions including the following: detection of targets, illumination of targets to supplement night-viewing systems, identification and classification of targets, disruption of target function or mission, damage of targets, and destruction of targets. Examples of directed energy mission-kill devices include hand-held, crew-served, or vehicular-mounted laser devices and vehicular-mounted or artillery-delivered radio frequency devices.

Chemical

Chemical mission kill is one component of chemical warfare in which personnel or materiel targets are attacked with asphyxiating, poisonous, corrosive, or debilitating gases, flames, or other media or methods. Chemical warfare effects may vary in intensity in a continuum from irritating or disrupting effects to mission kill to hard kill.

Antimateriel effects. Chemical mission-kill effects to materiel cover a very wide range. Theoretically, or in the laboratory, or on a small scale, the effects can be used to produce mission kill by any of the following applications: fuel defeat; combat vehicle, aircraft or weapon system rubber, sealants, or seals defeat; combat vehicle or aircraft engine air intake defeat or engine oxygen starvation; metal fatigue; communication, radar, or weapon electronic short circuit; surveillance, target acquisition, or fire control optics and electro-optics and canopies defeat.

Antipersonnel effects. Chemical mission-kill effects to personnel vary widely but generally cause damage or impairment of body organs.

Chemical mission-kill sources. Chemical mission kill can occur accidentally or deliberately. It may occur accidentally through such means as engine exhaust fume asphyxiation of personnel; skin burns from engine exhaust, pyrotechnics, fires, flame weapons, or other heat sources; or exposure to tear gas or other crowd control agents. Chemical mission-kill sources vary widely. The most widely known include debilitating gases, including riot control agents. While international law and other factors may limit use, debilitating chemical agents are available internationally and should be anticipated in any future conflict.

Ballistic

For the purpose of this concept, ballistic mission kill includes the use of any bullet, projectile, pellet, or shrapnel which imparts physical damage, rather than destruction, to personnel or materiel.

Antimateriel effects. Ballistic mission-kill effects to materiel may occur accidentally as a by-product of attack by hard-kill weapons or through the use of ballistic mission-kill weapons. Such effects are generally referred to as damage that renders the materiel item unusable for its intended purpose. Mission-kill damage may lead to self-destruction of the damaged materiel. Examples of accidental mission kill include artillery shrapnel damage to tank gun fire control optics and bullet damage to a helicopter which causes the engine to fail in flight. An example of deliberate ballistic mission kill is the use of a mine to blow the tread off a tank.

Antipersonnel effects. Ballistic mission-kill effects to personnel (wounding) are well known and can occur accidentally as a secondary effect of hard-kill weapons. Some ballistic weapons such as certain types of antipersonnel mines, or booby traps, may be employed deliberately to debilitate personnel.

Sonic

Sonic mission-kill weapons use audible or inaudible sound waves to induce debilitating effects in personnel targets. Sound waves may be used to debilitate personnel by interfering with hearing, balance, or other organ functions. Such debilitation may occur accidentally or deliberately in combat through personnel proximity to aircraft overflight noise, weapons firing, munitions explosions, or similar sources. Sonic mission kill may be deliberately induced through the use of special sonic weapons.

Psychological

Psychological mission kill includes a variety of techniques which may induce debilitating fear in personnel, thereby, rendering them incapable or unwilling to perform the intended military action. Mission-kill effects may occur accidentally or deliberately. One of the principal psychological effects is the surprise effect of mission kill itself. Mission-kill effects, whether accidental or deliberate, can be expected to surprise opponents who are not trained to expect and react to these effects. Surprise may cause soldiers or units to hesitate, to abort or alter missions, to change plans, to reallocate resources, or to take or not take other military actions. Such effects or surprise must be taken into account in both offensive and defensive mission-kill operations.

Nuclear

Nuclear weapons produce a wide variety of mission-kill effects including thermal, blast, and electromagnetic. These effects have been discussed previously, or are well known, and are listed here only for completeness.

Other

Other mission-kill weapons may exist which do not fall conveniently into the above categories. One such example is the electric stun gun which is used to incapacitate persons at close range. Another example is the flame weapon.

Excluded Effects

The line between temporary debilitating effects and mission kill is a thin one, and the result in combat may often be the same. For the purposes of this concept, however, the following temporary effects on electronic, optical, or electrooptical equipment are excluded:

- Accidental electromagnetic interference.
- Deliberate electronic jamming.
- Accidental or deliberate flash binding.
- Deliberate electronic or optical deception.

JOINT MISSION-KILL DOCTRINE

There is no standard definition for mission kill between the services. There is no US Air Force definition. The US Navy uses soft kill as a component of antiair warfare and means systems which provide defense by attempting to disrupt enemy conduct of warfare by use of decays, chaff, and electronic countermeasures and by exploiting enemy radiations such as electronic support measures. This definition includes jamming, flash blinding, and deception.

OPERATIONAL CONCEPT

Mission-kill requirements must be highly planned and executed. Subordinate units and personnel are briefed on all operational measures to be taken to eliminate any possible risks and confusion of intent.

Uses of Mission-Kill Weapons

Mission-kill weapons and protection measures are used to protect friendly forces from attack during offensive and defensive operations. Mission-kill weapons disrupt hostile combat operations throughout the depth of the battlefield in any intensity of conflict. This requirement is translated into the following missions:

- Degrade the enemy's ability to see.
- Degrade the enemy's ability to communicate.
- Degrade the enemy's mobility.
- Degrade the enemy soldier's ability to fight.
- Degrade the enemy weapons systems.
- Enhance friendly weapons system effectiveness.
- Deceive the enemy force.

Planning

Mission-kill weapons planning is part of the overall tactical plan. Consider the following when developing your tactical plan:

- Mission kill of specific hostile targets may or may not be the ultimate objective of the military operation, depending on military, political, and other operant factors. Normally mission kill will be used to enhance hard kill by employing these capabilities in supporting roles.
- Mission-kill weapons require coordinated use.
- Protection measures against hostile mission-kill capabilities normally impose operational penalties.
- Mission-kill weapons may have a large footprint.
- Use or protection of mission-kill systems may allow economy of force.
- Time intervals required to get or protect from effects may constrain courses of action.
- Mission kill is often a natural consequence of hard kill or other military action.
- Mission-kill capabilities may affect large numbers of targets, including those outside the immediate battle area.
- Energy required and complexity may exceed military value.
- Target characteristics vary widely according to a number of parameters including vulnerability, function, and frequency of encounter.
- The mission-kill capability of an item of equipment, friendly or threat, may or may not be covert and may or may not be commonly known. For example, a laser range finder may be deliberately designed with extra power to enable its use as a blinding weapon while still calling it a “range finder.”

Training

Training the conditions upon friendly forces to use and defend against the use of mission-kill weapons in combat must meet the principal, training tenets are as follows:

- The soldier must be well informed about the use of and defense against mission-kill capabilities.
- The soldier must be provided with protection materiel designed to be soldier-selectable (usable when needed; not used when not needed) and must not be "transparent" to user (hidden within the equipment design and not controllable by the user).
- Training tactics, techniques, and procedures must be integrated at all levels, in all training media, and in all training exercises and tests.

Execution

The potential impact of some mission-kill weapons on tactical operations means units must fully plan, coordinate, and rehearse for possible contingencies.

Control

Several special factors require that mission-kill weapons be employed under positive control. These factors include:

- Mission-kill weapons may interfere with or be otherwise incompatible with personnel and equipment.
- Some mission-kill capabilities have very long ranges and can be used in very short periods of time.
- Some mission-kill effects may persist for very short periods of time.

Mission-Kill Weapons at the Operational Level of War

Operational objectives within a theater of war include the marshalling and sustainment of forces and materiel to conduct successful campaigns. Mission-kill operations at this level will be conducted primarily to--

- Deceive the enemy as to friendly force location, status, movement, intent, mission, or other factor.
- Degrade enemy air reconnaissance systems.
- Reduce the effectiveness of enemy air weapons systems.
- Degrade enemy ground forces surveillance, reconnaissance, target acquisition, and fire-control systems.
- Degrade enemy communications equipment.
- Degrade enemy electronic warfare equipment.
- Degrade or defeat mines and dud ordnance.
- Degrade rear area facilities and equipment.
- Degrade use of combat vehicles and aircraft.
- Degrade willingness or ability of soldiers to perform their missions.

Operational Advantages of Mission Kill

Mission-kill capabilities offer a number of operational advantages including, but not limited to, the following:

- Can create military surprise.
- Can create feelings of uncertainty in opponent.
- Can create feelings of lack of confidence in opponent.
- Can be covert.
- Can be used in day and night operations.
- Forces penalties on opponent.
- May defeat targets beyond the ranges of conventional weapons.

Operational Disadvantages of Mission Kill

Operational disadvantages of mission kill include, but are not limited to, the following:

- May require stringent command and control.
- May require unique self-protection measures.
- May create unique equipment or force signatures.
- May interfere with some conventional systems.
- Will require increased training and doctrine.
- May not be useful in all weather.

MISSION-KILL SPECIAL CONSIDERATIONS

Mission-kill usage or operations must be sensitive to its intent. These performances depend on purpose, practice, or procedure. Mission-kill applications should be taken under advisement of the following concerns:

- Mission kill is not a panacea, and reliability will vary with the varying conditions of combat.
- Some proposed mission-kill weapons may be scientifically interesting or possible without having any military utility.
- Some operationally conceived mission-kill applications may not be scientifically possible, practicable, or militarily useful.
- Some mission-kill weapons may be effective against specific targets within a class of targets; others may be effective against a whole class of targets; and, few, if any, will be effective against all classes of targets.
- Survivability of the mission-kill weapon or the weapon effect is a major consideration.
- Some mission-kill effects may be most synergistic when used with conventional weapons, tactics, techniques, or procedures.
- Some mission-kill weapons and effects will be incompatible with or interfere with surrounding weapons, equipment, or personnel.
- Some mission-kill weapons and effects will pose an adverse impact on the environment.
- Some mission-kill weapons and effects may pose unacceptable safety hazards to civilians and/or troops.
- Some mission-kill weapons effects, training, or doctrine may have been studied or may be under development by other US Army agencies, other services, other government organizations, industry, or allies.
- Some mission-kill weapons or protection measures may be feasible, or militarily useful, but may not be cost effective.
- Legal or treaty considerations or restrictions may impact the development or use of some mission-kill systems.
- Mission-kill weapons depend on means of delivery to the target and on appropriate response times.

APPENDIX D

UNIT PUBLIC AFFAIRS

RESPONSIBILITIES

Every commander, regardless of the size or type of his unit, has public affairs responsibilities. He must ensure that he meets the information needs of his soldiers, their families, and other critical home station audiences and that his unit is prepared to support the media representatives who will be gathering and reporting information to the world. To operate successfully in the environment described in FM 100-5, every commander needs to understand some basic public affairs principles. These are discussed below.

Identifying, understanding, and fulfilling information needs is critical to success. Meeting the information needs of internal audiences enhances morale, confidence, unit discipline, and effectiveness. It builds team cohesion and unit esprit, eases concems and distractions so that soldiers can concentrate on performing their mission, and reduces the boredom, fear, isolation, uncertainty, rumor, and misinformation which cause soldiers stress and misconduct. Facilitating the efforts of media representatives fosters the support of American and allied publics and deters enemies and potential adversaries by communicating capability, readiness, and resolve.

Every soldier is a spokesperson. The commander is the unit's official spokesperson. Junior soldiers, however, are often perceived as more honest, accurate, forthright, insightful, and believable. Media representatives, therefore, will want to be "with the troops" to interview them and get their thoughts about issues, events, or situations. Good commanders recognize the benefits of soldier-media interaction and find opportunities to "make it happen."

News media representatives are not the enemy. They are an important information channel to the American public; most media representatives strive to publish accurate, truthful, and balanced stories. Commanders need to understand that the media's goal is not to undermine, interfere, or misrepresent, although some stories will be negative and misunderstanding, errors, and criticism will occur. By proactively assisting news media representatives in obtaining information and access to soldiers, units, and operations, commanders help them to understand the Army and produce stories which educate the public and foster support for our soldiers, our organization, and our contribution to the nation. Regarding the news media as a hostile force and being close-mouthed or uncooperative leads to antagonistic, counterproductive practices and results in incomplete, inaccurate, and imbalanced stories.

Foster maximum disclosure with minimum delay. Because the Army is an agency of the US government, the public has a right to know about its operations; but, more importantly, the Army has an obligation to keep the public informed. Therefore, information will be made readily available, within the bounds of OPSEC. Open and independent reporting will be the norm, and journalists should be granted access to all units. Information should not be withheld solely to protect the Army from criticism or embarrassment. When speaking with a media representative, be honest, accurate, and candid.

MEDIA GUIDELINES FOR LEADERS AND SOLDIERS

As a leader or soldier, you have responsibilities when dealing with the media. The following paragraphs give some pointers in this area.

Know to whom you are talking. When a reporter comes to your unit, verify that he has been accredited by public affairs personnel. If the media representative is properly accredited,

assist him in gathering information for his story. If the media representative is not accredited, inform him that he must be accredited through military channels and assist him in getting accredited. If he is uncooperative, do not detain him, threaten him, try to apprehend him, or harm him. Report him and the incident through your chain of command.

Know your rights. It is your choice whether or not to speak to reporters. If you decide to speak with a media representative, you may talk without fear of repercussion or punishment. Keep your answers brief, simple, and to the point. Avoid rambling explanations full of acronyms and jargon. Always be professional and courteous. If necessary, ask the reporter to repeat, clarify, or rephrase his questions. Remember that you may refuse to answer any question you feel is inappropriate, and you can end the interview or conversation any time you desire.

Know your limits. Stick to subjects within your own area of responsibility and personal knowledge. If you do not know something, say so. Do not speculate! Do not repeat rumors! Be OPSEC aware. Be honest, accurate, and candid.

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View media visits as opportunities. Provide escorts and support to accredited media representatives whenever possible. Emphasize the positive aspects of your unit and mission. Introduce the reporters to your soldiers. Show them your equipment and training. Let them understand your motivation, pride, and morale. Their inside look at your unit can result in favorable coverage for your people, their accomplishments, the operation, and the Army.

Do not violate OPSEC or aid adversaries. Actual and potential adversaries have access to the information published by news media representatives. The most effective way to protect classified or sensitive information which might jeopardize your soldiers, unit, or mission or be used as propaganda against our nation and forces is to practice security at the source. If information is inadvertently provided, remain professional, seek the news media representative's assistance and cooperation, or obtain assistance through the chain of command. Do not attempt to forcefully confiscate the reporter's film, notes, or equipment, or detain, threaten, or apprehend the reporter.

Do not lose your professionalism or composure. When interacting with media representatives, you must always maintain a professional attitude. Never lose your composure or temper or give sarcastic responses to questions you feel are inappropriate. Never try to mislead, equivocate, or rationalize. Never threaten or attempt to physically interfere with, detain, or apprehend a reporter. Never try to confiscate a reporter's equipment.

Do not try to answer questions above your level or out of your area of expertise. Do not speculate, repeat rumors, respond to hypothetical questions, comment on remarks or statements you have not seen or heard, or discuss situations, issues, or subject matter which are outside the expertise of your command. If you cannot or do not want to answer a question, explain why.

Do not stage events or activities for the media. The media should be passive onlookers to normal activities. The presence of media representatives should not result in "dog and pony shows" or special events designed solely to gain favorable coverage or cover up an unfavorable situation. Before meeting with media representatives, soldiers should be given public affairs guidance, informed of Army themes and messages, and briefed to ensure their information is accurate and up to date. They should not be told what they can and cannot say.

APPENDIX E

LAUNDRY WASHING FORMULAS

All formulas listed in this appendix are based on a 60-pound clothing load for the M85-series mobile laundry units. To conserve time, manpower, and energy, all machines should be fully loaded when processing laundry, unless otherwise stated. Water level, length of time, and temperature for each operation are shown with each formula. Following laundry (washing) actions are implemented.

- *Items of similar fabric construction and types should be laundered together*. However, take care when laundering items containing blended materials such as cotton and wool and polyester and wool blends. Blended materials should be laundered according to laundering procedures for wool items. Antiredisposition agents may be added when laundering natural and synthetic blended materials. To better clean heavily soiled items, a prespotting agent may be used.

- *The detergent types listed can be used with good results in both soft and hard water*. When the supply of fresh water is low, seawater can be used if type II detergent is used in twice the amount shown for each suds operation. Fresh water should be used for the last two rinses.

- *Some detergents listed in formulations contain phosphates and should be used only in those areas where allowed by law.* The laundry manager should consult with the higher headquarters and local (i.e. state) EPA agency for guidance in this area. Alternate, nonphosphate-containing detergents are listed in the back of this appendix along with a complete list of laundry items.

NOTE: Laundry decontamination is not a mission performed by the QM FSC. However, due to METT-TC and directions from higher headquarters, the QM FSC, DS (or Modular) may assume the requirement to provide this support as needed.

Formula I. In Table E-1 formula I is used to decontaminate cotton, synthetic, and cotton and synthetic blends that are radioactively contaminated below the maximum tolerance level. A bleaching agent should be used white clothing is being laundered. About 3 ounces of bleach (80 to 100 PPM) is placed in the third sudsing operation. When bleach is used, 1.5 ounces of anti-chlor sodium thiosulfate is added in the second rinse operation. Extract for two minutes. Tumble dry at 150°F.

Table E-1. Formula I

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	Low	5	Lukewarm (100/38)	Detergent, type I, 6 oz
Suds	Low	5	Hot (130/55)	Detergent, type I, 4 oz
Suds	Low	5	Hot (140/60)	Detergent, type I, 2 oz
Rinse	High	2	Hot (140/60)	----------
Rinse	High	2	Warm (120/49)	----------
Rinse	High	2	Lukewarm (100/38)	Sour, 2 oz

Formula II. In Table E-2 formula II is used to launder sleeping bags (turn bag inside out, close zipper, and tie neck opening), polypropylene underwear for the ECWCS, and woolen items such as blankets, winter underwear, and socks. Three ounces of commercially available quarternary ammonium softener and bacteriostat is added in the second rinse (low water level) for underwear items. To reduce shrinkage and strain on the items, the washer should be fully loaded and stopped during filling and draining. Allow the extractor to reach top speed, and then shut it off. Be sure the tumbler is fully loaded. Dry sleeping bags are placed in tumbler at a temperature not exceeding 130°F. Dry polypropylene underwear at a temperature not exceeding 110°F. Dry woolen items at a temperature not exceeding 120°F.

Table E-2. Formula II

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	High	5	Lukewarm (90/32)	Detergent, type II, 6 oz
Suds	High	5	Lukewarm (90/32)	Detergent, type II, 4 oz
Rinse	High	2	Lukewarm (90/32)	----------
Rinse	High	2	Lukewarm (90/32)	----------
Rinse	High	2	Lukewarm (90/32)	Sour, 2 oz

Formula III. In Table E-3 formula III is used to launder hospital garments and linen items. A bleaching agent and sodium thiosulfate are used for white items only. Extract for two minutes and dry at 150° to 160°F. See Formula IX for laundering white cotton polyester nursing uniforms.

Table E-3. Formula III

Water Operation	Level	Time (min)	Temperature °F/°C	Supplies
Flush	High	2	Warm (110/43)	----------
Suds	Low	8	Warm (110/43)	Detergent, laundry, liquid-cold, 9 oz
Suds	Low	8	Warm (110/43)	Detergent, laundry, liquid-cold, 4 oz
Flush	High	2	Warm (110/43)	----------
Bleach (whites)	Low	9	Warm (110/43)	Bleach, sodium hypochloride, 4 oz (100-150 PPM)
Rinse	High	2	Cold (80/27)	----------
Antichlor	High	2	Cold (80/27)	Sodium thiosulfate, 1.5 oz
Rinse	High	2	Cold (80/27)	----------
Sour/softener	Low	5	Cold (80/27)	Sour, laundry, 3 oz Bacteriostat Softener, 3 oz (pH 6.5-7.0)
Antistat*	Low	5	Cold (80/27)	24 oz by volume

*Note: If antistat is required, dilute antistatic agent with equal amounts of water before adding it to the load.

Formula IV. In Table E-4 formula IV is used to make outer clothing, such as field wear and raincoats, water-repellent. Soiled garments sometimes lose repellency. If the garments show poor water-repellency after they are laundered and dried, they should be treated again. Treated garments are never starched. Be sure that the final rinse operation contains no residual suds. Sudsing interferes with the water repellency of the clothing items. More rising may be needed. Dry according to the care label instructions on the garment.

Table E-4. Formula IV*

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	Low	5	Lukewarm (100/38)	Detergent, liquid-cold, 5 oz
Suds	Low	5	Lukewarm (100/38)	Detergent, liquid-cold, 3 oz
Rinse	High	2	Lukewarm (90/32)	----------
Rinse	High	2	Lukewarm (90/32)	----------
Rinse	High	2	Lukewarm (90/32)	----------
Rinse	High	2	Lukewarm (90/32)	----------
Water-repellent treatment	High	10	Lukewarm (90/32)	Compound, water-repellant, textile-finish, type I, aqueous, 3 pints

*Note: Not for Quarpel-treated items.

Formula V. In Table E-5 formula V is used for mothproofing woolen items before they are stored for the summer or returned to stock. After washing the clothing, place items in extractor for two minutes. Dry the clothing at a temperature not exceeding 130°F/55°C. In a separate container, add 1 ounce Permanonce 40 EC to 1 quart of water (100°F). Add 5 ounces of commercial liquid fabric softener to Permanone and water solution. Stir well and add to final rinse water.

Table E-5. Formula V

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	High	5	Lukewarm (100/38)	Detergent, type II, 6 oz
Suds	High	5	Lukewarm (100/38)	Detergent, type II, 3 oz
Rinse	High	3	Cold (80/27)	----------
Rinse	High	3	Cold (80/27)	----------
Rinse	High	3	Cold (80/27)	----------

Formula VI. In Table E-6 (page E-4) formula VI is used to decontaminate clothing that is radioactively contaminated above the maximum tolerance level. For woolen clothing, change the formula to use type II powder detergent with water temperature of not more than 100°F/38°C. Also, the wash-extractor cylinder must be fully loaded and stopped during filling and draining. For white clothing or bedding, a bleaching agent should be used. An organic chelating agent, tetrasodium salt of ethylene diaminetetraacetic acid, is available commercially as Versene, Nullapon, or Sesquestrene. When hard water is used, the amount of chelate should be increased at the rate of 1 ounce chelate per 83 grains of water hardness. An equal weight of sodium hexametaphosphate or sodium tetraphosphate may be substituted for

the organic chelating agents. Dry cotton and synthetic items at 150°F and woolen items at a temperature not exceeding 120°F.

Table E-6. Formula VI

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	Low	5	Lukewarm (90/32)	Detergent, type I, 6 oz
Acid	High	5	Hot (140/60)	Citric acid crystals, 4 lb
Acid	High	5	Hot (140/60)	Citric acid crystals, 2 lb
Chelate	High	5	Hot (140/60)	Chelating agent, 1 lb dry weight
Rinse	High	3	Hot (140/60)	----------
Rinse	High	3	Warm (120/49)	----------
Sour	High	5	Tap water	Laundry sour, 1 1/2 oz (use equal parts of sodium silicofluoride and sodium acid fluoride)

Formula VII. In Table E-7 formula VII is used to launder and decontaminate chemically or biologically contaminated unimpregnated cotton, synthetic, and woolen items. Detergent and super tropical bleach (NSN 6850-00-264-8942) must be mixed together in water before they are put in the washer. Cotton and woolen items must not be put in the same wash load. When items such as belts, webbing, canteen covers, and pack carriers are washed, the time of the first suds should be increased to 15 minutes. Extract for two minutes and tumble dry cotton and synthetics at 150°F. Tumble dry wool at a temperature not exceeding 120°F.

Table E-7. Formula VII

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	High	5	Lukewarm(90/32)	Detergent, type II, 6 oz; decontaminating agent; super tropical bleach (STB), 2.5 lb
Suds	High	5	Lukewarm(90/32)	Detergent, type II, 4 oz
Rinse	High	2	Lukewarm(90/32)	----------
Rinse	High	2	Lukewarm(90/32)	----------
Rinse	High	2	Lukewarm(90/32)	Sour, 2 oz

Formula VIII. In Table E-8 (page E-5) formula VIII is used to launder durable press garments and BDUs. Load the washer with 60 pounds of laundry. Load the extractor with 30 pounds from the full 60 pounds wash load. Type II detergent is used when laundering BDU items. To prevent the setting of creases, allow the extractor to reach top speed and shut it off immediately. Do not wring or twist garments. DO NOT STARCH, BLEACH, OR PRESS BDU ITEMS; however, this recommendation is left up to the post commander to do otherwise. (See Table E-12, page E-8, for a new wash formula for ECWCS PTFE parka and trousers.)

Table E-8. Formula VIII

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	High	8	Warm (110/43)	Detergent, laundry, liquid-cold, 4 oz
Suds	High	6	Warm (110/43)	Carry-over
Rinse	High	3	Lukewarm (90/32)	----------
Rinse	High	3	Lukewarm (90/32)	----------
Sour	Low	3	Lukewarm (90/32)	Sour, laundry, 3 oz

Formula IX. In Table E-9 formula IX is used to launder white cotton-polyester nursing uniforms. Loads in washer and dryer must not exceed two-thirds of their capacity. The washer should be stopped during filling and emptying. Before placing the uniforms in the washer, close the zipper and snap fasteners. Extract for two minutes, and tumble dry at 150°F.

Table E-9. Formula IX

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	High	12	Warm (110/43)	Detergent, low temp, 6 oz
Suds[1]	High	10	Warm (110/43)	Detergent, low temp, 6 oz
Rinse	High	2	Cold (80/27)	----------
Rinse[2]	High	2	Cold (80/27)	----------
Sour	High	4	Cold (80/27)	----------
Rinse	High	8	Cold (80/27)	Sour/softener
Antistat[3]	Low	5	Cold (80/27)	24 oz by volume

[1]If bleach is required, use at the rate of 2 quarts of 1-percent bleach or 2 ounces of dry bleach (15 to 16 percent available chlorine) per 100 pounds of garments. Dilute with water before adding.
[2]If bleach is used, add anti-chlor sodium thiosulfate at the rate of 1 ounce per 100 pounds of clothes.
[3]Dilute antistatic agent with equal amounts of water before adding.

Formula X. In Table E-10 formula X is used to launder white arctic snow camouflage clothing. The presence of any detergent in the last rinse has a detrimental effect on water-repellency of garments. Further rising may be necessary to prevent residual detergent sudsing. After washing the garment, extract for two minutes. Tumble dry at 160°F.

Table E-10. Formula X

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Prespotting Agent	-------	------	------	----------
Suds	Low	8	Hot (130/54)	Detergent, low-phosphate, type I, 6 oz
Suds	Low	8	Hot (130/54)	Detergent, low-phosphate, type I, 3 oz
Rinse	High	2	Hot (150/66)	
Bleach	High	8	Hot (160/71)	Hydrogen peroxide* 30%, 12 oz
Rinse	High	5	Hot (140/60)	
Sour/ *Optical Brightener	High	4	Lukewarm (100/38)	Sour, 3 oz/optical brightner, 3 oz

*Available from laundry supply houses.

Formula XI. In Table E-11 formula XI is used to rejuvenate the antistatic properties of Nomex/Kevlar uniforms.

Table E-11. Formula XI

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	Low	8	Warm (120/49)	Detergent, low-phosphate, type I, 7 oz
Suds	Low	10	Warm (120/49)	Detergent, low-phosphate type I, 4 oz
Rinse	High	2	Warm (110/49)	----------
Rinse	High	2	Lukewarm (100/38)	----------
Sour	Low	2	Lukewarm (90/32)	Sour, laundry, 2 oz
Antistatic Agent [1, 2]	Low	5	Lukewarm (90/32)	Antistatic, 24 oz

[1]Dilute the antistatic agent, NSN 7930-00-965-9830 (P-R-1420), with at least an equal amount of water before adding it to the load. An antistatic agent may be obtained from E. I DuPont De Nemours EI and Company under the trade name Avetex DN.

[2]The U.S. Army Natick Research, Development and Engineering Center has completed extensive laundry tests to determine the durability of the antistatic finish applied on the Nomex/Kevlar fabrics used by the Army. The effectiveness of the antistatic laundry treatment was also part of this study. In light of the information obtained in this study, previous information regarding the retreatment of Nomex/Kevlar has been revised and the recommendations should be followed:

a. All current Nomex/Kevlar uniforms should be retreated with an anti-static finish, Natick Formula X for post laundry or Formula IX as specified in the reference for the field, every time uniforms are laundered in the field or on post.

b. When laundering Nomex/Kevlar uniforms at home or in the barracks, a chemical laundering softener should be used either in the wash or drying cycle each time the garments are laundered.

Formula XII. In Table E-12 formula XII is used to launder and restore the water repellency properties of the ECWCS PTFE parka and trouser. Type II detergent is used. **DO NOT STARCH, BLEACH, DRY CLEAN OR PRESS ITEMS**. Dry parka and trouser at a temperature not to exceed 150°F.

Table E-12. Formula XII

Operation	Water Level	Time (min)	Temperature °F/°C	Supplies
Suds	High	12	Warm (110/43)	Detergent, type II P-D-245, 6 oz
Rinse	High	4	Lukewarm (90/32)	None
Rinse	High	4	Lukewarm (90/32)	None
Rinse	High	4	Lukewarm (90/32)	None
Sour	Low	4	Lukewarm (90/32)	3 oz
Water Repellent[1]	Low	5	Lukewarm (90/32)	20 oz for 40 lb of clothing[2]

[1]The National Stock Numbers for approved water repellents to be used on ECWCS are 8030-01-408-9444 (5 gallons) and 8030-01-408-9445 (55 gallons). These products can be purchased through GSA and they are the only approved water repellent compounds that can be used to restore the water repellency of these items and provide the performance level required to protect the soldier from the elements.

[2]This amount is based on 40 pounds of clothing which is equivalent to 0.5 oz per pound of clothing.

Table E-13. Laundry supplies

Item	National Stock Number	Container Size	Federal or Specification
Bleach, Laundry, Sodium Hypochlorite	6810-00-598-7316	1 gal	NA
Citric Acid	6810-00-141-2942	50 lb	MIL-C-11029C
Chelating Agent[1]	Commercial Product	NA	NA
Decontaminating Agent STB	6850-00-297-6653	50 lb	MIL-D-12468B
Detergent, Low-Phosphate (type II)	7930-00-929-1220	50 lb	P-D-245E
Detergent, Nonphosphate (type II)	7930-00-252-6797	50 lb	P-D-245E
Detergent, Laundry, (Liquid-Cold Water)	7930-01-214-8777	5 gal	MIL-D-44160
Detergent, Low Temperature Nonphosphate[2]	Commercial Product	NA	NA
Permano 40 EC[3]	Commercial Product	NA	NA
Prespotting Agent	6810-01-015-7939	1 gal	MIL-S-43910
Sodium Thiosulfate Anti-Color	6750-00-292-8190	100 lb	O-C-275C
Sodium Tetra-phosphate (Chelating Agent Substitute)	6810-00-949-8332	100 lb	NA

Table E-13. Laundry supplies (continued)

Item	National Stock Number	Container Size	Federal or Specification
Softener/Bacteriostat[4]	Commercial Product	NA	NA
Sour, Laundry	7930-00-291-8321	50 lb	A-A-1374
Water-Repellent Compound (Aqueous System) (type I)	8030-00-264-3875	5 gal	TT-W-156B

[1]A commercial chelating agent is tetrasodium salt of ethylene diamine tetraacetate. Trade names include Sequestrene, Nullapon, and Versene.
[2]Commercial detergents procured locally. Trade names include Liquid Tide and Era Plus.
[3]A commercial product that may be obtained from Fairfield American Corporation, Medina, NY 14103.
[4]Commercial products containing Quaternary Ammonium compounds. They are procured locally.

APPENDIX F

***DRY WEIGHTS OF STANDARD CLOTHING ITEMS**

Item	Wt lb	Item	Wt lb
Bag, Duffle	2.33	Mitten Set, Artic	1.45
Blanket, Wool	4.00	Mitten, Shell, Cotton, White	.20
Cap, Combat,	.35	Muffler, Wool	.40
Woodland Camouflage Pattern			
Cap, Field, Cotton	.18	Parka, Man's	3.10
Cap, Field, Cotton,Wool Pile	.45	Parka, Woman's Wool Pile	2.48
Lining Lining			
Coat, Combat,	1.65	Parka, Overwhite, Man's	1.50
Woodland Camouflage Pattern			
Coat, Lightweight	.97	Shirt, Man's, Wool, OG 108	1.60
Coat, Man's, Field	3.25	Shirt, Woman's, Winter, Cotton	.75
Coat, Utility	1.36	Shirt, Utility, Cotton	1.35
Drawers, Cotton, Short	.22	Socks, Man's or Woman's,	.20
Wool, Cushion Sole			
rawers, Man's Winter	.88	Suspenders, Trousers	.25
Gloves, Insert, Wool	.14	Towel, Bath	.75
Handkerchief	.10	Trousers, Combat, Woodland	1.12
Camouflage Pattern			
Hood, Winter (Field Jacket)	.28	Trousers Lightweight	.92
Hood, Winter (Fur Ruff)	.85	Trousers, Man's, Cotton Jean,	.90
White			
Liner, Coat, Man's	2.20	Trousers, Man's, Cotton,	2.25
Weather-Resistant Sateen			
Liner, Coat, Woman's	2.30	Trousers, Man's Outer	1.12
Liner, Parka, Man's	2.93	Trousers, Man's or Woman's,	1.75
Wool Serge (Cold-Wet)			
Liner, Trousers, Artic	2.20	Trousers, Utility, Cotton	1.39
Liner, Trousers, Field	1.70	Undershirt, Cotton, Short Sleeve	.30
(Cold-Dry)			
Mitten Inserts, Trigger	.21	Undershirt, Winter	.87

*These are approximate weights of standard clothing items. The average weight of durable press items should be somewhat lighter than that of cotton items.

APPENDIX G

CLOTHING RESIZING

Measurements listed in Tables G-1 through G-13 (pages G-2 through G-7) within this appendix are to be used with data found in TM 10-227. Clothing resizing is not a mission for FSC, DS (or FSC, Modular). This will normally be done by the laundry and renovation company or either by commercially contracting or using HNS. Since the laundry and renovation company is presently not resourced, the FSC, DS (or Modular) may assume this requirement, depending on METT-TC and/or tasking/directions from higher headquarters.

REASONS FOR RESIZING

Garments which have been changed from the original sizes because of shrinkage or repair must be resized. Measurements have been set for standard sizes of each type of garment. Examples of these measurements are given in the table charts.

METHODS

This appendix explains the prescribed methods for taking measurements of some of the common items of clothing. The methods may be used as a guide for measuring similar garments.

- **Coats**. The following guidelines should be implemented in taking coat measurements.

  •• *Bust Measurement*. On coats for both men and women, the bust measurement is taken at the base of the armholes, from folded edge to folded edge, with the front closed. On a man's coat, a measurement of 19 3/4 inches shows a full bust measurement of 39 1/2 inches, and the coat size is X-Small. On a woman's coat, a measurement of 21 inches shows a full bust measurement of 42 inches, and the coat is a size 8.

  •• *Sleeve Length*. The sleeve length is measured on a man's coat along the center of the top of the sleeve. The measurement is made from top to bottom. On a woman's coat, the sleeve is measured along the inseam from the base of the armhole to the bottom edge of the cuff. On women's coats, the back length and the waist are also measured.

- **Coat Liners**. The following guidelines should be used on coat liner measurements.

  •• *Bust Measurements*. This measurement is taken with the coat liner flat and the front edges touching. (The woman's liner is buttoned.) The measurement is made from folded edge to folded edge at the base of the armhole, and it is one half of the full measurement.

  •• *Sleeve Length*. The sleeve measurement on the man's liner is made from the center of the top of the sleeve to the bottom edge. The woman's liner is measured from the bottom of the armhole to the bottom edge of the cuff.

- **Shirts**. The following guidelines should be used on shirt measurements.

  •• *Collar Measurements*. The collar measurement is used for men's shirts. It is the distance from the collar end to collar end. The measurement may also be used for women's shirts.

•• *Sleeve Length*. The sleeve inseam is measured from the base of the armhole to the bottom of the cuff.

•• *Back Length*. When the back length is used, it is the measurement from the center of the back from the under-collar seam to the bottom of the shirt.

- **Undershirts**. The following guidelines should be used for undershirt measurements.

•• *Sleeve Length*. The sleeve is measured from the shoulder top of the armhole seam to the bottom of the cuff.

•• **Length**. The length of the undershirt is measured from the top to the bottom of the hem.

- **Trousers and Slacks**. The following guidelines should be used for trouser and slack measurements.

•• *Waist Measurement*. On men's trousers, the waist is measured with the fly closed and the trouser's front smooth flat. The waist is measured at the waistband from side seam to side seam. The measurement is one half of the total waist. On women's slacks, the waistband is closed, and measurement is taken from the fold on the left side to the fold on the right side. This measurement is also one half of the total waist.

•• *Leg Length*. The inseam is measured on men's trousers starting from the crotch and going to the bottom of the trouser leg. The outseam is measured on women's slacks by measuring from the bottom edge of the waistband to the bottom edge of the leg.

•• *Hip Measurement*. On women's slacks, the hip is measured 8 3/4 inches down from the waistband. The measurement is taken from side edge to side edge. This is one half of the hip measurement.

Table G-1. Caps

Garment	Size	Inside Measurement (minimum) (in)	How Determined
Cap, has weather, polyester and rayon, gabardine, OG-106, with visor	6 3/8	20 1/8	Specific size is determined by measuring the headband inside the cap in inches and dividing by 3.19.
	6 1/2	20 1/2	
	6 5/8	20 7/8	
	6 3/4	21 1/4	
	6 7/8	21 5/8	
	7	22	
	7 1/8	22 3/8	
	7 1/4	22 3/4	
	7 3/8	23 1/8	
	7 1/2	23 1/2	
	7 5/8	23 7/8	
	7 3/4	24 1/4	
	7 7/8	24 5/8	

Table G-2. Drawers

Garment	Size	Length (minimum) (in)	1/2 Waist (minimum) (in)	How Determined
Drawers, men's ankle length	Small	36 3/8	11 5/8	Size determined by length and waist measurement in inches.
	Medium	37 1/4	12 1/2	
	Large	38 1/8	13 3/8	
	X-Large	39	14 5/8	
	XX-Large	39 7/8	15 1/8	

Table G-3. Socks

Garment	Size	Inches	How Determined
Socks, cotton-nylon wool, OG-408,	S (9-10)	8 to 9	Size is determined by measuring foot length of socks from back of heel to toe with sock flat and smooth.
	M (10 1/2-11 1/2)	9 1/4 to 10 1/2	
	L (12-13)	10 3/4 to 12 5/8	

Table G-4. Trousers

Garment	Size	Leg Inseam Measurement			Waist	How Determined
		Short	Reg	Long		
Trousers, cold weather, cotton and nylon, wind-resistant, OG-107	X-Small	26			13 3/4	Size is determined by actual waist and leg inseam measurement in inches.
	Small	26	29	32	15 3/4	
	Medium	26	29	32	17 3/4	
	Large		29	32	19 3/4	
	X-Large		29	32	21 3/4	

Table G-5. Undershirts

Garment	Size	Full Length (in)	Sleeve Length (in)	How Determined
Undershirts, man's pullover	Small	22 1/8	16 1/4	Size is determined by sleeve and full-length measurement in inches.
	Medium	23	16 7/8	
	Large	23 7/8	17 1/4	
	X-Large	24 3/4	17 3/4	

Table G-6. Men's shirts

Garment	Size	Collar (minimum) (in)	Sleeve Length (minimum) (in)	How Determined
Shirt, cotton and polyester, tan 445, durable press	X-Small	14	31 1/2	Size is determined by collar size and sleeve length.
	Small	15	32	
	Medium	16	32 1/2	
	Large	17	33	
	X-Large	18	33 1/2	

Table G-7. Men's coats

Garment	Size	1/2 Bust (minimum) (in)	Sleeve Length (minimum) (in)			How Determined
			Short	Reg	Long	
Coat, cold weather, nylon, wind-resistant, OG-107	X-Small	19 3/4		23 3/4	25 1/4	Size is determined by bust and sleeve measurement.
	Small	21 3/4	23 1/4	23 3/4	25 5/8	
	Medium	23 3/4	23 5/8	24 5/8	26 1/8	
	Large	25 3/4	24 1/8	25 1/8		
	X-Large	27 3/4		25 1/2		

Table G-8. Men's liners

Garment	Size	1/2 Bust (minimum) (in)	Sleeve Length (minimum) (in)	How Determined
Liner, cold weather, coat, OG-106	X-Small	20	19 5/8	Size is determined by bust and sleeve measurements.
	Small	22	21 1/8	
	Medium	24	21 3/8	
	Large	26	21 5/8	
	X-Large	28	22	

Table G-9. Skirts

Garment	Size	Finished Measurements (in) 1/2 Waist	1/2 Hip	Length	How Determined
Skirt, wool field	8	12	17 1/2	27	With the waistband buttoned on the middle buttons, waist measurement is taken from folded edge to folded edge at center of waistband. Hip measurement is taken from folded edge to folded edge 1/2 inch below placket opening. Skirt length measurement is taken from lower edge of waistband to bottom edge of skirt along the center of the back.
	10	12 3/4	18 1/4	28	
	12	13 1/2	19	28 1/2	
	14	14 1/4	19 3/4	29	
	16	15	20 1/2	29 1/4	
	18	16	21 1/2	29 1/2	
	20	17	22 1/2	29 3/4	

Table G-10. Slacks

Garment	Size	Finished Measurements (in) 1/2 Waist	1/2 Hip	Leg Outseam	How Determined
Slacks, women's cotton, poplin, OG-107	8	11 3/4	18 1/2	45 1/4	Measurements are taken slacks placed flat on a table, buttoned to the center button at each end of the back. Waistband and side closure buttons fastened. Waist measurement is taken from folded edge to edge at center of waistband. The hip measurement is taken from side edge to side edge through points 8 1/2 inches from bottom edge of waistband on front seams and side edges. Leg outseam measurement is taken along outseam from the lower edge of the waistband to the bottom of the leg.
	10	12 1/2	19 1/4	45 1/2	
	12	13 1/4	20	45 3/4	
	14	14	20 3/4	46	
	16	14 3/4	21 1/2	46 1/4	
	18	15 3/4	22 1/4	46 1/2	
	20	16 3/4	23 1/4	46 3/4	

Table G-11. Women's shirts

Garment	Size	Finished Measurements (in) 1/2 Bust	Sleeve Length	Back Length	How Determined
Shirt, women's cotton	8	17 3/4	20 1/8	26	With shirt buttoned, bust measurement is taken from folded edge to folded edge at base of armhole. Sleeve measurement is taken from base of armhole to bottom edge of sleeve. Back measurement is taken along center of back from undercollar seam to bottom of shirt.
	10	18 1/2	20 3/8	26 1/4	
	12	19 1/4	20 1/2	26 1/2	
	14	20	20 5/8	26 3/4	
	16	20 3/4	20 3/4	27	
	18	21 3/4	20 7/8	27 1/4	
	20	22 3/4	21	27 1/2	

Table G-12. Women's coats

Garment	Size	Finished Measurements (in) 1/2 Bust	1/2 Waist	Sleeve Length	Back Length	How Determined
Coat, cotton/ nylon, field	8 reg	26 1/2	21	20	20	With coat buttoned, bust and waist measurements are taken from folded edge to folded edge at base of armhole for regular sizes and in line with center front button for long sizes. Sleeve measurement is taken along inseam from base of armhole to bottom edge of cuff. Back measurement is taken along center back from under collar seam to bottom edge.
	10 reg	26 3/4	21 3/4	20 3/4	20	
	12 reg	26 3/4	22 1/2	21 1/2	20 3/4	
	12 long	22 1/2	21 1/2	23	29 3/4	
	14 reg	26 7/8	23 1/2	22 1/4	21 1/4	
	14 long	23 1/4	22 1/4	23	29 3/4	
	16 reg	26 7/8	24	23	21 1/4	
	16 long	24	23	23	29 7/8	
	18 reg	27 1/4	25	24	21 1/2	
	18 long	25	24	23 1/2	30 1/4	
	20 reg	28 1/8	26	25	22 1/4	

Table G-13. Women's liners

Finished Measurements (in)					
Garment	**Size**	**1/2 Bust**	**Sleeve Length**	**Back Length**	**How Determined**
Liner, coat, field	8	18 3/4	23 1/2	24 1/4	With liner buttoned and placed flat on a table, bust measurement is taken from folded edge to folded edge at base of armhole. Sleeve measurement is taken from armhole seam to bottom edge of cuff. Back measurement is taken along center back from collar seam to bottom.
	10	19 1/2	23 3/4	24 1/2	
	12	20 1/4	24	24 3/4	
	14	21	24 1/4	25	
	16	21 3/4	24 1/2	25 1/4	
	18	22 3/4	24 3/4	25 1/2	
	20	23 3/4	25	25 3/4	

APPENDIX H

S/L SUPPLEMENTS

(Items Available for Unit and Individual Level Field Services)

Tables H-1 through H-3 (pages H-1 and H-2) are items that are available to support S/L operations. As the user, you should identify those S/L requirements that support your operational mission need. These items listed in the following tables are only recommendations.

Table H-1. Items currently in Army inventory

Item Description	NSN
1. Shower pail, collapsible, 5-gallon capacity (Australian shower bucket), cost about $18	8465-00-935-6649
2. Dishpan, SSSC, $34	7330-00-935-6649
3. Sewing Kit, SSSC	
4. Clothes pin, GSA, $0.85, 18-ct package	7290-00-205-3094
5. Clothesline, GSA, $1.92, 50 feet	4010-00-580-2963
6. Towelettes, GSA, $22.27, 2,000-ct box	8520-00-782-3554
7. Wash basin, GSA, aluminum, $11.81, 3-quart capacity	7240-00-634-2424
8. Wash basin, GSA, polyethylene, $1.24	7240-00-985-7451
9. Barber's kit, GSA, electric, $235.74 (nonelectric clippers available)	3590-00-058-1837
10. Pail, metal, lightweight, GSA, $3.58 12-quart capacity	7240-00-274-3875
11. Pail, metal, heavyweight, GSA, $6.72 14-quart capacity	7240-00-160-0455
12. Pail, collapsible, GSA, $5.65 3-gallon capacity	8465-00-128-6928

Table H-2. Commercial items available for individual level shower

Item Description	Approximate Cost
1. Solar shower bag: Plastic, 5-gallon capacity.	$3.00
2. Wash basin: A fold-up, camouflage color, 11.5 inches in diameter.	$8.00
3. EDZ mobile shower: An attache case size shower unit (Swiss made).	$50.00
4. Hot Dog/Pit Bull water heating and water pressuring system: They weigh 39 and 49 pounds respectively and use propane fuel; (company/platoon level shower). Manufactured by Wolter Systems of Cincinnati, Ohio.	
5. Packmate: A self-contained personal hygiene canister that has soap, washcloth, sewing kit, toothpaste, toothbrush, razor and blades, pen and pencil, comb, lighter, flashlight, deodorant, built-in mirror, and room for other special needs. Manufactured by Vaughan Industries, Inc. of Anchorage, Alaska	

Table H-3. Other S/L possible items

Item	Usage Description
1. Sanator, M17	A decontamination apparatus that can be used as a shower.
2. Portable unit shower	A 24th Infantry Division initiative adopted by project SMART and approved by DA DCSLOG. Parts to construct cost about $300. It can be used with a 400-gallon water trailer or adapted to use tap water, larger water tanker, or service water.
3. A field-expedient modification of a 5-gallon can	A modified 5-gallon can be used for washing hands by adding a spigot or as a makeshift shower by placing holes in its bottom.

GLOSSARY

AAR after action review

ACofS Assistant Chief of Staff

ADC area damage control

A**DSM** automated data systems manual

AFFS Army Field Feeding System

agility The ability of friendly forces to act faster than the enemy and is a prerequisite for seizing and holding the initiative. It is as much mental as a physical quality.

AISM automated information systems manual

AMDF Army Master Data File

anticipation The ability to avoid surprise as operations unfold; mental and physical adjustments as a result of monitoring operations and determining future actions.

AO area of operation

AR Army regulation

area defense Denying the enemy access to designated terrain for a specific time to retain ground using a combination of defensive positions and small, mobile reserves.

area of operations A geographical area assigned to an Army commander by a higher commander -- an AO has lateral and rear boundaries which usually define it within a lager joint geographical area.

Army The term "Army" includes the Active Component, Army National Guard, the US Army Reserves, and Department of Army civilians.

Army operations The Army's basic fighting doctrine, reflecting how the Army in a new, strategic era capitalizing on full dimension operations) will win the nation's wars by fighting as part of a joint force of the United States and providing for a force-projection army that can build and sustain substantial combat power in remote regions of the globe and conduct operations other than war.

Army support for disaster assistance The authorized use of Army physical and human resources to support civilian disaster relief.

ARTEP Army Training and Evaluation Program

ASG area support group

ASL authorized stockage list

assured communications The certainty of priority electronic transmission capability when needed throughout the strategic, operational, and tactical areas of operation.

attack Sabotage or the use of bombs, shellfire, or nuclear radiological, chemical, bacteriological, or biological means, or other weapons or process by an enemy causing, or that may cause, substantial damage or injury to persons or property in the United States (or its territories) in any manner.

ATTN attention

authorized stockage list A list of all items authorized to be stocked at a specific echelon of supply. The following are various types of authorized stockage lists: prescribed load list, direct support unit stockage list, installation stockage list, maintenance shop stock, field Army depot stockage lists, theater authorized stockage list, national inventory control point demand stockage list, and list of items for operational projects.

battle A series of related tactical engagements.

battle damage assessment The process of determining the essential tactical reconsitution requirements for an attrited unit; the process of determining the combat effectiveness of the enemy after engagement by friendly force.

battle space Components determined by maximum capabilities of a unit to acquire and dominate the enemy; includes areas beyond the AO; varies over time according to how the commander positions his assets.

BCOC base cluster operations center

BDOC base defense operations center

BDMA brigade distribution management activity

BDU battle dress uniform

Bn battalion

BSA brigade support area

C^2 command and control

C^3I command, control, communications, and intelligence

C^2P command and control protection

CA combat arms

CAS close air support

CASCOM United States Army Combined Arms Support Command

CBU cluster bomb unit

cdr commander

CE command element or communications-electronics

CES clothing exchange services, classified as a supply action

civil affairs Activities conducted during peace and war that facilitate relationships between US forces, civil authorities, and people of the nation in which the US military forces are operating.

civil emergency Any natural or man-made disaster or emergency that causes or could cause great harm to the population or infrastructure, to include a "major disaster" or "emergency" as those terms are defined in The Strafford Act, as amended, as well as consequences of an attack or national security emergency. "Major disasters" and "emergencies" are defined substantially by action of the President in declaring that extenuating circumstances and risks justify his implementation of the legal powers provided by statue.

CO commander

Co company

COB command operating budget

combat service support See Joint Pub 1-02. The focus of logistics at the tactical level of war, the synchronization of essential functions, activities and tasks necessary to sustain soldiers and their weapon systems in an area of operations; includes but is not limited to that support rendered by service support troops to arm, fuel, fix, move, man, and sustain soldiers and their equipment.

combat service support control system A C^2 system used to do the CSS mission. It is one of five battlefield function areas that provides force commanders with an automated means for obtaining and disseminating essential and current CSS information. It also provides CSS unit commanders and staffs with automated means for developing and disseminating information to force commanders and provides CSS commanders the means for exercising C^2 of their resources.

combined operations An operation conducted by forces of two or more allied nations acting together for the accomplishment of a single mission.

command and control The exercise of authority and direction by a properly designated commander over assigned forces in doing the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures used by a commander in planning, directing, coordinating, and controlling forces and operations in doing the mission.

commander's intent A concise expression of the purpose of an operation, a description of the desired end state, and the way in which the posture of that goal facilitates transition to future operations.

communication system An organized assembly of resources which convey information of any kind.

communication resources Personnel, equipment, documentation, relationships, training, allies, host nation support, and all means available to plan, install, operate, and maintain communication activities.

Cryptosecurity The component of COMSEC that results from the provision of technically sound cryptosystems and their proper use. This implies the following aspects --

Transmission security The component of COMSEC that results from all measures designed to protect transmissions from interception and exploitation by means other than crytoanalysis.

Emission security The component of COMSEC that results from all measures taken to deny unauthorized persons information of value that might be derived from intercept and analysis of compromising emanations from crytoequipment and telecommunications systems.

Physical security The component of COMSEC that results from all physical measures necessary to safeguard classified equipment, material, and documents from access or observation by unauthorized persons.

communications zone See Joint Pub 1-02.

community assistance The authorized use of Army assets to provide support, enhance relations, and promote mutual understanding between the Army and civilian community.

COMD command

COMMO communication

communications security The protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications, or to mislead unauthorized persons in their interpretation of the results of such possession and study. Also called COMSEC. This includes cryptosecurity, transmission security, emission security, and physical security of COMSEC materials and information.

communications zone The rear part of the theater of war or theater of operations that contains the lines of communications, theater logistics bases, forward operating bases, and other agencies required for the immediate support and maintenance of the field force; extends back to the CONUS base.

COMMZ communications zone

COMSEC communications security

concept of logistics support A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to the logistics support to be provided to an operation or campaign; always developed concurrently and closely integrated with a companion concept of operations.

CONUS continental United States

COSCOM corps support command

CP command post

CR clothing repair (and limited, lightweight textile repair)

CS combat support

CSB Corps Support Battalion

CSH combat support hospital

CSS combat service support

CSSCS combat service support control system

CSSL containerized self-service laundry

ct carton

CTA common table of allowances

CWA Clean Water Act

CZ combat zone

DA Department of the Army

DOD Department of Defense

depth The concept extension of operations in time, space, resources, and purpose. To think in depth is to forecast and anticipate so that the enemy can be attacked simultaneously throughout the depth of the battlefield.

DEW deliberate directed energy warfare

DS (direct support) A mission requiring a force to support another specific force and authorizing it to answer the supported force's request for assistance directly.

DISCOM division support command

distribution system That complex of facilities, installations, methods, and procedures designed to receive, store, maintain, distribute, and control the flow of military materiel between the point of receipt into the military system and the point of issue to using activities and units.

DIV division

DLAM Defense Logistics Agency Manual

DS direct support

doctrine Fundamental principles by which military forces guide their actions in support of national objectives; doctrine is authoritative but requires judgement in application.

ea each

EA electronic attack

economy of forces The judicious employment and distribution of forces. Employment of all combat power available in the most effective way possible; allocate minimum essential combat power to secondary efforts.

ECWC extended cold weather clothing

electronic warfare Military actions including: *electronic attack* -- the use of either electromagnetic or directed energy to degrade, neutralize, or destroy an enemy's combat capability; *electronic protection* -- those actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare; *electronic warfare support* -- those actions tasked by an operational commander to search for, in-magnetic energy for the purpose of immediate threat recognition.

EMP electromagnetic pulse

EOD explosive ordnance disposal

EODCG explosive ordnance disposal group

EODCT explosive ordnance disposal team

EPA Environmental Protection Agency

EPW enemy prisoners of war

exploitation The attacker's extension of destruction of the defending force by maintaining offensive pressure.

equip equipment

EW electronic warfare

F Fahrenheit

FASCAM family of scatterable mines

field services Logistical soldier sustainment functions such as food preparation, water purification, bakery, clothing and light textile repair, laundry and shower, airdrop and parachute rigging, and mortuary affairs.

FL Florida

FLOT (forward line of own troops) See Joint Pub 1-02.

FM field manual

force projection The movement of military forces from CONUS or a theater in response to requirements of war or stability and support operations. Force-projection operations extend from mobilization and deployment of forces, to redeployment to CONUS or home theater, to subsequent demobilization.

Force Provider A transportable support system, operated by a company-size unit, equipped to provide services (food, hygiene, billeting, and morale) support for up to 3,000 soldiers. May be used to provide support to humanitarian aid, disaster relief missions, and peacekeeping missions.

Force XXI The Army's approach in planning to reengineer and redesign America's army structure for the twenty-first century, integrating modern information technology.

FORSCOM forces command

FPC force provider company

FPF final protective fire

fratricide The employment of friendly weapons and munitions with the intent to kill the enemy or destroy his equipment or facilities, which results in unforeseen and unintentional death or injury to friendly personnel.

FS field service

FSB forward support battalion

FSC field service company

ft feet

fwd forward

G1 Division Personnel Administration Officer (US Army)

G2 Division Intelligence Officer (US Army)

G3 Division Operations and Training Officer (US Army)

G4 Division Supply Officer (US Army)

gal gallon

GP general purpose

GPS global positioning system

GS general support

GSA General Services Administration

hazard A condition with the potential of injuring personnel, damaging equipment, or structures, losing material, or reducing ability to perform a prescribed function.

HAZCOM hazardous communications

HCP health and comfort packs 1 and 2

HEMMT heavy-expandable mobility tactical truck

HHC headquarters and headquarters company

HHD headquarters and headquarters detachment

HM hazardous materials

HMMWV high-mobility multi-wheeled vehicle

HNS host nation support

host nation support Civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, times of crisis, emergencies, or war; assistance provided during war is based upon agreements mutually concluded between nations.

HQ headquarters

HTF how-to-fight

H&S heat and serve

humanitarian assistance Assistance provided by DOD forces, as directed by appropriate authority, in the aftermath of natural or man-made diasters to help reduce conditions that present a serious threat to life and property; assistance provided by US forces is limited to scope and duration and is designed to supplement efforts of civilian authorities who have primary responsibility for providing such assistance.

HV high-velocity

HW hazardous waste

IAW in accordance with

ICM intercontinental missile

ICBM intercontinental ballistic missile

ID identification

IHFR improved high frequency radio

IMA information mission area

in inches

indiv individual

information mission area The resource requirements and associated information management activities used in developing, using, integrating, and managing of information. The IMA includes resources and activities used in acquiring, developing, processing, transmitting, distributing, retrieving, maintaining, disposing, and managing information. Information resources include doctrine, policy, data, equipment, related personnel, services, facilities, and organizations. The Army's IMA environments are theater/tactical, strategic, and sustaining base. IMA includes the five disciplines of communications, automation, visual information, records management, and printing/publications

initiative The ability to set or change the terms of battle; implies an offensive spirit in the coduct of all operations.

IUSHOW individual/unit shower

joint forces See Joint Pub 1-02.

JRA joint rear area

L large

LADS laundry and dry-cleaning system (or laundry advanced dry-cleaning system)

ldry laundry

LMTV light military tactical vehicle

LNO liaison officer

LO lubrication order

LOGCAP logistics civil augmentation program

M medium or modular

maint maintenance

major disaster Any disaster caused by flood, drought, fire, earthquake, storm, hurricane, or environmental hazard of catastrophic magnitude that has major impact on life and property.

Material Management Center A functional center that performs integrated supply and maintenance management of all classes of supply (except Class VIII, COMSEC, and classified maps).

MCC (movement control center) A functional center that provides centralized movement management and highway regulations in support of both logistical and tactical transportation requirements.

MCO movement control officer

METT-TC mission, enemy, terrain and weather, troops, and time available and civilian considerations.

MILES multiple integrated laser engagement simulation

military support to civil authorities Those activities and measures taken by DOD components to foster mutual assistance and support between the Department of Defense and any civil government agency in planning or preparing for, or in the application of resources in response to the consequences of civil emergencies or attacks, including national security emergencies.

MKT mobile field kitchen trailer

MMC Materiel Management Center

modular An element/entity or organization/unit comprised of multiple capabilities; depending on requirement, modules can be added or subtracted from the unit organization or force package.

MOPP mission-oriented protective posture

MOS military occupational specialty

MOUT military operations on urbanized terrain

MP military police

MRE meals ready to eat

MRO materiel release order

MSB main support battalion

MSE multiple subscriber equipment

MRST material readiness support team

MTOE modification table of organization and equipment

MTP mission training plan

MWR morale, welfare, and recreation

nation assistance Diplomatic, economic, informational, and military cooperation between the US and the government of

national security emergency Any occurrence, including natural disaster, military attack, technological emergency, or other emergency, that seriously degrades or threatens the national security of the United States.

NBC nuclear, biological, and chemical

NCO noncommissioned officer

NCS net control system

NEPA National Environmental Policy Act

NET new equipment training

NPDES National Pollution Discharge Elimination System

NSN national stock number

OCOKA observation and fields of fire, concealment and cover, obstacles, key terrain, and avenues of approach and mobility corridors

OCIE organizational clothing and individual equipment

OP observation post

operational stocks See Joint Pub 1-02.

operational operating systems The major functions performed by joint and combined operations forces to successfully execute campaigns and major operations in a theater or area of operations; these systems include movement and maneuver, fires, intelligence, protection, command and control, and support.

operations security The protection of military operations and activities resulting from identification and subsequent elimination or control of intelligence indicators (vulnerabilities) which are susceptible to hostile exploitation. The principal elements of an OPSEC program are physical security, information security, signal security, and military deception.

OPLAN operation plan

OPNS operations

OPORD operation order

OPSEC operations security

oz ounce

PAC Personnel and Administration Center

Pam pamphlet

peacetime The period when the United States influences world events through actions that routinely occur between nations.

PLL prescribed load list

plt platoon

PM preventive maintenance

PMCS preventative maintenance checks and services

POC point of contact

POL petroleum, oils, and lubricants

power projection The ability of the nation to apply all or some of the instruments of national power -- diplomatic, economic, informational, or military -- to respond to crisis, to contribute to deterrence, and to enhance the regional stability.

principles of war The enduring foundation of Army doctrine that provides general guidance for the conduct of war at the strategic, operational, and tactical levels.

PTFE polytetrafluroethylene

Pub publication

push system A distribution term used to describe the initial go-to-war supply system in an underdeveloped theater. Preplanned packages of selected supplies are sent forward to replenish expended supplies in anticipation of requirements of supported units. Initial quantities are based on strength data and historical demand. When the theater stabilizes, the supply system becomes a push system to the BSA and, if possible, MSRTs for critical supplies based on personnel strengths and forecasted requirements. Other supplies are provided through a pull system based on actual demand. Supplies may still be pushed at the battalion and brigade level, especially during high intensity combat operations to heavily engaged units. Such units may be unable to ask for supplies because of gaps in the chain of command or intensive jamming on a fluid battlefield. Supplies may be pushed to support a deep operation.

QM Quartermaster

QM FPC (Quartermaster force provider company) This unit operates the Army's bare base life support system (Force Provider). This "system" can be used to support R&R, intermediate staging base, theater reception, or any other operation where a quality life support system is required, to include stability and support operations. Each company has six platoons, each of which can operate and sustain a single 550-soldier Force Provider Module. A company can operate six modules as a 3,300-soldier (brigade-size) setup. Each module provides climate-controlled living areas with organic laundry, shower, MWR, water distribution, food service, and sanitation facilities for 550-customer occupants. (Currently, company is organized at a "B" (cadre) level TOE, requiring augmentation before performing its mission.

QM FSC, DS Quartermaster field service company, direct support

QM FSC, M Quartermaster field service company, modular

RAO rear area operation

RAP rear area protection

RAS rear area security

reaction force An assault team(s) or unit designated personnel appointed to assist in the defense of the organization when the enemy is about to penetrate or has broken through the organization's defensive perimeter or sector.

rear operations Employments that assist in providing freedom of action and continuity of overall applications, logistics, and battle command. Their primary purposes are to sustain the current close and deep fights and to posture the force for further operations.

reconnaissance patrol (area or zone) A detachment or a squad size element sent out by a larger unit to conduct information collection or confirming or disapproving the accuracy of information previously gained.

Reg regulation

REG or reg regular

responsiveness Quick action to destroy the enemy and minimize damage. This action also applies to the logistics system; whereby, logistics units will frequently be tasked-organized for force-projection requirements that will be difficult to forecast with complete accuracy. CSS units will respond on short notice and surge their support for brief periods, developing quick reaction to increased demands when tasked. Consequently, responsive logistics, based on supply discipline (i.e., adhering to movement tables, declaring and distributing excess materials, and observing senior commanders' logistics priorities), will utilize worldwide, assured communications and automation networks, integrating the full spectrum of logistics functions into a single system and eliminating unnecessary accounting, bookkeeping, and information processing during combat operations.

rinsing The process of using water to flush out the detergent and the impurities out of materials and clothing.

risk An expression of possible loss over a specific period of time or number of operating cycles.

risk assessment The process of detecting hazards and systematically assessing their overall risk. It is part of the risk management process.

RISTA reconnaissance, intelligence, surveillance, and target acquisition.

ROE rules of engagement

ROWPUs reverse osmosis water purification units

R&R rest and relaxation

rules of engagement Directives issued by competent military authority that delineate the circumstances and limitations under which US forces will initiate and/or continue combat engagement with other encountered forces.

1SG first sergeant

S small

S1 Personnel Administration Officer (US Army)

S2 Intelligence Officer (US Army)

S3 Operations and Training Officer (US Army)

S4 Supply Officer (US Army)

SASO stability and support operations

SALUTE size, activity, location, unit, time, and equipment

SAMS Standard Army Maintenance System

SARSS Standard Army Retail Supply System

S&S supply and service

S&S Bn supply and service battalion

SAW squad automatic weapon

SB supply bulletin

sec section

security patrol a detachment sent out by a larger unit to provide surety and harasses, destroys, or captures enemy troops, equipment, and installations.

SGT sergeant

SIDPERS Standard Installation/Division Personnel System

signal operations The employment of all signal support resources and activities in carrying out a military action of a strategic, tactical, service, training, or administrative mission; the process of carrying on combat, including movement, supply, defense, and maneuver required to do the assigned mission.

signal operation instruction A series of orders issued for technical control and coordination of signal support activities of a command.

signal support The collective, integrated, and synchronized use of information systems to support warfighting capabilities across the operational continuum. Also, the implementation of the Information Mission Area (IMA) at the operational through tactical levels of war.

signal support integration This is the integration of the wide-area communications networks and the functional information systems. Also referred to as the systems of systems.

SIGINT signal intelligence

SIGSEC signal security

SINCGARS single-channel ground and airborne radio system

S/L shower and laundry

SLCR shower, laundry, clothing repair, and limited, lightweight textile repair

SOI signal operation instruction

SOP standing operating procedure

souring The process of using laundry sour in the final rinse to remove any detergent still in the clothing; too, laundry sour helps to take out stains and rust.

SPBS-R Standard Property Book System- Revised

split-based operations A method of dividing logistics management functions so that only those functions absolutely needed are deployed, allowing some management functions to be done from CONUS or another theater.

SPO support, plans, and operations (officer); support operations officer

spt support

sq square

SSSC self-service supply center

stability and support operations Military activities during peacetime and conflict that do not necessarily involve armed clashes between tow organized forces.

staff supervision The process of advising the other staff officers and individuals subordinate to the commander of the commander's plans and policies, interpreting those plans and policies, assisting such subordinates in carrying them out, determining the extent to which they are being followed, and advising the commander, thereof.

STANAG Standardization Agreement

standardization agreement See Joint Pub 1-02.

STP soldier training publication

strategic mobility Transportation actions using national assets, both military and civilian, in support of a force-projection mission.

strategy The art and science of employing the armed forces and other elements of national power during peace, conflict, and war to secure national security objectives.

sudsing The process of using detergent and water to take dirt and impurities out of materials and clothes.

sup supply

supply discipline Command responsibility to identify and redistribute excess materiel, observe senior commander's priorities, and ensure subordinates operate within the legal boundaries of the logistics system.

supv supervisor

SUS small unit shower

SVC service

synchronization The ability to focus resources and activities in time and space to produce maximum relative combat power at the decisive point.

sys system

TAACOM Theater Army Area Command

TAADS The Army Authorization Documents System

TACCS Tactical Army Combat Service Support (CSS) Computer System

TAMCA Theater Army Management Control Agency

TAMMC Theater Army Materiel Management Center

TAMMS The Army Maintenance Management System

tactics The art and science of employing available means to win battles and engagements.

TB technical bulletin

TC technical circular

TDA tables of distribution and allowances

technological hazard A range of hazards emanating from the manufacture, transportation, and use of such substances as radioactive materials, chemicals, explosives, flammables, agricultural pesticides, herbicides, and disease agents; oil spills on land, coastal waters, or inland water systems; and debris from space.

telecommunications Any transmission, emission, or reception of signals, signs, writings, images, sounds, or information of any nature by wire, radio, visual, automated, or other electromagnetic systems.

tenets A basic truth held by an organization; the fundamental axioms of Army operations doctrine which describe the characteristics of successful operations.

terrorism The calculated use of violence or the threat of violence to attain goals that are political, religious, or ideological in nature. This can be done through intimidation, coercion, or instilling fear. Terrorism includes a criminal act against persons or property that is intended to influence an audience beyond the immediate victims.

Theater Army Command A major subordinate command of the theater army. It provides direct CSS, less movement control and line-haul transportation, to units located in or passing through its assigned area. It supports the corps with specified logistics support and the overall theater supply system with maintenance in support of the supply system. It is responsible for the rear operations within its assigned area.

throughput A distribution term used to describe the shipment of supplies and equipment from the points of origin as far forward as possible, bypassing intermediate supply activities. Bypassing saves breakdown and transloading time but increases distribution time for the committed transportation assets. In other words, the supported unit receives supplies much faster than normal, but it may be at the expense of other units. Thus, commanders should use *throughput* distribution only when the situation dictates that the risk be accepted.

TLP troop leading procedures

TM technical manual

Tm team

TO technical order

TOC tactical operations center

TOE table(s) of organization and equipment

TPFDL time-phased force deployment list

total asset visibility The immediate availability of data pertaining to location of materiel in storage or in transit from provider to the requestor.

total mission awareness The ability of commanders at all levels to consider everything that effects their operations -- applies to SASO.

TRADOC United States Army Training and Doctrine Command

trans transportation

TRI-TAC tri-service tactical communications

trk truck

TRP target reference point

TSOP tactical standing operating procedure

TTP tactics, techniques, and procedures

unclass unclassified

UCMJ Uniform Code of Military Justice

UGRs unitized group rations

ULLS Unit-Level Logistical System

ULLS-G Unit-Level Logistical System-Ground

unified command A command with a broad, continuing mission under a single commander and composed of significant assigned components of two or more services.

unity of effort At all levels of war, employment of military forces in a manner that masses combat power toward a common objective. Coordination and cooperation among all forces, not necessarily part of the same command structure, toward a commonly recognized object.

US/U.S. United States (of America)

USAF United States Air Force

USAMC United States Army Materiel Command

VA Virginia

versatility The ability of units to adapt to different missions and tasks, some of which may not be on unit mission-essential task lists (METL); the ability of units to meet diverse challenges, shift focus, tailor forces, and move from one role or mission to another rapidly and efficiently.

VHF very-high frequency

vol volume

war A state of open and declared armed hostile conflict between political units such as states or nations; may be limited or general in nature.

weapons of mass destruction weapons that trough use or the threat of use can cause large-scale shifts in objectives, phases, and courses of action.

X extra

XO executive officer

XX extra-extra

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