
Combat Service Support Operations



U.S. Marine Corps

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FOREWORD

1. PURPOSE

Fleet Marine Force Manual (FMFM) 4-1, *Combat Service Support Operations*, provides the doctrinal basis for the planning and execution of logistic support for Marine Air-Ground Task Force (MAGTF) operations at the operational and tactical levels of war. It establishes standard terms of reference for operational logistics and combat service support operations, and provides guidance for developing local Fleet Marine Force standing operating procedures. FMFM 4-1 expands the conceptual and parallel combat service support thinking of the MAGTF commander, his staff, and the combat service support element commander.

2. SCOPE

This manual is intended for all MAGTF commanders and their staffs to expand their knowledge and understanding of applying operational logistics and combat service support. The material presented in this manual concentrates primarily on combat service support for the MAGTF.

3. SUPERSESION

OH 4-1, *Combat Service Support Operations*, dated July 1987.

4. CHANGES

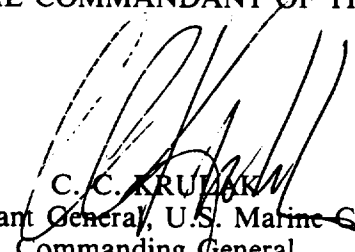
Recommendations for improving this manual are invited from commands as well as directly from individuals. Forward suggestions using the User Suggestion Form format to—

COMMANDING GENERAL
DOCTRINE DIVISION (C 424)
MARINE CORPS COMBAT DEVELOPMENT COMMAND
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5. CERTIFICATION

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS


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USER SUGGESTION FORM

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To: COMMANDING GENERAL, DOCTRINE DIVISION (C 424), MARINE CORPS COMBAT DEVELOPMENT COMMAND, 2042 BROADWAY STREET SUITE 215, QUANTICO VA 22134-5021

Subj: RECOMMENDATIONS CONCERNING FMFM 4-1, *COMBAT SERVICE SUPPORT OPERATIONS*

1. In accordance with the Foreword to FMFM 4-1, which invites individuals to submit suggestions concerning this FMFM directly to the above addressee, the following unclassified recommendation is forwarded:

<u>Page</u>	<u>Article/Paragraph No.</u>	<u>Line No.</u>	<u>Figure/Table No.</u>	
Nature of Change:	<input type="checkbox"/> Add	<input type="checkbox"/> Delete	<input type="checkbox"/> Change	<input type="checkbox"/> Correct

2. Proposed new verbatim text: (Verbatim, double-spaced; continue on additional pages as necessary.)

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Chapter 1

Fundamentals

1001. Levels of War

Adopted by Department of Defense (DOD) in 1988, the concept of levels of war aids the process of understanding the countless contributing factors and mutual responsibilities involved in the national defense strategy. The levels of war must be understood to understand the concept of levels of logistic support, the basis of this publication.

a. Strategic Level of War. The level of war at which a nation or group of nations determines national or alliance security objectives and develops and uses national resources to accomplish those objectives. Activities at this level establish national and alliance military objectives; sequence initiatives; define limits and assess risks for the use of military and other instruments of power; develop global or theater war plans to achieve those objectives; and provide armed forces and other capabilities in accordance with the strategic plan. (Joint Pub 1-02)

b. Operational Level of War. The level of war at which campaigns and major operations are planned, conducted, and sustained to accomplish strategic objectives within theaters or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time or space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives. (Joint Pub 1-02)

c. Tactical Level of War. The level of war at which battles and engagements are planned and executed to accomplish military objectives assigned to tactical units or task forces. Activities at this level focus on the ordered arrangement and maneuver of combat elements in relation to each other and to the enemy to achieve combat objectives. (Joint Pub 1-02)

1002. Levels of Logistic Support

Logistics, operational logistics, and CSS parallel and complement the levels of war.

a. Logistics. The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: **a.** design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; **b.** movement, evacuation, and hospitalization of personnel; **c.** acquisition or construction, maintenance, operation, and disposition of facilities; and **d.** acquisition or furnishing of services. (Joint Pub 1-02)

(1) The strategic (wholesale/supplier) level of logistic support is provided by the Marine Corps logistics bases, Navy Systems Command and their field activities, and Defense Logistics Agency depots. In some circumstances, theater depots and/or host nation support serve as wholesale activities. There are no strategic level logistic support agencies within the Fleet Marine Force (FMF) or the MAGTF.

(2) Two terms associated with the definition of logistics as it applies in this publication are of particular significance: production logistics and sustainability.

(a) Production logistics is that part of logistics concerning research, design, development, manufacture and acceptance of materiel. In consequence, production logistics includes: standardization and interoperability, contracting, quality assurance, initial provisioning, transportability, reliability and defect analysis, safety standards, specifications and production processes, trials and testing (including provision of necessary facilities), equipment documentation, configuration control and modifications. (Joint Pub 1-02)

(b) Sustainability is the ability to maintain the necessary level and duration of operational activity to achieve military objectives. Sustainability is a function of providing for and maintaining those levels of ready forces, materiel, and consumables necessary to support military effort. (Joint Pub 1-02)

b. Operational Logistics. The following concept and definition of operational logistics are critical to a full appreciation of the nature and extent of logistic support operations at the operational and tactical levels of war. While encompassing each aspect of military capability (i.e., force structure, modernization, readiness, and sustainability), the functional areas of operational logistics focus on force structure and modernization. (See par. 1006.) This manual defines operational logistics as the art of applying the military resources available to operating forces to achieve national military objectives in a theater or area of operations or to facilitate the accomplishment of assigned missions in a military region, theater, or campaign. At the operational level of war, logistics involves fundamental decisions concerning force deployment and sustainability functions in terms of identifying military requirements, establishing priorities, and determining allocations necessary to implement the commander's concept.

(1) Within the MAGTF, the sources of operational (retail/provider) level logistic support

are the force service support group (FSSG) for ground-related support and the Marine wing support group (MWSG) of the Marine aircraft wing (MAW) for aviation-peculiar support.

(2) Two terms associated with the definition of operational logistics as it applies in this publication are of particular significance: consumer logistics and supply.

(a) **Consumer logistics** is that part of logistics concerning reception of the initial product, storage, inspection, distribution, transport, maintenance (including repair and the serviceability) and disposal of materiel, and the provision of support and services. In consequence, consumer logistics includes: materiel requirements determination, follow-on support, stock control, provision or construction of facilities (excluding any materiel element and those facilities needed to support production logistics activities), movement control, codification, reliability and defect reporting, storage, transport and handling safety standards, and related training. (Joint Pub 1-02)

(b) **Supply** is the procurement, distribution, maintenance while in storage, and salvage of supplies, including the determination of kind and quantity of supplies.

a. **producer phase**—That phase of military supply which extends from determination of procurement schedules to acceptance of finished supplies by the military Services.

b. **consumer phase**—That phase of military supply which extends from receipt of finished supplies by the military Services through issue for use or consumption. (Joint Pub 1-02)

c. Combat Service Support. The essential capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces in theater at all levels of war. Within the national and theater logistic systems, it includes but is not limited to that support rendered by service forces in ensuring the aspects of supply, maintenance, transportation, health services, and other services

required by aviation and ground combat troops to permit those units to accomplish their missions in combat. Combat service support encompasses those activities at all levels of war that produce sustainment to all operating forces on the battlefield. (Joint Pub 1-02)

At the tactical level of war, CSS functions include, but are not limited to, providing supply, maintenance, transportation, general engineering, health services, and other services required to permit aviation and ground units accomplish their combat mission. Combat service support encompasses those activities at the operational level of war which link strategic objectives to tactical objectives on the battlefield. Also called CSS. See also **levels of logistic support; logistics; operational logistics; sustainability; tactical level of war.**

(1) Within the MAGTF, the source of tactical level logistic support is the organic capability at the infantry battalion and aircraft group levels.

(2) Two terms related to the definition of CSS as it applies in this publication are of particular significance: military capability and operational readiness.

(a) Military Capability. The ability to achieve a specified wartime objective (win a war or battle, destroy a target set). It includes four major components: force structure, modernization, readiness, and sustainability.

a. force structure—Numbers, size, and composition of the units that comprise our Defense forces; e.g., divisions, ships, airwings.

b. modernization—Technical sophistication of forces, units, weapon systems, and equipments.

c. readiness—The ability of forces, units, weapon systems, or equipments to deliver the outputs for which they were designed (includes the ability to deploy and employ without unacceptable delays).

d. sustainability—The ability to maintain the necessary level and duration of operational activity to achieve military

objectives. Sustainability is a function of providing for and maintaining those levels of ready forces, materiel, and consumables necessary to support military effort. (Joint Pub 1-02)

(b) Operational Readiness. The capability of a unit/formation, ship, weapon system or equipment to perform the missions or functions for which it is organized or designed. May be used in a general sense or to express a level or degree of readiness. (Joint Pub 1-02)

1003. Categories of Military Operations

The following terms define the categories of operations which relate to and complement both the levels of war and logistic support. For the logistician, they provide a context within which he accomplishes planning and operational tasks in relation to the levels of war and logistic support.

a. Campaign. A connected series of military operations forming a distinct phase of a war to accomplish a long-range major strategic objective. (FMFRP 0-14)

b. Naval Campaign. An operation or a connected series of operations conducted essentially by naval forces including all surface, subsurface, air and amphibious troops, for the purpose of gaining, extending, or maintaining control of the sea. (Joint Pub 1-02)

c. Operation. A military action or the carrying out of a strategic, tactical, service, training, or administrative military mission; the process of carrying on combat, including movement, supply, attack, defense and maneuvers needed to gain the objectives of any battle or campaign. (Joint Pub 1-02)

d. Naval Operation. A naval action, or the performance of a naval mission, which may be

strategic, tactical, logistic, or training; the process of carrying on or training for naval combat to gain the objectives of any battle or campaign. (Joint Pub 1-02)

e. Battle. A single, hostile engagement between operating forces of opposing nations. (FMFM 4-1)

**1004. Balance of Combat Arms/
Combat Power**

Combat power is the total means of destructive and/or disruptive force which a military unit/formation can apply against the opponent at a given time. (Joint Pub 1-02)

Firepower is the amount of fire which may be delivered by a position, unit, or weapon system. (Joint Pub 1-02)

Mobility is the quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission. (Joint Pub 1-02)

a. At the operational and tactical levels of war, effective combined-arms combat power is generated through the integration of firepower and mobility capabilities. Dynamic, aggressive, and consistent operational logistics and CSS are essential to achieving and sustaining combat power. The integration of these three military capabilities—firepower, mobility, and sustainability—produces a greater relative combat power which is the primary strength of the MAGTF. The interrelationships between these capabilities form the basis for operations which characterize the employment of the MAGTF as a strategically mobile, combined-arms, air-ground force possessing its own CSS all under a single commander. Through the optimum organization provided by the MAGTF for developing, employing, and sustaining combined-arms combat power, the MAGTF commander can retain the initiative for regulating the relative balance of combat power on the battlefield.

b. CSS is *applied* operational logistics. The objective of CSS is to sustain and enhance the relative combat power of the MAGTF at the tactical level of war. This equates to the ability to maintain and sustain organizations and equipment—the fire-power and mobility assets—of the MAGTF. The proper and timely application of the principles and techniques of CSS provides the MAGTF commander an additional capability to influence and shift the relative balance of combat power on the battlefield.

**1005. Principles of Combat Service
Support**

The principles and fundamentals of CSS are neither numerous nor complex. Like the principles of war, however, their application is invariably complicated. Knowledge of doctrine and practical experience in its application provide a sound basis for action in combat.

The principles governing the conduct of CSS operations are constant. However, commanders must modify their application depending on the specific operational environment and on advances in the technological means of war. The tactics and techniques for employment of a new capability must be compatible with the technological development itself. Flexibility of thought, as well as of action, is essential to successful CSS.

The seven principles of CSS apply equally to logistics and operational logistics. Figure 1-1 depicts these principles.



**Figure 1-1. Principles of Combat
Service Support.**

Like the principles of war, the principles of CSS are guides for planning, organization, management, and execution. The success of the overall logistic support effort depends on their skillful, practiced application. These principles are not to be construed as rigid rules applicable in every situation. Seldom will all of them exert equal influence. Usually, one or two will dominate in a given situation. Identifying those which have priority in a specific situation is essential to establishing effective CSS. The combat service support element (CSSE)/MWSG/Marine aviation logistics squadron (MALS) commanders apply these principles when structuring and organizing the CSS. They also use them to plan and conduct CSS operations. The application of the principles to the specific mission and situation dictates the concept of CSS. Conflicts among the various principles may occur when applying each in a particular situation. For example, an economical procedure may lack in responsiveness. Such situations illustrate that principles require experienced application and are as much science as art. This does not diminish their value. It merely illustrates that they are not a checklist, but rather a guide for analytical thinking and planning.

a. Responsiveness. Responsiveness is the provision of the right support at the right time and in the right place. Among the principles of CSS, the principle of responsiveness is the most critical.

b. Simplicity. Simplicity is avoidance of complexity. It fosters efficiency in both the planning and execution of CSS operations. Mission-type orders and standardized procedures contribute to simplicity.

c. Flexibility. Flexibility is the ability to adapt CSS structures and procedures to changing situations, missions, and concepts of operation.

d. Economy. Economy is the provision of support at the least cost in terms of the resources available and necessary to accomplish the mission.

e. Attainability. Attainability is the ability to provide the essential supplies and services required to begin combat operations.

f. Sustainability. Sustainability is ability to maintain support throughout the operation. As defined in Joint Pub 1-02, sustainability is an element of military capability.

g. Survivability. Survivability is the inherent capacity of the organization and its capabilities to prevail in the face of potential destruction.

1006. Functional Areas of Operational Logistics/CSS

a. Major Functional Areas. Figure 1-2 depicts the six functional areas of operational logistics/CSS. These major categories provide a basis for an integrated, analytical approach to the process of planning and executing logistic support operations for the MAGTF at both the operational and tactical levels of war. They focus on the readiness and sustainability aspects of military capability. (See par. 1002c.) At the tactical level, these functions differentiate between the command support and combat service support functions cited in the Joint Pub 1-02 definition of CSS.

SUPPLY
MAINTENANCE
TRANSPORTATION
GENERAL ENGINEERING
HEALTH SERVICE
SERVICES

Figure 1-2. Functional Areas of Operational Logistics/CSS.

b. Subfunctions of Operational Logistics/CSS. Figure 1-3 further defines the functional areas of logistic support by establishing the subfunctions which comprise each of the major functional areas.

SUPPLY	MAINTENANCE	TRANSPORTATION
DETERMINATION OF REQUIREMENTS	INSPECTION AND CLASSIFICATION	EMBARKATION
PROCUREMENT	SERVICING, ADJUSTMENT, AND TUNING	LANDING SUPPORT
STORAGE (to include care in storage)	TESTING AND CALIBRATION	PORT AND TERMINAL OPERATIONS
DISTRIBUTION	REPAIR	MOTOR TRANSPORT
SALVAGE	MODIFICATION	AIR DELIVERY
DISPOSAL	REBUILD AND OVERHAUL	FREIGHT/PASSENGER TRANSPORTATION
	RECLAMATION	MATERIAL HANDLING EQUIPMENT
	RECOVERY AND EVACUATION	
GENERAL ENGINEERING	HEALTH SERVICE	SERVICES
ENGINEER RECONNAISSANCE	HEALTH MAINTENANCE	DISBURSING
CONSTRUCTION (horizontal and vertical)	CASUALTY COLLECTION	POSTAL
FACILITIES MAINTENANCE	CASUALTY TREATMENT	EXCHANGE SERVICES
DEMOLITION AND OBSTACLE REMOVAL	TEMPORARY HOSPITALIZATION	SECURITY SUPPORT
EXPLOSIVE ORDNANCE DISPOSAL	AND EVACUATION	INFORMATION SYSTEMS
		LEGAL SERVICES SUPPORT
		CIVIL AFFAIRS SUPPORT
		GRAVES REGISTRATION

Figure 1-3. Subfunctions of Operational Logistics/CSS.

See chapters 7 through 12 for more detailed, specific discussions of each of the functions and subfunctions of operational logistics/CSS.

1007. Logistics Framework

a. FMFM 4, *Combat Service Support*, establishes the doctrinal foundation for MAGTF logistics/CSS at the operational and tactical levels of war. It presents the principles and concepts of logistic support and discusses the functions and responsibilities of operational logistics/CSS which are applicable to the support of any MAGTF. Where appropriate, this manual elaborates on the primary ideas presented in FMFM 4 to reinforce essential points.

b. This manual approaches operational logistics/CSS from the perspectives of the MAGTF G-4/S-4/aviation logistics department (ALD),

the G-3/S-3 of the supporting CSSE/MALS/MWSG, and the G-4/S-4 of supported units. It focuses on concepts and procedures which enhance the capability of the MAGTF commander, in concert with the CSSE to influence the battle and to affect the relative balance of combat power of the MAGTF in accordance with the MAGTF commander's concept of operations. It emphasizes the need for detailed planning, integration of CSS efforts and capabilities organic to both supported units and the CSSE/MALS/MWSG, and continuous supervision by both supported and supporting commanders to generate, employ, and sustain the combat power required to accomplish the mission.

c. This logistics framework is the basis for the execution of logistic support operations within the MAGTF. At the operational level, the MAGTF commander is primarily responsible for logistic support activities. At the tactical level, all

(2) Supporting to Supported. The inherent nature of the supporting role normally dictates that the supporting unit provides the liaison element to the supported unit. Sometimes, the supporting unit has the necessary T/O and T/E assets to support the liaison element. For task-organized CSS units, the availability of liaison elements depends on the identification of potential liaison requirements during the planning phase. Based on those requirements, the parent command should task organize the CSS unit with the personnel and equipment to effect liaison.

(3) Reinforcing to Reinforced. Like-type units reinforce one another. The CSS unit assigned a reinforcing mission provides a liaison element to the reinforced CSS unit.

(4) Left to Right. Traditionally, units on the left flank are responsible for establishing liaison with units on their right. However, CSS units do not provide liaison elements to adjacent units on a routine basis. Liaison between the respective commanders and principal staff officers is the norm in such cases.

f. Liaison Element Duties and Responsibilities. Closely correlating duties and responsibilities of the G-4/S-4 of the supported unit, they are separated into three broad categories described below:

(1) Advise/Assist. The liaison element advises both the supporting commander and the supported commander. It assists the supported unit in determining its requirements, ascertaining associated priorities, and assigning appropriate allocations. It advises the supported unit on the capabilities of the supporting unit. It assists the supported unit G-4/S-4 in identifying those courses of action which are most/least supportable from the CSS viewpoint. Simultaneously, the liaison element advises its parent organization of the alternative courses of action being considered by the supported unit.

(2) Monitor. The liaison element observes the operations of the supported unit and monitors the status of those functional areas in which

the parent CSS organization has a concern. Simultaneously, it keeps abreast of the status of its parent organization's operations. It specifically follows activities which affect the capability to provide continued support to the supported unit.

(3) Coordinate. The liaison element coordinates and expedites the flow of support and information between the two organizations. In this regard, the liaison element serves as the conduit for two-way communications. It is not a substitute for liaison between commanders and principal staff officers. Rather, it complements and augments such coordination.

g. Liaison Techniques and Procedures. The liaison element must report to its assigned unit fully prepared to carry out the duties and responsibilities discussed above.

(1) When initially assigning a liaison element, the commander of the supporting unit should accompany his representative(s). This allows him to introduce his liaison element to the supported commander and his staff. While not always possible, this gesture can have significant long-term impact on the success of subsequent dealings with the supported unit.

(2) Before assuming its duties, the liaison element must be familiar with the capabilities, limitations, and concept of operations of its parent organization. Likewise, it must quickly become familiar with the structure and functions of the supported unit. The liaison unit must know the supported unit's mission, concept of operations, and scheme of maneuver.

3004. Communications

a. Communications Capabilities. The FSSG is the MEF's CSSE. Figure 3-2 shows which battalions in the FSSG have an organic communications capability. Those which do not must rely on communications support provided by the Communications Company, Headquarters and Service (H&S) Battalion, FSSG.

For training, assign an experienced staff non-commissioned officer with the new officer. This provides long-term benefits to the officer and to both commands. It is often better to rely on less frequent liaison between staff officers than to rely on inexperienced liaison representatives.

(3) Liaison is always necessary between higher, lower, adjacent, supporting, and supported commands. Only the degree of liaison required changes. For CSS units, the requirement for liaison is part of the assigned mission. However, the formal mission of the CSSE/ACE does not specify the type of liaison element to assign in each case. Command liaison should be conducted in all but the most unusual circumstances. Staff liaison is always appropriate. The following paragraphs provide some insights to determine the best type of liaison element to use.

(a) **Available Personnel.** If the situation demands more than staff liaison, consider some other form. The lack of qualified personnel may prevent assignment of dedicated liaison elements even where there is a recognized need. This should not be a convenient excuse to avoid assigning a liaison element when there is a requirement. If a liaison officer or team is not available, the commander can use couriers or even junior noncommissioned officers. He should select only those who have demonstrated the necessary maturity to handle the duties. The overriding consideration is always responsiveness to the supported unit.

(b) **Workload.** Workload is a variable which influences the commander's decision to provide liaison. It also influences the selection of the specific type of liaison element. Workload is a function of the CSS unit's scope of operations, personnel situation, priorities, and time. Workload varies with the size and mission of both the supporting and supported units. It can change during the course of an operation. The commander should assign liaison elements to higher headquarters as a first priority. Liaison officers or couriers may be adequate at lower levels. In some situations, the workload

may require little more than routine liaison between principal staff officers or their assistants.

(c) **Proximity.** When units are in close proximity, the CSSE/ACE commander may rely on principal staff officers to maintain effective communications. On the other hand, the workload may dictate the use of a dedicated liaison element despite unit locations.

(d) **Tactical Situation.** The tactical situation influences the degree and type of liaison established. The need for liaison increases as the pace of tactical operations increases. In a static situation, requirements and procedures are routine. As the tempo of operations increases, maintaining liaison becomes more difficult, as well as more critical. Liaison is more critical during offensive operations and periods of turbulence.

(e) **Timeliness.** The early initiation of CSS planning is one of the key considerations of the planning process. To complement and enhance the desired effects of that effort, it is equally desirable to assign liaison elements at the earliest opportunity. Early coordination between combat and combat service support units ensures the timely involvement of the CSSE/ACE CSS units in the planning process. (See fig. 5-2.)

e. Exchange of Liaison Elements. Traditionally, commanders establish liaison from senior to subordinate, supporting to supported, and left to right. As with all rules, however, there are situations which dictate exceptions. For example, there are often situations which dictate the exchange of liaison elements between units.

(1) **Senior to Subordinate.** The assignment of liaison elements within the same command is unusual. The senior headquarters would initiate such assignments. It is incumbent on that headquarters to provide the liaison element, with associated support equipment, to the subordinate unit.

Common sense dictates this type of liaison more than command relationships or orders from higher headquarters.

(2) Staff Liaison. Staff officers routinely maintain informal contact with their counterparts at higher, lower, adjacent, supporting, and supported commands. This contact is essential to integrate, coordinate, and execute military operations. Staff liaison may include the temporary or permanent assignment of liaison elements (see par. c) to other commands. This improves the contact and communications essential to effective command.

b. Application of CSS Principles. The principles of responsiveness, simplicity, flexibility, and economy require the integration of CSS efforts. These principles demonstrate the essence of the basic concept of support. They are guides for the planning, organization, management, and execution of CSS operations. Those principles are as important to CSS liaison personnel as they are to commanders and principal staff officers. They help in assessing the situation and in determining the feasibility of alternatives. CSS liaison personnel must apply those principles when they advise, monitor, and coordinate.

c. Liaison Elements. There are three types of liaison elements:

(1) Liaison Officer. Designation of a liaison officer is the most commonly employed technique for establishing and maintaining close, continuous contact between commands. Use of a single individual with the proper rank and experience conserves manpower while it guarantees contact. A liaison officer normally remains at the supported unit headquarters until recalled to his parent command.

(2) Liaison Team. The CSSE/ACE commander assigns a liaison team when the workload or the requirement for better coordination dictates. Liaison teams normally include a liaison officer, a liaison chief, clerical personnel/drivers, and communications personnel with

their equipment. They remain at the supported unit headquarters until recalled by the parent organization. Members of the liaison team may also function as couriers if the situation dictates.

(3) Courier. A courier is a messenger (usually a commissioned or warrant officer) responsible for the secure physical transmission and delivery of documents and material. Generally referred to as a command or local courier. (Joint Pub 1-02) Improved electronic communications have reduced the use of couriers in recent years. However, the courier can still function as a liaison element to another command. An experienced, mature courier can amplify information. He can often provide information about the situation or issues of concern. In other words, he is more than just a runner, messenger, or driver. If circumstances dictate, the commander can also use couriers to augment the liaison officer or team.

d. Selection of a Liaison Element. There are no firm rules for selecting liaison personnel. As in any selection process, the requirements of the task should establish the qualifications for the individual. Keep in mind, however, that the liaison element is the CSSE/ACE commander's personal representative to another command. Quite often, these personnel may represent the supported commander's only expertise for CSS.

(1) Liaison personnel should have the rank and experience to properly and effectively represent their command. Although rank is often an important consideration, experience and knowledge are critical in the selection process. Personal initiative, judgment, and the ability to communicate effectively are essential.

(2) Too frequently, commanders select inexperienced individuals as liaison representatives. This can create problems for the individual and for the commands concerned. Avoid this practice whenever possible. It is better to assign a knowledgeable staff noncommissioned officer to liaison duties than an inexperienced officer.

- Assets for use internal to the CSS task organization.
- X Assets for use in supporting the MAGTF.

Figure 4-1. Planner's Guide for Task Organization of CSS Units.

combat requirements. In the short term, the CSSE commander has little or no influence on permanent structure. He must work with the assets provided to him. He must focus on command relationships, task organization, echelonment of his capabilities, and allocation of resources. He also has other managerial and operational alternatives. CSS assets are always limited. The principle of economy dictates proper prioritization and allocation. The CSSE commander task-organizes his assets to support the main effort while continuing to support the whole force. By task-organizing, he retains centralized control while providing for decentralized execution. Task organization promotes responsiveness. If carried to the extreme, however, it can lead to inefficient use of assets. The mission and the tactical situation dictate the CSS requirements. Figure 3-1 is a planner's guide for task-organizing CSS units.

(2) Command Relationships. The second major tool for exercising command and control is establishment of proper command relationships. As discussed in chapter 4, a CSS unit may remain under the control of its parent organization. This allows the CSSE/ACE commander to retain full control over his subordinate units. This is the normal but not the only method. Both permanent and task-organized CSS units can also be under the OPCON of other organizations. Similarly, the CSSE/ACE commander may attach CSS units to other organizations. The CSSE commander may assign CSSE units OPCON or attach them to other CSS units or to GCE or ACE units. He may even assign them OPCON or attach them to the armed services of other countries. Although these options arise infrequently, they should be considered during planning. The CSSE/ACE commander must remember, however, that he loses centralized control when CSS units are OPCON or attached to other organizations. The CSSE/ACE commander cannot assign or change the mission of those units which are OPCON or attached to other units. The CSSE/ACE commander retains responsibility for supporting them, but no longer influences priorities or allocations. OPCON and attachment represent extremes of decentralization. As with

extremes of centralization, they should be used only under the most constraining circumstances.

(3) Mission Assignments. The third major tool which the CSSE/ACE commander has to control his CSS units is the assignment of formal missions. Chapter 4 provides detailed information on the various CSS missions and their associated responsibilities. These options give the commander flexibility across a spectrum ranging from fully centralized to decentralized control. His options are even greater when he can modify structures, missions, and command relationships as the tactical situation changes. The formalized mission structure helps by standardizing the responsibilities associated with each mission. When used with structural options and command relationships, formal missions allow the commander to tailor CSS to the tactical situation. Tailoring can compensate to a degree for shortfalls in capabilities, inadequate planning, or poor supervision. Tailoring determines how an operation can be best supported, not whether it is supportable. The commander considers tailoring options during the estimation phase. He actually tailors forces during the concept development phase.

3003. Liaison Between Supported and Supporting Units

Liaison is that contact or intercommunication maintained between elements of military forces to ensure mutual understanding and unity of purpose and action. (Joint Pub 1-02)

a. The CSS Liaison. The primary function of the CSS liaison is to improve the capability of the CSSE/ACE CSS support units/elements to support the concept of operations of the supported unit. There are two types:

(1) Command Liaison. Commanders at every level routinely establish contact with other units in their area. They do so even when no official relationship exists. This opens lines of communications for mutual security and cooperation.

Chapter 3

Combat Service Support Command and Control

3001. Introduction

a. The sole purpose of CSS units is to support the missions and concepts of operations of the units they are tasked to support. The MAGTF commander and his subordinate commanders must exercise varying degrees of command and control over their organic CSS assets to be sure they accomplish the mission. They exercise these responsibilities in a variety of ways. Generally, commanders maintain centralized control over CSS units while providing for decentralized execution of CSS tasks.

b. **Command and control** is the exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. (Joint Pub 1-02)

c. **Control** is authority which may be less than full command exercised by a commander over part of the activities of subordinate or other organizations. (Joint Pub 1-02)

3002. Command and Control Techniques

a. The MAGTF commander exercises command and control over the logistic and CSS capabilities

of the MAGTF through the command authority vested in him. Much of that authority is delegated to each of his major subordinate commanders in varying degrees and within varying capabilities. The influence of the MAGTF commander is manifested primarily in his directives and guidance issued in specific instances to achieve unity of effort to accomplish the MAGTF mission. Guidance issued by the MAGTF commander concerns three primary elements: requirements, priorities, and allocations. In establishing these elements, the MAGTF commander evaluates the relative capabilities and needs of his subordinate organizations in the context of the MAGTF mission and concept of operations. Although each MAGTF element has certain organic logistic support and CSS capabilities, it is the CSSE which coordinates, controls, and provides the major nonaviation-peculiar logistic/combat service support functions for the MAGTF.

b. The CSSE commander exercises control over subordinate units in the same manner ground and aviation combat element commanders exercise control. The CSSE commander plans and executes nonaviation-peculiar CSS operations by structuring his forces, establishing command relationships, and assigning missions. Then he supervises the flow of support from provider to consumer.

(1) **Structure.** The primary tool which the CSSE commander and the ACE commander have to meet changing requirements is their ability to task-organize their forces. T/Os and T/Es create permanent CSS units. The T/O and T/E development process is formal, evolutionary, and repetitive. That process is as often subject to peacetime personnel and equipment programming concerns as it is to anticipated

deployment, or participate in some other training or contingency exercise; the MALS, using the intermediate level skills portion of the tactical aircraft squadrons T/O, can align the applicable skills to the peculiar CSP (i.e., identified support equipment, aviation consolidated allowance list, consolidated ship-board allowance list, and mobile facilities). The complete CSP can be provided directly to receiving *host* IMA of the ACE at a deployment site. Furthermore, the MALS concept

identifies the skills a parent fixed-wing or rotary wing MAG needs to support aircraft that it will retain and deploy with, when it is assigned as the *host* IMA of an ACE.

(3) Marine Wing Support Group. The MWSG normally assigns one of its MWSSs to support a MAG. An MWSS provides the expeditionary airfield, fuel, transportation, engineering, meteorological services, etc., to support ACE operations.

Numeric designations of CSSDs are assigned on the following basis:

- 1st FSSG: 11-19 & 51-59
- 2d FSSG: 21-29 & 61-69
- 3d FSSG: 31-39 & 71-79
- 4th FSSG: 41-49 & 81-89

d. Landing Force Support Party (LFSP)

(1) The LFSP is a task organization peculiar to amphibious operations. It is a temporary task organization composed of Navy and Marine Corps elements of the landing force (LF) which provide landing support and initial CSS to the LF. The nucleus for this task organization is the Landing Support Battalion, FSSG. Its mission is to support the landing and movement of troops, equipment, and supplies across the beaches and into helicopter landing zones. The organization and mission of the LF dictate the structure of the LFSP. Marine Corps elements of the LFSP may include units/detachments from the GCE, the ACE, and the CSSE. Naval elements may include detachments from the cargo handling and port group and beach-master group. The LFSP is normally disestablished when the CSSE phases ashore. (See par. 13009 and FMFM 4-3, *Landing Support Operations*.)

(2) To ensure coordination of effort, the LFSP generally operates as a subordinate element of the CSSE. During the assault phase, however, it functions under the immediate direction of the MAGTF/LF commander. Before the CSSE is ashore, supported units ashore submit their support requests directly to the LFSP.

e. Aviation-Peculiar CSS Organizations

(1) **Air-Capable Ships.** The intermediate level support for a MEU ACE will be provided by the aircraft intermediate maintenance department (AIMD) of the air-capable ship (LPH/LHA/LHD) upon which the ACE is embarked. If the AIMD does not have the capability to support certain MEU ACE aircraft, the parent

MALS will augment the ship's organic support with the necessary personnel, support equipment, and spare/repair parts required. If the composite squadron of the MEU is directed ashore, intermediate level support can be provided in one of the following ways:

(a) From the air-capable ship operating off-shore.

(b) By a CSSE host MALS already ashore. This will require that the host MALS possess a contingency support package (CSP) tailored to the quantity and type/model/series (TMS) aircraft that will be attached. Since most of the support aboard an air-capable ship is organic to the ship and since the packup provided to augment the ship's AIMD is relatively small and difficult to offload, a CSP must be planned for in advance to accompany the host MALS ashore to support the aircraft coming off the ship.

(2) **Marine Aviation Logistics Squadrons.** Each MALS is organized to provide a core intermediate level aviation-peculiar CSS capability by providing the supervisory personnel and common support necessary to maintain any fixed-wing or rotary wing aircraft that may be joined to the fixed-wing or rotary wing element of an ACE.

(a) The MALS T/O contains the personnel component of a common CSP, which forms the *nucleus* of an ACE *host* intermediate maintenance activity (IMA) (fixed-wing or rotary wing). Each tactical aircraft squadron T/O has a separate listing of intermediate level billets that consist of MOS skills peculiar to that squadron's T/M/S aircraft. These personnel are given a monitored command code which assigns them directly to the MALS within a MAG. Consequently, the MALS provide the MAGTF commander with the capability to support the *common* and *peculiar* requirements of TMS aircraft assigned to that ACE.

(b) Whenever aircraft are detached from a parent MAG to form into an ACE, go on unit

(2) Paragraph 2003c covers the task-organized CSSEs associated with the MEF and the Marine expeditionary unit (MEU).

b. Task-Organized CSSEs. The CSSE is the MAGTF element which is task-organized to provide a range of nonaviation-peculiar CSS functions/services beyond the organic capabilities of supported units and necessary to accomplish the MAGTF mission. These functions/services include supply, maintenance, transportation, general engineering, health services, disbursing, postal, exchange services, security support, information systems, legal services, civil affairs support, and graves registration. CSSEs vary in size from a CSSD to an FSSG. Normally, there is only one CSSE in a MAGTF.

(1) A task-organized CSSE is a unit tailored to meet specific support requirements. Task organization is a quantitative and qualitative process used to best structure assets to support a specific mission and concept of operations. The CSSE commander uses task organization as his primary tool for allocation and control of his capabilities.

(2) Permanently structured CSS organizations (i.e., FSSG and MWSG) achieve maximum efficiency through centralized control and coordination of functional CSS capabilities. Decentralization characterizes the control and coordination of task-organized CSS units. Although it may sacrifice a degree of efficiency, decentralization emphasizes mission-oriented organization and enhances the responsiveness and overall effectiveness of CSS units to supported units. Similar tradeoffs result when the CSSE commander applies the principles of CSS to analyze and evaluate the comparative advantages and disadvantages of centralization and decentralization when task-organizing CSS units. Judicious use of both methods of organization is the key to success. The discussion above also applies to a MALS. A MALS provides the aviation-peculiar CSS beyond the capability of supported squadrons. One or more MALS can be task-organized to support MAGTF ACE requirements.

c. Types of MAGTF CSSEs. The designation, size, and composition of the MAGTF CSSE are functions of the mission, size, and composition of the MAGTF itself. There are four basic types of CSSEs.

(1) **Force Service Support Group.** The FSSG is a permanently structured command whose mission is to provide general support CSS to the MEF. As the CSSE of the MEF, it supports the surveillance, reconnaissance, intelligence group (SRIG); a GCE comprised of one Marine division; and an ACE comprised of one MAW. To support a force of greater size, additional assets are necessary to augment its capabilities. Although it has eight permanent battalions, task organizations from those battalions normally support MEF operations over a large geographic area.

(2) **MEU Service Support Group (MSSG).** The MSSG is the task-organized CSSE of the MEU. The FSSG does not maintain MSSG headquarters nucleus staffs. Instead, each MSSG is task-organized for each specific deployment. The MSSG draws its personnel and equipment from the permanent battalions of the FSSG. It may also contain assets from the division and/or the wing. The MSSG has the same numeric designation as that of the MEU it supports; e.g., MSSG-15 supports 15th MEU.

(3) **Combat Service Support Detachment.** A separate task organization of combat service support assets formed for the purpose of providing rearming, refueling, and/or repair capabilities to the MAGTF or designated subordinate elements; e.g., a battalion conducting independent operations or an aircraft squadron operating at a remote airfield. The CSSE normally provides the command element of a CSSD. Also called **CSSD**. See also **force service support group; MEU service support group**. There are no CSSD headquarters nucleus staffs provided for in the FSSG T/O; instead, the FSSG normally draws the command and control structure for the CSSD from one or more of the eight permanent battalions.

(1) **Organizational Structure.** In meeting internal and external support requirements, the FSSG/CSSE commander and the ACE CSS unit commanders are bound by the limitations of prescribed T/Os and tables of equipment (T/Es). Assets available to him, in terms of personnel, equipment, and supplies, are finite. To provide support within these limits, he relies on task organization, echelonment of capabilities, and allocation of resources. He bases his decisions on the priorities of the MAGTF commander and those of supported organizations. Task organization is the primary tool he uses to satisfy support requirements.

(2) **Command Relationships.** Another tool available to the FSSG/CSSE commander, as well as task-organizing, is the capability to change command relationships. He may assign subordinate organizations OPCON to another commander or he may attach them to another organization. (See Joint Pub 1-02 for definitions of and responsibilities associated with the terms **OPCON** and **attach**.) He uses these options only when normal command relationships are inadequate for a particular situation. CSS units may be OPCON or attached either to other CSS units or to units they would normally support. In either case, the commanders must be sure that this deviation is necessary to maintain continuity of support. Usually, CSS units will be OPCON or attached to other units only for brief periods.

(3) **CSSE Missions.** The third key tool available to the FSSG/CSSE commander in meeting internal and external support requirements is the assignment of formal missions to subordinate units. A formal mission may be either a standard mission or a nonstandard mission. Formal missions establish specific command and support relationships between supported and supporting units. See chapter 4 for a detailed discussion on the assignment of formal missions to CSS units.

2003. MAGTF CSS Organizations

The CSSE is the primary executor of MAGTF plans and policies for nonaviation-peculiar CSS. The primary executor for aviation-peculiar CSS is the ACE G-4/S-4/ALD/MWSS/MALS. The CSSE may be either permanently structured or task-organized to provide capabilities across the spectrum of CSS functions or perform a specific functional task for a specific MAGTF or elements of a MAGTF. (See fig. 1-3.) The CSSE commander is the principal advisor to the MAGTF commander on the capabilities and methods of employment of the CSSE. Using a liaison network, he assists other MAGTF elements and external agencies to plan for ground-unique CSS. His management agency is the CSS operations unit within the G-3/S-3 section.

a. Permanent Organizations. Permanent organizations are established by T/Os and T/Es. Each unit's T/O establishes its structure and mission. Its T/E establishes the quantity and type of equipment it is authorized to hold to perform its assigned mission. Aviation squadrons are also authorized equipment identified in the table of basic allowances, individual material readiness lists, and a variety of NAVAIR allowance lists. By means of these allowance documents, virtually all organizations of battalion and squadron size or larger possess certain permanent, organic CSS capabilities. The limited nature of these capabilities necessitates support from external CSS agencies on a regular basis.

(1) There are several permanent CSS organizations within the MEF. They are the primary sources of CSS to the MAGTF. They have the bulk of the assets required to task-organize CSSEs. These organizations are the FSSG, the MWSG, and each MALS. Normally, the FSSG is the primary source of nonaviation-peculiar CSS for a MEF, while the MWSG and one or more MALSs are the primary source of aviation-peculiar CSS for the ACE. However, these organizations remain MAGTF assets which the MAGTF commander may employ to influence the relative combined arms combat power of the MAGTF as a whole.

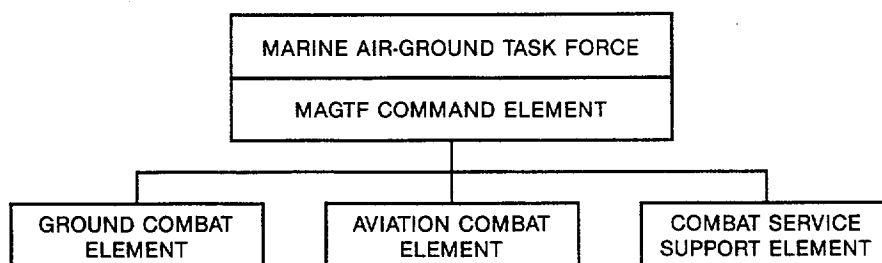


Figure 2-2. Operational Chain of Command.

accomplishment demands a clear understanding of the different responsibilities, capabilities, relationships, and limitations of each MAGTF element.

a. Administrative Chain of Command.

Administrative chain of command is the normal chain of command for administration. (Joint Pub 1-02) Tables of organization (T/O) establish the mission and organization for every FMF organization. Each organization down to and including the battalion/squadron has a general/executive staff to assist the commander in discharging his responsibilities. All staffs include a G-4/S-4 section to manage logistics/CSS for the commander at the FMF and MAW headquarters level. ALDs have been established to coordinate aviation-peculiar CSS. At the MAG/squadron level, MALs/MWSGs provide this support. In peacetime, the G-4/S-4s focus is on logistic readiness, although much of their routine effort concerns garrison-related requirements. These include equipment management, facilities support, maintenance management, food services, and health services. Day-to-day operations follow the administrative rather than the operational chain of command. (See par. 2002b.) Commanders of permanent organizations are responsible to the Commandant of the Marine Corps, via their respective FMF commanders, for their logistic posture and readiness.

b. Operational Chain of Command. The MAGTF command element is responsible for the operational employment of assigned forces. When

the FMF commander activates a MAGTF, the MAGTF G-4/S-4/ALD functions within the operational chain of command shown in figure 2-2. They conduct detailed CSS planning. This includes evaluating and reporting operational capabilities, determining support requirements, preparing estimates, and formulating recommendations for the employment of CSS assets.

c. Command and Control of the CSSE.

Because it is both an administrative and an operational command as the CSSE of the Marine expeditionary force (MEF), the FSSG has dual responsibilities. The FSSG provides the majority of the Marine Corps-funded CSS to the Marine division and the MAW. Aviation activities also receive CSS from support organizations organic to the MAW. It also supports routine, non-MAGTF training deployments and exercises. FSSG also provides the task-organized CSSE for MAGTF training exercises and contingency deployments. When providing support, the FSSG/CSSE commander has a number of command and control options to achieve maximum effectiveness of CSS operations. These options include modifying his organizational structure (i.e., task-organizing), establishing various command relationships, and assigning formal missions to subordinate units.

NOTE: The considerations above also apply to how organic MAW support activities (i.e., MWSG, MALs, MACG, etc.) provide CSS to supported units.

Chapter 2

Relationships, Organization, and Responsibilities for MAGTF Combat Service Support

2001. Focus

The requirements for integration of firepower, mobility, and CSS units dictate close and continuous coordination between each MAGTF element and those responsible for planning operations. Each MAGTF element commander must understand and appreciate the capabilities and limitations each element brings to the battlefield. From the CSS standpoint, the provision of maximum sustained combat effectiveness requires fully integrated operational planning by supported and supporting commanders. This chapter addresses relationships and responsibilities for planning and executing combat service support within the FMF and the MAGTF. It focuses on the various functions and tasks associated with CSS planning performed by operational logisticians of the MAGTF.

2002. Command and Support Relationships

Both the permanent organization of the FMF and the task organizations of the MAGTF elements influence the command and support relationships that exist within a MAGTF; i.e., the chain of command. Administratively, the commanders of the permanent commands are co-equal (regardless of the actual rank of the incumbents). Figure 2-1 shows this administrative relationship. Command and support relationships of a MAGTF task-organized for operations are as shown in figure 2-2. Within the overall framework shown in figures 2-1 and 2-2, each commander has varying responsibilities for logistic readiness and CSS planning. These responsibilities are based on the assigned mission, organic capabilities, and the command relationships in effect. Mission

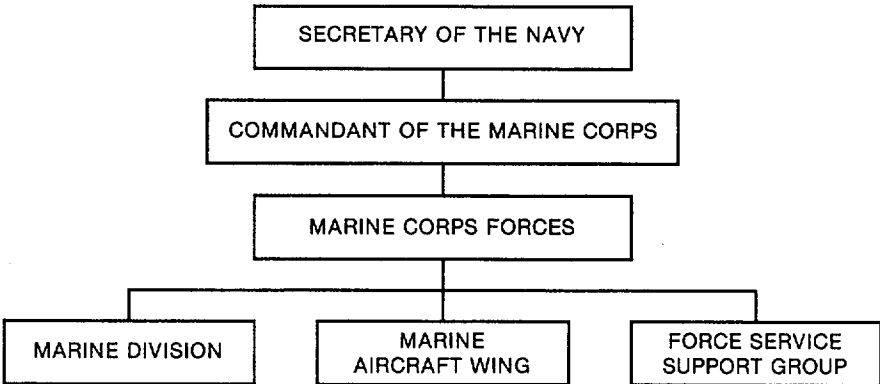


Figure 2-1. Administrative Chain of Command.

commanders are responsible for CSS operations in their organizations. They must exercise the same degree of control over these operations as they do over tactical operations. To meet these responsibilities, commanders have organic CSS capabilities. Although limited, these resources are the commander's initial source of CSS. Only when he has exhausted his organic capabilities or the task exceeds his capabilities should the

commander request support from external agencies. In the ACE, CSS can be provided in a number of ways, depending upon the manner of deployment/employment of the aircraft. Aircraft aboard air-capable ships will be provided CSS by the ship. Aircraft ashore will receive CSS from the resources of the MALS, MWSS, Marine aircraft group (MAG) headquarters, and FSSG/combat service support detachment (CSSD).

(2) The CSSE G-4/S-4 prepares and supervises applicable portions of the CSSE operation order/plan relating to CSS for the internal operations of the CSSE.

(3) The G-4/S-4 advises his commander and G-3/S-3 on the status of major equipment and systems. He must keep abreast of the plans which the G-3/S-3 is formulating. The availability and anticipated employment of organic trucks and maintenance vehicles, for instance, influence his planning and management.

(4) Primarily, the CSSE G-4/S-4 focuses on the identification of requirements, priorities, and allocations for CSS within the CSSE. The focal points of his efforts are MAGTF planning guidance and the tentative courses of action developed by his G-3/S-3.

f. Duties of the CSSE G-3/S-3

(1) The CSSE G-3/S-3 coordinates with the G-3/S-3s of the other elements to support the development of their concepts of operations and schemes of maneuver.

(2) The CSSE G-3/S-3 coordinates with the G-3/S-3s and G-4/S-4s of the MAGTF elements to identify requirements and develop estimates of supportability for their concepts of operation.

(3) Based on the approved concepts of operations of the MAGTF, the GCE, and the ACE, the CSSE G-3/S-3 recommends the organization of the CSSE.

(4) The CSSE G-3/S-3 coordinates and supervises combat service support operations based on the concept of operations and Annex D of the MAGTF operation order. This includes nonaviation-peculiar support provided to the MAGTF command element, the GCE, the ACE, and other assigned forces.

(a) For most subfunctions of the six CSS functions, the CSSE G-3/S-3 section is the primary agency for CSS coordination in the MAGTF. For this reason, the G-3/S-3 section is organized as shown in figure 5-1 and, within the G-3/S-3 section, the CSS operations unit consists of functional elements which provide technical expertise to sustain the MAGTF in combat.

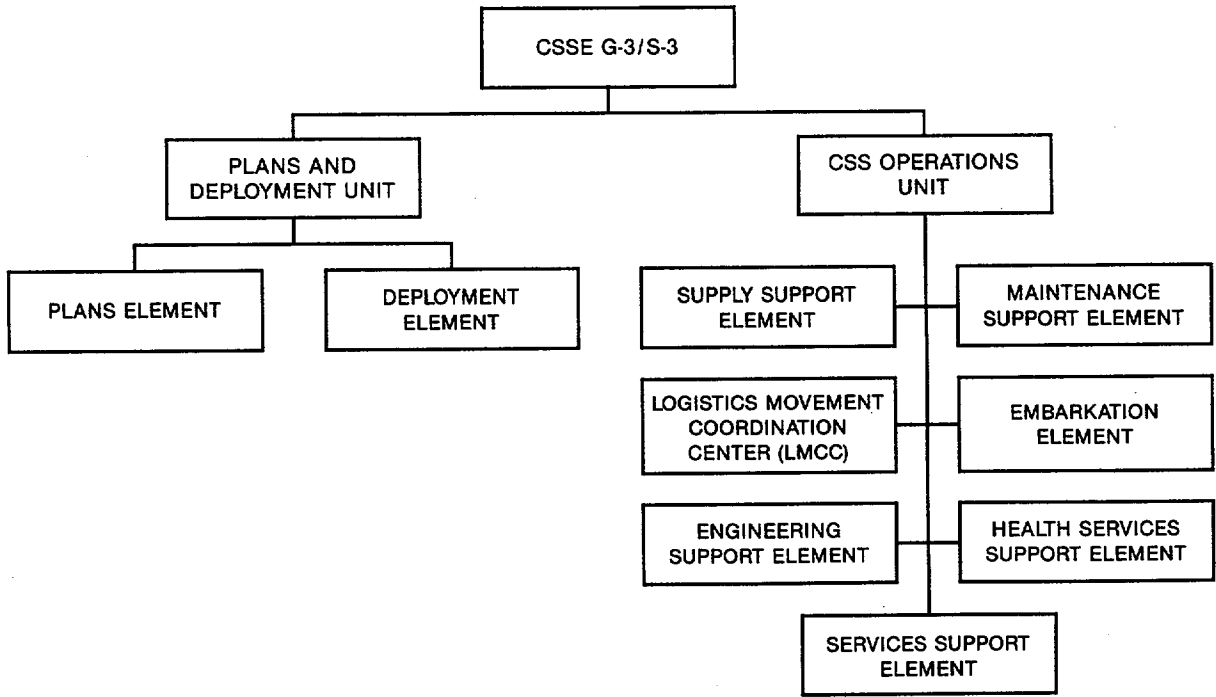


Figure 5-1. Combat Service Support Element G-3 Organization.

for aviation-peculiar support is the Navy support systems and Defense Logistics Agency (DLA) support systems; second, fixed-wing and rotary wing aircraft place particularly demanding requirements on CSS capabilities; and third, the ACE has significant organic CSS capabilities within the MWSG and each MALS. Providing ACE CSS creates some aviation-unique planning considerations.

(1) Except for aviation maintenance, aviation ordnance, aviation supply, and avionics, the G-4/S-4 determines ACE CSS requirements, assigns priorities, and allocates CSS resources for the ACE. This includes aviation-peculiar support provided by the MWSS and Marine air control squadron (MACS).

(2) The ACE G-4/S-4 and the MWSG/MWSS G-3 coordinate with the MAGTF G-4/S-4, the CSSE G-3/S-3, and the ACE ALD/MALS on integrating organic capabilities of ACE CSS support units under their cognizance. For example, they would coordinate the integration of MWSG assets into the overall concept of CSS.

(3) The ACE G-4/S-4 and the MWSG/MWSS S-3 coordinate with the MAGTF G-3/S-3 and G-4/S-4 for the planning and use of ACE assets in CSS roles. For example, the ACE G-4/S-4 would coordinate using helicopters in supply replenishment and medical evacuation operations.

(4) The ACE G-4/S-4 coordinates with the amphibious task force (ATF) N-4 and the MAGTF G-4/S-4 for the aviation-peculiar support under his cognizance.

(5) The ACE G-4/S-4 prepares and supervises applicable portions of the ACE operation order/plan relating to logistics/CSS functions under his cognizance.

(6) Within the ACE, aviation logistics is made up of four elements which are combined at the MAW level as the ALD. These elements are aviation supply, aircraft maintenance, avionics, and aviation ordnance. Aviation-peculiar

logistic matters are governed by Navy programs and procedures. ALD is responsible for maintaining aircraft in a combat-ready status.

d. Duties of the MAW/FMF ALD and MALS Commanding Officer. Aviation maintenance, aviation ordnance, aviation supply, and avionics CSS are the responsibility of the ALD/MALS. They are responsible for maintaining aircraft in a combat-ready status. The same factors the ACE G-4/S-4 must consider (see par. 5002c) apply to ALD/MALS.

(1) The ALD/MALS supporting a MAGTF ACE determines the ACE CSS requirements, assigns priorities, and allocates CSS resources for the ACE and those areas under his cognizance. When CSS resources to support an ACE (in those areas under his cognizance) are to be provided in total or in part by Navy units/agencies, the ALD/MALS is responsible for coordinating the development of that support with the Navy activities/agencies concerned.

(2) The ACE ALD/MALS coordinates with the MAGTF G-4/S-4, the CSSE G-3/S-3, and the ACE G-4/S-4 on integrating organic capabilities of ACE CSS units under his cognizance. For example, the ALD would coordinate the integration of MALS assets into the overall concept of CSS.

(3) The ACE ALD/MALS coordinates with the ATF N-4 and the MAGTF G-4/S-4 for aviation-peculiar support under his cognizance.

(4) The ACE G-4/S-4 prepares and supervises applicable portions of the ACE operation order/plan relating to logistics/CSS functions under his cognizance.

e. Duties of the CSSE G-4/S-4

(1) The CSSE G-4/S-4 determines internal CSS requirements, assigns priorities, and allocates resources for units of the CSSE.

- Collating the nonaviation-peculiar CSS requirements of subordinate elements of the MAGTF.
- In coordination with the CSSE, determining the capabilities of the CSSE to provide the required support.
- In coordination with the CSSE, determining that external nonaviation-peculiar CSS necessary to support the concept of operations. When known, he submits those requirements to appropriate higher/external authorities.

(3) The MAGTF G-4/S-4 is the focal point for the direction and coordination of nonaviation-peculiar logistic/CSS planning at both the operational and tactical levels of war. His efforts involve each section on the MAGTF staff. His efforts frequently involve the staffs of subordinate MAGTF elements, Allied Forces, and other branches of the U.S. Armed Forces. The requirement for close, continuous coordination for operations and service support cannot be overemphasized.

(4) The MAGTF G-4/S-4 must consider and coordinate all nonaviation-peculiar service support requirements of the MAGTF. This includes throughput and sustainment requirements during both deployment and employment. It may also include redeployment from the area of operations. The CSS principles and functions provide him a logical, methodical framework for directing and managing logistic support for MAGTF operations.

(5) The G-4/S-4 retains supervisory responsibility for several command support functions traditionally associated with garrison logistic support. These include food services, maintenance management, ordnance, ammunition, and real property management. Aviation maintenance, aviation ordnance, aviation supply, avionics, weather, and other aviation-peculiar CSS is under the supervisory responsibilities of the ACE G-4/S-4/ALD/MALS/MWSS.

b. Duties of the GCE G-4/S-4

(1) The G-4/S-4 advises his commander and G-3/S-3 on the readiness status of major equipment and weapons systems. He must keep abreast of the operational plans which the G-3/S-3 is formulating. The availability and contemplated employment of organic CSS assets influence his planning and his requirements determination.

(2) Primarily, the GCE G-4/S-4 focuses on the identification of requirements, priorities, and allocations for CSS. The focal points of his efforts are MAGTF planning guidance and the tentative courses of action developed by his G-3/S-3. In view of the GCE's limited organic CSS capabilities, early and continuous liaison and coordination are essential. The GCE G-4/S-4 and his subordinate counterparts must constantly coordinate with the supporting CSS units.

(3) In coordination with the GCE G-3/S-3, the GCE G-4/S-4 determines CSS requirements, assigns priorities, and allocates the CSS resources of the GCE.

(4) The GCE G-4/S-4 coordinates with the MAGTF G-4/S-4, the GCE G-3/S-3, and the CSSE G-3/S-3 concerning the integration of organic CSS capabilities. For example, he would coordinate the integration of truck company and assault amphibian vehicle battalion assets into the overall concept of CSS.

(5) The GCE G-4/S-4 prepares and supervises applicable portions of the GCE operation order/plan relating to logistics/CSS.

c. Duties of the ACE G-4/S-4. Support for aviation operations create special planning and coordination requirements. These requirements have a potentially significant impact on MAGTF operations. Some of the additional factors to consider when planning aviation CSS are: first, the source

Chapter 5

Deliberate Planning Process

5001. General

T/Os and T/Es are the basis for permanent, administrative organization of FMF organizations. General and executive staff sections at the battalion/squadron level and higher deal with personnel (G-1/S-1), intelligence (G-2/S-2), operations, plans, and training (G-3/S-3), and logistics/CSS (G-4/S-4). Special staff officers provide technical expertise in specific functional areas. In addition, aviation-peculiar logistics/CSS for aircraft squadrons is provided by the MALS and MWSS at the MAG level and by the Deputy Chief of Staff for the ALD at the MAW/FMF level. Operationally, the CSSE staff functions slightly differently from the GCE and the ACE. The CSSE G-4/S-4 coordinates internal logistic support matters affecting the logistic posture of the CSSE itself. This includes its ability to provide sustained CSS to the MAGTF as established in the concept of CSS. The CSSE G-3/S-3 coordinates nonaviation-peculiar combat service support for the MAGTF based on the concept of operations and the concept of CSS. The CSSE G-3/S-3 section has traditional operations and plans units. He coordinates with both the G-3/S-3s and the G-4/S-4s of the supported MAGTF elements. Paragraph 5002 shows the functions and duties of the G-4/S-4s of all MAGTF elements and the CSSE G-3/S-3.

5002. CSS Planners' Responsibilities

Throughout the planning for and execution of an operation, logistics officers must constantly reevaluate support requirements. They must also reevaluate the capabilities of their units. They continuously analyze tactical and support operations. They identify and properly employ their resources to satisfy requirements. To provide responsive and sustained

support, the operational logistician must anticipate requirements which exceed organic capabilities. He must forward timely requests for assistance to external supporting agencies to meet shortfalls.

a. Duties of the MAGTF G-4/S-4

(1) The MAGTF G-4/S-4 is the MAGTF commander's principal assistant for the broad functional area of nonaviation-peculiar logistics. He is the focal point for policy formulation and overall logistics coordination.

(2) The G-4/S-4 coordinates nonaviation-peculiar logistics/CSS planning and operations for the MAGTF. The MAGTF G-4/S-4 initiates and maintains active liaison with higher headquarters, other participating Services, and Allied Forces. This liaison must be continuous throughout the planning and execution of combat operations. Specific responsibilities include—

- In coordination with the MAGTF G-3/S-3, recommending policies, priorities, and allocations for nonaviation-peculiar logistics/CSS matters within the MAGTF.
- Coordinating and preparing the non-aviation-peculiar logistics/CSS portions of plans and orders issued by the MAGTF command element.
- Supervising the execution of the MAGTF commander's orders dealing with non-aviation-peculiar logistics/CSS.
- In coordination with the MAGTF G-3/S-3 and the CSSE commander, ensuring the concept of CSS supports the tactical concept of operations and scheme of maneuver. When necessary, he identifies CSS deficiencies.

commander would not assign this mission without prior coordination with and approval from the MAGTF commander.

(b) Task-Organized Units. The CSSE/ACE commander may assign the GS mission to a task-organized unit just as he would for permanently structured organizations. The MAGTF commander would always assign this mission to the MAGTF CSSE. CSSDs may also have this mission. The LFSP would normally have this mission. CSS units assigned this mission must have enough assets to perform all five responsibilities associated with this mission. Of particular concern is their ability to establish and maintain communications and liaison with the supported unit.

4008. Nonstandard Missions

a. Concept. The CSSE/ACE commander normally uses one or more of the standard missions to meet the needs of the supported force. However, unique situations may dictate occasional deviations from the norm. When such a situation arises, the CSSE/ACE commander can and should select a nonstandard mission. He should make this decision only after careful consideration. He must be sure that the nonstandard mission satisfies all requirements of the specific situation. A nonstandard mission assignment requires detailed planning and coordination. Both the supporting and supported units must know in advance precisely what each other's responsibilities are. At the very least, the mission statement must specifically address the five inherent responsibilities noted in paragraph 4005. The mission statement must also include at least the three mandatory elements discussed in paragraph 4006.

b. Support Relationships. The optional fourth element of the mission statement is the operative element in the nonstandard mission. The optional element, in addition to rather detailed coordinating instructions, amplifies the basic mission statement and addresses unique responsibilities and relationships.

c. Examples. The following paragraphs discuss circumstances when the CSSE commander would select a nonstandard mission. They do not show every situation where a nonstandard mission would be appropriate.

(1) Mission Statement Elements. The mission statement for a nonstandard mission must contain the three mandatory elements. For example: *CSSD-28 support all U.S. and Allied forces near _____.*

(2) Inherent Responsibilities. The mission statement above is adequate for a standard mission. For the CSSD-28 commander, however, it does not provide enough information for him to do his job in this particular case. With standard missions, he knows immediately what his inherent responsibilities are. When assigning a nonstandard mission, the CSSE/ACE commander must also give detailed coordinating instructions to amplify the mission statement. Paragraph 3 of the CSSE operation order should include—

- Priority of response to support requests:
 - MAGTF units (or name specific unit).
 - Other U.S. forces.
 - Allied forces (classes I, III, and V only).
- Area of Responsibility: Vicinity of _____. Supply point distribution to non-USMC elements.
- Liaison Requirements: Maintain liaison with supported USMC units on full time basis. Maintain liaison with other supported units as required.
- Communications Responsibilities: Establish and maintain communications with MAGTF units on a full time basis; as required with other elements.
- Positioning: As directed by the CSSE commander.
- Operational Planning: By the CSSE headquarters.

implications for each example. They do not show every situation where the CSSE commander could or would assign a GS-R mission.

(a) Permanently Organized Units. The CSSE/ACE commander may assign a GS-R mission to any of his permanently organized organizations. For supply or maintenance battalions, this is the only alternative to their normal GS mission. Either battalion could reinforce the capabilities of a CSSD or the MWSG. Use the GS-R mission when it is impractical to organize a CSSD/MALS element with full supply or maintenance capabilities. Use it to economize by centralizing capabilities rather than forming a separate CSSD/MALS. For example, the CSSE commander can task maintenance battalion to do overflow second echelon repairs for another organization. Another example is to task an engineer company to reinforce a CSSD at a nearby airfield if runways need repair. The company would be in general support of the MAGTF, receiving tasks from its parent battalion until called to do runway repairs. When this happens, the company would shift its full attention to runway repairs, informing its parent battalion of what was occurring. The company would not wait for a tasking from its parent battalion. The task was part of its GS-R mission.

(b) Task-Organized Units. The CSSE/ACE commander would not assign a GS-R mission to task-organized units. Task-organized CSS units can only do those things for which they were structured. He usually structures them to support only one unit at a time. It is more appropriate to give them one of the three other missions. Include an *on order* element to alert them to a future change of mission.

d. General Support (GS)

(1) Concept. A CSS unit assigned the mission of GS supports the MAGTF under the direction of the CSSE/ACE commander.

(2) Support Relationships. The GS mission is the most centralized mission. The CSSE/ACE commander retains full control over his subordinate units, to include establishing the priority of their efforts. This does not prevent supported units from dealing directly with various CSS agencies. For example, they submit requisitions directly to the supply source. However, the CSSE/ACE commander may control how and when he fills those requisitions. He follows the priorities and allocations of the MAGTF commander. In certain cases, the MAGTF commander may stop the issue of supplies or items of equipment without his prior approval. In other cases, he might specify a priority of issue for certain items or may assign a specific quantity to each unit.

(3) Examples. The MAGTF CSSE always has a GS mission. The CSSE commander, however, may assign different missions to his subordinate units consistent with the requirements of the tactical situation. In fact, the Concept of CSS specifically addresses this problem. It tells precisely how to satisfy the requirements in the particular tactical situation. The following paragraphs give examples of general support missions. They discuss implications for each example. These examples do not depict every situation where the commander could or should assign a GS mission.

(a) Permanently Organized Units. The CSSE/ACE commander may assign the GS mission to any of his permanent subordinate organizations. For example, the FSSG commanding general can give the engineer support battalion the mission of general support of the MAGTF. In this situation, the CG would task the battalion based on the priorities of the MAGTF commander. The battalion may also be in GS of a subordinate element of the MAGTF. For example, when in GS of the division, tasks would come from the FSSG based on the division commander's priorities. In this example, the battalion would not accept requests from any other unit of the MAGTF until its mission was changed. Obviously, the CSSE/ACE

the DS mission. Of particular concern is its ability to establish and maintain communications and liaison with the supported unit.

b. Reinforcing (Rein)

(1) **Concept.** Reinforcing is a mission in which one unit augments the support provided by a like-type organization (FMFM 4). Responsibility for administration and support of the reinforcing unit remains with its parent unit. As in the DS mission, the operational relationship is one-to-one between the reinforcing and reinforced units.

(2) **Support Relationships.** If a CSS unit needs help to meet the overall support requirements, the CSSE/ACE commander has a number of options. First, he can assign additional personnel and equipment. As an alternative, he can assign a similar unit to reinforce it for a specified task, operation, or period of time. By using the reinforcing mission, he avoids the administrative burdens associated with reassignment of personnel and equipment. The unit assigned the reinforcing mission can reinforce only one unit at a time. The reinforced unit, however, may be reinforced by several other units. A CSS unit may reinforce only a similar unit in the MAGTF. The relationship between reinforcing and reinforced units is the same as that for supporting and supported units. The higher headquarters of the reinforcing or reinforced unit does not perform detailed planning or routine coordination between the two units. However, both units must keep their higher headquarters informed of operations and plans. The reinforced unit submits support requests directly to the reinforcing unit.

(3) **Examples.** The following paragraphs analyze considerations and implications for each example. The examples do not show every situation where one would assign this mission. The important lesson is to assign the reinforcing mission only to similar units. The CSSE/ACE commander may assign it to either permanently organized or task-organized units and to single-function or multi-function units.

(a) **Permanently Organized Units.** The CSSE/ACE commander may assign a reinforcing mission to any of his permanent subordinate organizations. For example, the CSSE commander may direct that the engineer support battalion reinforce the combat engineer battalion. There are some situations, however, which are remote. For example, it is unlikely that he would assign this mission to the supply or maintenance battalions.

(b) **Task-Organized Units.** The CSSE commander may assign a reinforcing mission to a task-organized unit just as he would to his permanently structured organizations. A task-organized CSSD/MALS, for instance, may reinforce another CSSD/MALS. This option is most useful in those situations where the transfer of personnel or equipment would create an unnecessary administrative burden. It is an ideal solution when one CSSD needs help for a short period of time.

c. General Support-Reinforcing (GS-R)

(1) **Concept.** For this mission, the CSS unit supports one unit as its first priority while reinforcing another unit as a second priority. A unit with this mission remains under the control of its parent CSS headquarters. It must be ready to reinforce another similar unit on short notice. The GS-R mission is the second most centralized mission.

(2) **Support Relationships.** When he assigns the GS-R mission, the CSSE/ACE commander must be sure that he clearly states the three mandatory mission statement elements. The optional element gives the name of the reinforced unit and the parameters governing the reinforcing role.

(3) **Examples.** The GS-R mission is the least used standard mission. It normally would apply only in very special circumstances. The following examples analyze considerations and

(2) Example: *Combat Service Support Detachment-28 direct support of 8th Marines.* This simplified mission statement contains only the three mandatory elements.

b. Optional Elements. If the commander anticipates a change in mission, a fourth optional element may be added to the mission statement to facilitate future operations. This optional element may provide a warning order or additional information necessary for continuity of operations.

(1) For example: *On order, general support of 2d Marine Division.* The complete identity of the supported unit must always be included. This added element alerts both the supporting and supported units to expect and prepare for a change of mission.

(2) Alternatively, the commander may also use the optional element to provide additional guidance. For example: *7th Engineer Support Battalion general support of the MEF. Attach one reinforced platoon to CSSD-11 and place one platoon in direct support of MWSS-14.* Notice in this example that the CSSE commander does not select the specific subordinate elements for alternative missions. Selection of specific platoons is the prerogative of the battalion and company commanders. It is, however, within his authority to direct different missions or command relationships for subordinate elements of the CSSE. He may also task-organize subordinate elements. He does so in coordination with the MAGTF commander, the supported unit commander, and his own subordinate commanders.

4007. Standard Missions

a. Direct Support (DS)

(1) **Concept.** Direct support is a mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance. (Joint Pub 1-02)

(2) **Support Relationships.** A CSS unit assigned a DS mission is immediately responsive to the needs of the supported unit. It furnishes continuous support to that unit and coordinates its operations to complement the concept of operations of the supported unit. The DS mission creates a one-to-one relationship between supporting and supported units. The DS mission is the most decentralized of the four standard missions. The higher headquarters of the supporting and supported units become involved only on an exception basis. However, each unit must keep its higher headquarters informed of its operations and plans. The supported unit sends requests directly to the supporting unit.

(3) **Examples.** The following subparagraphs analyze considerations for each example. They do not show every situation in which the commander could or should assign a DS mission. The important lesson is that the CSSE/ACE commander can assign the DS mission either to permanently organized or task-organized CSS units. Similarly, he can assign this mission to single-function units or to multi-function units.

(a) **Permanently Organized Units.** The CSSE commander may assign the DS mission to any of his permanent subordinate organizations. For example, he may give this mission to his engineer or motor transport organizations. Permanent CSS organizations may provide direct support to any other element of the MAGTF. Obviously, however, there are some cases which are not likely to occur. The supply and maintenance battalions are not likely to have a DS mission. For every situation where the DS mission might be correct, there is an example where it would not be correct.

(b) **Task-Organized Units.** The CSSE/ACE commander may assign the DS mission to a task-organized unit such as a CSSD/MALS just as he would to his permanently structured organizations. CSSDs are most often in direct support. He must ensure that the task-organized unit has enough assets to accomplish all five responsibilities of

COMBAT SERVICE SUPPORT ELEMENT/ORGANIZATION/UNIT WITH MISSION OF:	DIRECT SUPPORT (DS)	REINFORCING (REIN)	GENERAL SUPPORT: REINFORCING (GS-R)	GENERAL SUPPORT (GS)
1. Responds to CSS requests in priority from:	1. Supported unit 2. Higher CSS Hq 3. Own units	1. Reinforced unit 2. Own units 3. Higher CSS Hq	1. Higher CSS Hq 2. Reinforced unit 3. Own units	1. Higher CSS Hq 2. Supported unit 3. Own units
2. Has as its area of responsibility:	1. Area of supported unit	1. Area of reinforced unit	1. Area of supported unit	1. Area of supported unit
3. Establishes liaison with:	1. Supported unit	1. Reinforced unit	1. Reinforced unit	1. Supported unit
4. Establishes communications with:	1. Supported unit 2. Higher CSS Hq	1. Reinforced unit 2. Higher CSS Hq	1. Reinforced unit 2. Higher CSS Hq	1. Supported unit 2. Higher CSS Hq
5. Is located/relocated by:	1. Higher CSS Hq 2. Itself	1. Higher CSS Hq 2. Reinforced unit	1. Higher CSS Hq 2. Itself	1. Higher CSS Hq

Figure 4-1. Standard Missions and Responsibilities.

b. Area of Responsibility. When assigned a standard mission, the supporting commander is responsible only for support in the area of the supported unit. He is neither responsible for nor capable of support outside that area. To change the area of responsibility requires a change of mission. Only the higher CSS headquarters can change the mission. This requires coordination between the higher headquarters of both the supporting and supported units.

c. Liaison. The supporting commander decides what type(s) of liaison he uses. See chapter 3.

d. Communications. Communications between the supporting and supported units is essential. The supporting commander, with the concurrence of his parent headquarters, decides what type of communications he uses. Communications need not be through electronic means.

e. Positioning. Positioning is not simply locating facilities on the ground. It includes the authority to displace facilities to new locations. The CSSE commander has final authority for the general location and the time of displacement of nonaviation-peculiar CSS units and facilities. He retains this authority to be sure that he can

continue to support the whole MAGTF. The ACE commander has final authority for the general location and time of displacement of organic aviation CSS organizations. However, he must coordinate with the supporting Navy commander for the placement and movement of Navy support units or agencies. The subordinate CSS commander recommends the time for displacements. He also selects exact locations for new facilities when given their general locale. Because CSS units are often in areas under the control of other MAGTF elements, the CSSE/ACE commander must coordinate with those elements before he establishes or moves his units and facilities.

4006. Mission Statement Elements

a. Mandatory Elements. Every mission statement has four essential elements. Three of these elements are mandatory. Always include them. The fourth is optional to provide additional information and guidance.

(1) Mandatory mission statement elements are:

- Identification of the supporting unit.
- Designation of the standard mission assigned.
- Identification of the supported unit.

- Advise the MAGTF commander about the organization, capabilities, and employment of organic CSS.

(2) Implied Tasks

- Provide the full range of aviation-peculiar CSS to supported units.
- Coordinate, manage, and supervise the aviation-peculiar CSS effort.
- Apply the CSS principles when planning, organizing, and executing aviation-peculiar CSS operations.
- Establish and maintain communications with organic and external aviation-peculiar support units/agencies (to include Navy units).
- Plan for future operations.

4003. Types of Combat Service Support Units

CSS units are either permanently organized or task-organized. Based on their organizational structure, they also may be either single-function or multi-function units. The difference is important. It is also important to understand that a unit's name does not always adequately describe its assigned mission or tasks. All nonaviation-peculiar CSS units have organic capabilities to support themselves. They also provide CSS to other elements of the MAGTF.

a. Single-Function Units. Single-function units support the MAGTF in only one of the six CSS functional areas. These include the supply, maintenance, landing support, motor transport, medical, and dental battalions. Normally, the CSSE commander assigns these organizations a general support mission. He uses their unique capabilities and centralized assets to support the whole MAGTF. He may also assign elements of these battalions to task-organized units.

b. Multi-Function Units. Multi-function units provide support in two or more CSS functional

areas. They are often, but not always, task-organized units. Examples include the H&S battalion, landing force support party, engineer support battalion, MALS, and the MWSG. Multi-function units may be assigned a standard or a nonstandard mission. The MWSG and each MALS are multifunctional units directly accountable to, and task-organized by, the ACE; i.e., they are in direct support of the ACE.

4004. Formal Missions

Formal missions may be either standard or non-standard. Standard missions are direct support, reinforcing, general support/reinforcing, and general support. A nonstandard mission is any mission other than one of the standard missions. Formal missions dictate relationships, responsibilities, and command and control procedures. They facilitate planning for future operations by providing for *on order* tasks. They also simplify the planning and execution of MAGTF operations. This process makes relationships and responsibilities understandable by all without the need for elaborate detail in operation orders. Paragraph 4007 explains standard missions. Paragraph 4008 explains nonstandard missions.

4005. Inherent Responsibilities

Formal missions dictate specific responsibilities for both the supporting unit and the supported unit. Mission assignments establish the CSS unit's relationship to the supported unit as well as to other CSS units. Figure 4-1 shows the five inherent responsibilities associated with formal missions.

a. Priority of Response. This is the prime responsibility. For each mission, it tells the supporting commander precisely whom he supports. It tells him who has first call on his services. Support priorities are the primary distinction between each of the standard missions; e.g., priority of response is the only difference between the direct support and general support missions.

Chapter 4

Missions for Combat Service Support Units

4001. General

a. The CSSE commander and his subordinate commanders have three basic tools for exercising command and control: task organization, command relationships, and mission assignments. They need not task-organize or modify command relationships in every instance. They must *always* assign formal missions. A formal mission may be one of the four standard missions or it may be a nonstandard mission.

b. The MAGTF CSSE always has the mission of general support of the whole MAGTF. The MAGTF commander assigns this mission in his operation order. The CSSE commander then assigns missions to each of his major subordinate units. Selection of specific missions depends on the tactical situation, needs of the supported units, and CSSE capabilities. In all cases, the CSSE commander coordinates mission assignments with the MAGTF commander, supported unit commanders, and his subordinate commanders. This chapter discusses formal missions for CSS units and provides examples of standard and nonstandard missions.

c. MAGTF ACE CSS is provided through a combination of organic and external CSS units/agencies. Nonaviation-peculiar support is provided by the CSSE. Aviation-peculiar support can be provided through organic assets, by Navy units/agencies, or a combination of the two. The discussions in this chapter apply to how the ACE commander tasks organic support units or receives support from Navy support units/agencies.

4002. Combat Service Support Tasks

a. CSSE

(1) Specific Tasks

- Provide nonaviation-peculiar CSS beyond the organic capabilities of the other MAGTF elements.
- Advise the MAGTF commander about the organization, capabilities, and employment of the CSSE.

(2) Implied Tasks

- Provide the full range of nonaviation-peculiar support to sustain the MAGTF.
- Coordinate, manage, and supervise the nonaviation-peculiar CSS effort.
- Apply the CSS principles when planning, organizing, and executing nonaviation-peculiar CSS operations.
- Establish and maintain communications between the CSSE and supported elements.
- Plan for future operations.

b. ACE

(1) Specific Tasks

- Ensure that aviation-peculiar CSS beyond the organic capabilities of the ACE are identified to the appropriate Navy support units/agencies.
- Coordinate with the CSSE to determine how nonaviation-peculiar support requirements will be satisfied.

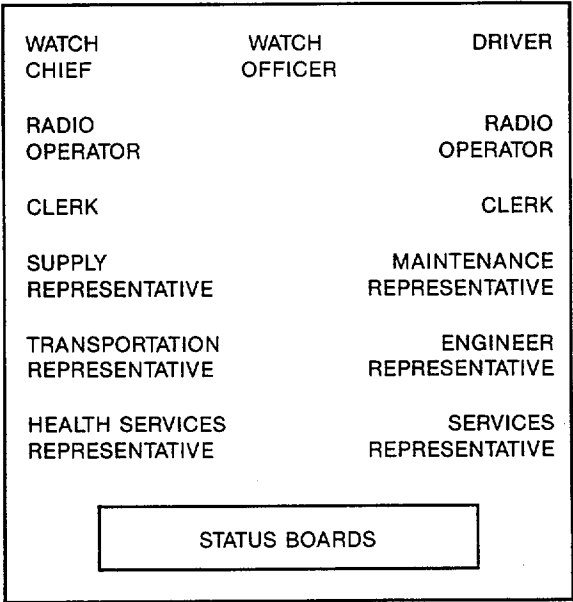


Figure 3-3. Centralized CSSOC Arrangement.

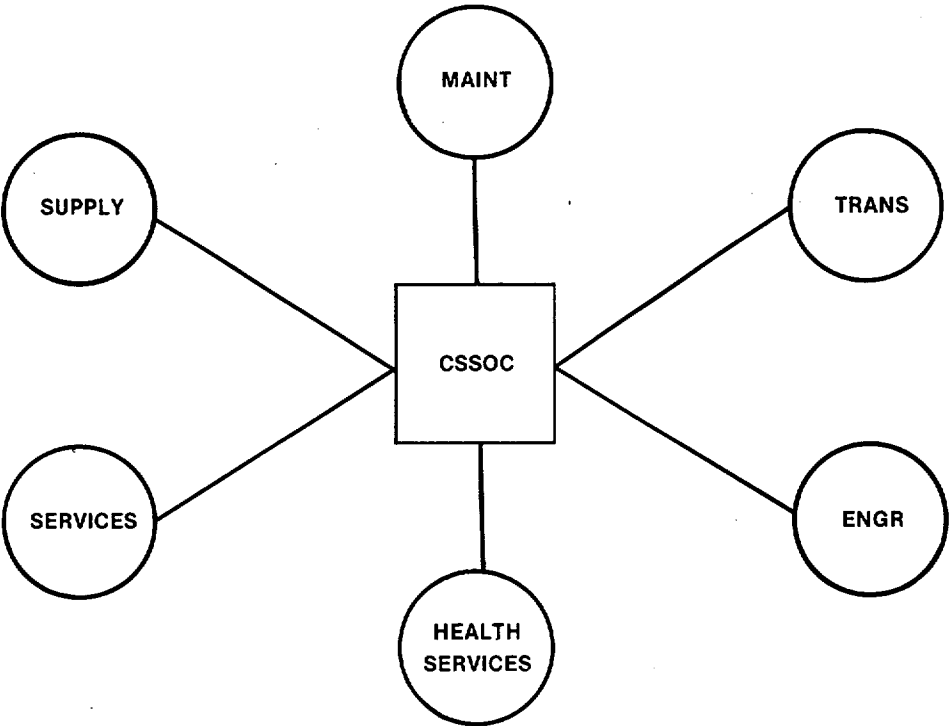


Figure 3-4. Decentralized CSSOC Arrangement.

(1) **Centralized CSSOC.** Figure 3-3 depicts a centralized CSSOC arrangement. Placing functional representatives for supply, maintenance, transportation, engineer, health services, and services within the CSSOC, an advantage of this option is that the watch officer has immediate access to technical advice. This option is appropriate when tactical considerations do not require dispersal. A disadvantage can be the high activity level generated by large numbers of personnel and communications in a confined facility. Higher level CSS organizations and those further to the rear use a centralized CSSOC more frequently than do smaller units.

(2) **Decentralized CSSOC.** Figure 3-4 depicts a decentralized CSSOC arrangement. Placing functional representatives outside the CSSOC, smaller CSS organizations and those further forward most often select this option. In some situations, the CSS unit will not have enough personnel or skills to operate a centralized CSSOC. In other cases, dispersion is a tactical necessity which militates against centralization.

d. The CSSOC controls the CSS request net(s) and the CSSA local net(s). The CSSOC has hot lines to subordinates, supported units, and higher headquarters. The CSSOC may also have teletype or data links with subordinate, supported, and higher headquarters. Normal CSSOC functions include—

- Receiving and recording operational reports from subordinate units.
- Maintaining current plots of the friendly and enemy situation and displaying the information in the CSSOC.
- Preparing and submitting operational reports to higher headquarters.
- Providing dedicated communications channels for control of CSS operations.
- Transmitting orders and decisions.
- Monitoring the progress of nonaviation-peculiar CSS operations and reporting significant events and incidents to the commander.
- Advising interested staff sections of events or information of immediate concern to them.
- Serving as the principal point of contact for liaison personnel from senior, supported, or adjacent units.
- Maintaining a rear area security overlay depicting preplanned targets, active security measures for CSS installations, and main supply routes (MSRs) within the rear area.
- Coordinating security of CSS installations and MSRs within the rear area with higher and adjacent elements of the MAGTF.

CSS unit and the supported organizations. Each CSSD establishes a CSS request net. Supported organizations enter the net to pass routine or emergency support requests when other means are not available or appropriate. The CSSE also establishes a CSS request net between itself and its subordinate CSSDs. CSS units use these nets to pass reports, requests, and orders. The radio operators for CSS request nets are in the combat service support operations center (CSSOC) of the organizations which are on the net. Supported unit G-4/S-4s should monitor the CSS request net as a means of assessing the status of their units and to facilitate anticipation of requirements.

NOTE: Aviation peculiar CSS requests are normally submitted via a DD Form 1348, *DOD Single Line Item Requisition System Document*, (6-part or automated facsimile).

(2) Multichannel Radio. The CSSE uses multichannel radio to communicate with both senior and subordinate headquarters.

(a) External. The communications battalion provides the multichannel links between the CSSE and MAGTF command element. Adjacent links between the CSSE, the GCE, and the ACE are furnished, installed, operated, and maintained as directed by the MAGTF commander.

(b) Internal. The complexity of the multichannel system within the CSSE depends on the number and location of CSS non-aviation-peculiar installations. If enough radios and operators are available, there are links between the CSSE headquarters, the LFSP, and each CSSD. There may even be lateral links between CSSDs. There may also be lateral links between the CSSDs and the supported organizations.

(3) Wire. The wire platoon provides wire facilities for the CSSE headquarters and for any CSSDs. The wire platoon also provides telephones and switching service to battalions and CSSDs which lack organic capability.

(4) Teletypewriter. The message center platoon provides teletypewriter service and switching for the CSSE headquarters and for CSSDs. The communications center may establish a defense communications system (DCS) entry for the CSSE. Teletypewriter traffic normally goes via wire and wire-multichannel systems, but may be transmitted by HF or VHF radio teletype.

3005. Combat Service Support Operations Center

a. The CSSOC is the agency within the structure of the CSSE and subordinate CSS units which controls and coordinates the day-to-day operations of the CSS organization. Within the ACE, these duties are performed by the ACE G-4/S-4/ALDL/MWSG/MALS/MWSS (depending on the size of the ACE) for aviation-peculiar CSS. The CSSOC focuses on meeting the needs of supported units. FSSGs, MSSGs, and CSSDs operate CSSOCs 24-hours-per-day during combat operations. The G-3/S-3 operates the CSSOC. At the FSSG level, the G-3 operations officer supervises the day-to-day functioning of the CSSOC.

b. The CSSE commander establishes the CSSOC in his command post. The CSSOC continually monitors and records the status of CSS operations. It supervises the execution of the CSSE commander's decisions to the extent which he authorizes. CSSOC personnel normally have decision making authority only within clearly established policies, standing operating procedures (SOPs), or previous decisions of the commander.

c. The CSSOC is not a separate organization. The CSS unit's operations and communications personnel staff the CSSOC. Local SOPs govern the size and composition of the CSSOC. CSSOC configurations using various vehicle types should be considered to facilitate displacement. Generally, the commander has two alternatives for the organization of his CSSOC. He may select either a centralized or a decentralized arrangement.

BATTALION	YES	NO
Headquarters and Service Supply	X	X
Maintenance		X
Motor Transport	X	
Engineer Support	X	
Landing Support	X	
Medical	X	
Dental		X

Figure 3-2. Organic Communications.

b. Headquarters and Service Battalion

(1) The primary mission of the H&S battalion is to provide command, control, administration, and communications for the FSSG. For tactical operations, the FSSG commander establishes his command post in the force combat service support area. Depending on the tactical situation, he may also establish an alternate command post in a combat service support area (CSSA).

(2) Communication support for the FSSG headquarters is provided by Communication Company, H&S Battalion, FSSG and other battalion communication platoons. The FSSG communications-electronics officer (CEO) is responsible for the overall planning, coordination, and supervision of the CSSE communication systems. Augmentation of communication assets from the supporting communication battalion, SRIG will be required to support long haul communication requirements. When afloat, the FSSG's primary communication means are provided by the commander, amphibious task force (CATF).

(3) The communication company is composed of a company headquarters, five CSSE communication platoons, a communication support platoon, and electronics maintenance platoon. It possesses organic communications equipment to support single channel radio communication in the high frequency (HF), very high frequency (VHF), and the ultrahigh frequency (UHF)

spectrum. Switched backbone assets include short-range transmission equipment; medium switches (automatic central telephone offices) and switchboards; and terminal equipment. Special purpose systems communication is available to support a position location reporting system and global positioning system.

c. CSSE Headquarters. The CSSE headquarters depends on the LFSP for communications during the assault phase. As the CSSE moves ashore, the headquarters continues to depend on the LFSP for communications within the beach support area (BSA). The landing support battalion provides the communications capability for the LFSP.

d. Types

(1) **Radio.** The CSSE does not normally rely on singlechannel radio circuits. They use single-channel circuits on a standby basis in case wire and wire-multichannel systems fail. The CSSE normally guards or monitors the following nets:

(a) External MAGTF Nets

MAGTF command net(s) – HF

MAGTF alert/broadcast net – HF

MAGTF intelligence net – VHF

Helicopter support team (HST) control net – HF

MAGTF CSS net – HF

MAGTF medical regulating net – HF

MAGTF comm coordination net – VHF/HF

(b) Internal CSSE Nets

CSSE command net(s) – HF

CSSE comm coordination net – VHF/HF

CSSA local net(s) – VHF

CSSA security net(s) – VHF

CSS request net(s) – VHF/HF

(c) CSS Request Net. The CSS request net is the most important net for day-to-day nonaviation-peculiar CSS operations. The request net is a direct link between the

feed individuals. The CSS supply function consists of the receipt, storage, and issue of subsistence items to using units.

Class I—Subsistence including gratuitous health and welfare items. Subclassifications for class I are: A—air (in-flight rations), R—refrigerated subsistence, S—nonrefrigerated subsistence (less combat rations), and C—combat rations (including gratuitous health and welfare items).

Class II—Clothing, individual equipment, tentage, organizational tool sets and tool kits, hand tools, administrative and housekeeping supplies and equipment. Subclassifications for class II are: B—ground support material, E—general supplies, F—clothing and textiles, M—weapons, and T—industrial supplies (including bearings, block and tackle, cable, chain, wire rope, screws, bolts, studs, steel rods, plates, and bars).

Class III—Petroleum, oils, and lubricants; petroleum fuels, lubricants, hydraulic and insulating oils, preservatives, liquid and compressed gases, bulk chemical products, coolants, deicing and antifreeze compounds, together with components and additives of such products; and coal. Subclassifications for class III are: A—air and W—ground (surface).

Class IV—Construction: construction materials to include installed equipment and all fortification/barrier materials. No subclassifications.

Class V—Ammunition: ammunition of all types (including chemical, biological, radiological, and special weapons), bombs, explosives, mines, fuzes, detonators, pyrotechnics, missiles, rockets, propellants, and other associated items. Subclassifications for class V are: A—air and W—ground.

Class VI—Personal demand items (nonmilitary sales items). No subclassifications.

Class VII—Major end items: a final combination of end products which is ready for its intended use; e.g., launchers, tanks, mobile machine shops, and vehicles. Subclassifications for class VII are: A—air, B—ground support material (includes power generators and construction, barrier, bridging, fire fighting, petroleum, and mapping equipment), D—administrative vehicles (commercial vehicles used in administrative motor pools), G—electronics, K—tactical vehicles, L—missiles, M—weapons, and N—special weapons.

Class VIII—Medical material including medical unique repair parts. Subclassifications are: A—medical/dental material, less blood and blood products, B—blood and blood products.

Class IX—Repair parts and components to include kits, assemblies and subassemblies, reparable and nonreparable, required for maintenance support of all equipment. Subclassifications for class IX are the same as class VII with the addition of T—industrial supplies (includes bearings, block and tackle, cable, chain, wire rope, screws, bolts, studs, steel rods, plates, and bars).

Class X—Material to support nonmilitary programs; e.g., agricultural and economic development, not included in classes I-IX. No subclassifications.

7002. Subfunctions of Supply

Although there is no *most important* CSS function, the supply function has the broadest scope. Without adequate supply systems to sustain the MAGTF, the effectiveness of efforts in the other functional areas, and the overall throughput system is largely negated. Supply support has the greatest potential impact on the MAGTF commander's ability to integrate the essential elements of firepower, mobility, and sustainability on which the MAGTF depends.

As a matter of sustainability, the MAGTF, ACE, and CSSE commanders will be concerned with supply support from the strategic level (producer phase) to the tactical level (consumer phase). The CSSE/ACE is the primary link between production logistics (the industrial base) and consumer logistics (the MAGTF).

Supply requires the longest forward planning and the most detailed planning data system to sustain the MAGTF's throughput requirements. Supply also has more tasks, concepts, terms, and documents than other CSS functions. More failures in other CSS functions occur due to failure of the related supply system than to any other single cause. Every unit and individual has some involvement in some type of supply action. The six subfunctions of supply are—

Chapter 7

Supply

7001. General

a. Supply. The procurement, distribution, maintenance while in storage, and salvage of supplies, including the determination of kind and quantity of supplies.

Producer Phase—That phase of military supply which extends from determination of procurement schedules to acceptance of finished supplies by the military Services.

Consumer Phase—That phase of military supply which extends from receipt of finished supplies by the military Services through issue for use or consumption. (Joint Pub 1-02)

b. Available Supply Rate. The rate of consumption that can be allocated considering the supplies and facilities available for a planned operation or a given period. (Joint Pub 1-02)

c. Basic Load. The quantity of supplies required to be on hand within, and which can be moved by, a unit or formation. It is expressed according to the wartime organization of the unit or formation and maintained at the prescribed levels. (Joint Pub 1-02)

d. Distribution. Distribution in the context of this publication is, 1. An official delivery of anything, such as orders or supplies. 2. That functional phase of military logistics that embraces the act of dispensing materiel, facilities, and services. (Joint Pub 1-02) (Parts 4 and 5 of a 6-part definition)

e. Military Requirement. An established need justifying the timely allocation of resources to achieve a capability to accomplish approved military objectives, missions, or tasks. (Joint Pub 1-02)

f. Procurement. The process of obtaining personnel, services, supplies, and equipment. (Joint Pub 1-02)

g. Required Supply Rate. The amount of ammunition expressed in rounds per weapon per day for those items fired by weapons, and of all other items of supply expressed in terms of appropriate unit of measure per day, estimated to sustain operations of any designated force without restriction for a specified period. (Joint Pub 1-02)

h. Salvage. The saving or rescuing of condemned, discarded, or abandoned property, and of materials contained therein for reuse, refabrication, or scrapping. (Joint Pub 1-02) (Part 2 of a 2-part definition)

i. Train. A service force or group of service elements which provides logistic support, e.g., an organization of naval auxiliary ships or merchant ships or merchant ships attached to a fleet for this purpose; similarly, the vehicles and operating personnel which furnish supply, evacuation, and maintenance services to a land unit. (Joint Pub 1-02) (Part 1 of a 2-part definition)

j. Classes of Supplies. Supplies are all items necessary for the equipment, maintenance, and operation of a military command, including food, clothing, equipment, arms, ammunition, fuel, materials, and machinery of all kinds. For planning, management, and administrative purposes, supplies are divided into ten classes. Note that subsistence items (class I) is a supply CSS function and food services is a command support CSS function. Food services is the handling, preparing, and serving of those subsistence supplies required to

to subordinate CSS units regarding their tasks and missions. The CSSE G-3/S-3 is responsible for preparing the CSSE Operation Order. The CSSE G-4/S-4 prepares Annex D to the CSSE Operation Order.

6006. Annex D to Supported Unit Operation Orders

a. Annex D to the GCE and ACE operation orders follows the format of that in appendix B.

b. The Annex D prepared by the GCE G-4/S-4 and the ACE G-4/S-4, in coordination with the ALD/MALS, reflects the supported commanders' plans, guidance, and directions for employment of organic logistic and CSS capabilities. This document also contains the specific requirements, priorities, and allocations for logistics/CSS to support the concept of operations and scheme of maneuver. To the extent possible, annex D should reference standard operating procedures.

c. Each subordinate organization down to the battalion/squadron level publishes an annex D. Optionally, they may use paragraph 4 of the operation order to provide logistic/CSS guidance to subordinate units. Use of and reference to local SOPs contribute to sound plans and help avoid unnecessarily lengthy and detailed operation orders.

6007. Standing Operating Procedures

a. Standing operating procedures are a set of instructions covering those features of operations which lend themselves to a definite or standardized procedure without loss of effectiveness. The procedure is applicable unless ordered otherwise. SOPs are general orders which deal with tactical and administrative procedures not covered by

regulatory or doctrinal publications. An SOP is one of the five classes of orders.

b. SOPs contribute to the principles of simplicity and flexibility. The recurrent nature of CSS functions lend themselves to procedural standardization. While standardization should not be an end in itself, SOPs contribute to simplicity, clarity, and brevity. Reliance on SOPs in the various CSS planning documents simplifies and shortens those documents. It is not necessary to list SOPs as references. However, the order should cite the SOP in the body of the document.

c. In addition to their advantages in the preparation of planning documents and orders, SOPs improve support. They improve familiarity and mutual confidence between supported and supporting units and personnel. They can also reduce the degree of confusion often associated with combat conditions.

6008. Other Planning Documents

The G-4/S-4/ALD/MALS has staff cognizance for or a strong vested interest in several other documents. Many of the following documents are unique to landing force operations. Other doctrinal publications, such as Joint Pub 3-02.1 and NWP 22-3, discuss them in detail. This manual does not cover them in detail.

- Embarkation Plan.
- Landing Plan (Appendix 3 to Annex R of the Operation Order).
- Plan for Landing Supplies.
- Debarkation Schedules.
- Serial Assignment Tables.
- Organization for Embarkation and Assignment to Shipping Tables.
- Surface and Helicopterborne Landing Documents.

6003. Concept of Logistics/Combat Service Support

The Concept of Logistics/CSS is a broad statement of the essential logistic and CSS tasks involved in supporting the concept of operations. It is the basic unifying foundation for subsequent development of detailed logistic and CSS plans and orders by the MAGTF elements. The Concept of Logistics/CSS is paragraph 4a in the MAGTF Operation Order. However, to help CSS planning, the MAGTF may issue it separately in advance of the complete order. The MAGTF G-4/S-4/ALD, in close coordination with the CSSE, writes the Concept of Logistics/CSS. (See app. B.)

a. For the CSSE and supported MAGTF elements, the Concept of Logistics/CSS equates to an outline or initial draft of annex D to the MAGTF Operation Order. Based on the course of action selected by the MAGTF commander, the concept describes in general, concise terms how the MAGTF intends to conduct logistic/CSS operations. It gives an overall picture of CSS operations. It often appears in annex D, usually in elaborated form, for additional clarity of purpose. The Concept of Logistics/CSS states the solutions to the major problems and disadvantages noted in the CSS estimate. Finally, it serves as the basis for annex D and the specific tasks, functions, and missions necessary to accomplish CSS for the operation.

b. The MAGTF G-4/S-4, in coordination with ACE G-4/S-4/ALD, prepares this document in close coordination with the CSSE. Most often, the Concept of Logistics/CSS will be incorporated in annex D. However, as a means of disseminating CSS planning guidance, the MAGTF may issue it as a separate document in advance of annex D. This enhances coordination of effort and preparation of plans by higher headquarters and subordinate organizations.

6004. Annex D (Logistics/Combat Service Support) to the MAGTF Operation Order

a. The MAGTF G-4/S-4, in coordination with the ALD/MALS, prepares annex D. This annex

complements the concept of operations and amplifies paragraph 4 of the Operation Order (Administration and Logistics). Annex D begins with the concept of operations and the supporting Concept of Logistics/CSS. It assigns tasks and responsibilities for logistics/CSS among the elements in each functional area. It also identifies that support required from external agencies. Finally, it provides guidance and information (such as priorities and allocations) for the planning, coordination, and execution of MAGTF logistic/CSS operations. Appendix B provides the format for annex D.

b. Annex D promulgates the commander's overall plan and guidance for the provision of logistic support and CSS to the MAGTF during each phase of the operation. This annex specifies those requirements, priorities, and allocations necessary for the integration of the logistic/CSS effort in support of the MAGTF. It includes deployment, employment, and (as appropriate) redeployment planning matters. It includes external support coordination requirements and internal employment directives to present a single, unified plan for the provision of logistic support and CSS. The MAGTF G-4/S-4, in coordination with the ALD/MALS, prepares annex D. The scope and nature of this document require maximum coordination and cooperation between the MAGTF headquarters and the CSSE/ACE G-4/S-4/ALD/MALS.

6005. Combat Service Support Element Operation Order

a. The CSSE Operation Order states the mission of the CSSE, establishes task-organizations, and assigns missions to each subordinate unit. It also states the CSSE commander's requirements, priorities, and allocations for accomplishing the mission. Appendix C contains the format for the CSSE (FSSG) Operation Order.

b. The CSSE Operation Order amplifies information normally contained in SOPs concerning the provision of logistic support and CSS to the other MAGTF elements. However, its primary purpose is to provide specific guidance and direction

Chapter 6

Planning Documents

6001. General

FMFM 3-1, *Command and Staff Action*, provides detailed discussions on the form and content of operation orders. This chapter focuses on MAGTF CSS planning documents in nonspecific contingency response missions. The appendixes to this manual contain formats of CSS planning documents. These documents provide instructions and information for internal use within the MAGTF and the amphibious task force. For that reason, the formats follow the standard five-paragraph order rather than JOPS. The major documents for operational logistic/CSS planning for the MAGTF are the Logistic/Combat Service Support Estimate, Concept of Logistics/CSS, Annex D (Logistics/Combat Service Support) to the Operation Order, and CSSE Operation Order.

6002. Logistic/Combat Service Support Estimate

- a. The Logistic/CSS Estimate is a rapid assessment by the G-4/S-4 of logistic/CSS capabilities and limitations for each proposed course of action. It both develops and analyzes the courses of action under consideration to provide the logistic aspects of relative combat power. It helps to determine the most desirable and most supportable course of action from the standpoint of CSS. Additionally, this document provides the basis for later planning. Appendix A contains a detailed example of the Logistic/CSS Estimate.
- b. The commander decides which course of action he will use to accomplish his assigned mission. That decision must reflect a thorough analysis of all information and factors pertinent to the situation. As an advisor, the G-4/S-4/ALD/MALS provides information and makes recommendations based on the Logistic/CSS Estimate. Above the regimental/group level, the estimate may be a formal document. At the MAGTF level, the G-4/S-4/ALD prepares the Logistic/CSS Estimate. He coordinates with the CSSE, ACE, ALD, and other MAGTF staff sections. At lower levels, the S-4 evaluates the courses of action. This effort does not normally include preparation of a formal document.
- c. The Logistic/CSS Estimate of the situation is an appraisal resulting from an orderly examination of the logistic factors influencing contemplated courses of action to provide conclusions concerning the degree and manner of that influence. For CSS, the estimate looks at the six CSS functional areas. The Logistic/CSS Estimate compares requirements, available assets, problems, limitations, advantages, and disadvantages for each course of action. It gives the commander enough information to enable him to make a decision. He must consider the suitability, feasibility, acceptability, and relative merit of each course of action from a logistic/CSS standpoint. The Logistic/CSS Estimate assesses the capabilities and limitations of each course of action. It also determines what actions are necessary to overcome any problems or limitations. If any course of action is insupportable, the estimate specifically says so.

contingency missions assigned to the various CINCs. JOPS plans support strategic concepts, assigned planning tasks, and Service guidance. They reflect forces identified and provided in the JSCP or other national-level documents.

b. When planning for operations in the North Atlantic Treaty Organization (NATO) or quadripartite countries (American, British, Canadian, and Australian [ABCA]), consideration must be given to certain standardization agreements among the participating nations by which the MAGTF is obligated to abide. These agreements are called standardization agreements (STANAGs) in the NATO arena and quadripartite standardization agreements (QSTAGs) in the ABCA arena. See appendix D for logistics/combat service support related STANAGs and QSTAGs.

c. The process, format, and content of JOPS-based plans are useful in planning other than joint operations. For example, the MAGTF

can use JOPS for noncombatant evacuation operations or disaster relief operations. However, their use in such documents is not mandatory. JOPS format is not required for internal MAGTF operation orders and SOPs. (See STANAG 2014 for appropriate NATO formats.)

d. As regional strategic forces, the MEF and major subordinate commands frequently prepare or update plans to support a CINC's contingency missions. When a JOPS-based OPLAN/CONPLAN is mandatory, the G-4/S-4 prepares annex D. Unlike the standard annex D, the annex D for deliberate planning focuses on external support requirements. Those requirements involve computer-based data relating to the transportation and sustainability of assigned forces in the various OPLAN/CONPLANs. The JOPS plan shows specific requirements, priorities, and allocations. This assists higher headquarters to identify and apportion forces, supplies, and transportation assets for a specific OPLAN.

(1) Quantitative analysis becomes paramount in this stage of CSS planning and includes the determination of—

- Specific requirements expressed in distinct units of measure.
- Priorities of support.
- Allocations of resources.
- Command relationships.
- MAGTF troop list and activation schedules.
- Task organization of CSS units.
- Formal mission assignments for subordinate CSS elements.
- Echelonment of support in time, place, and capabilities.
- Airlift and sealift requirements for the movement and staging of MAGTF elements.
- Procedures for procurement, distribution, and throughput.
- External support requirements and sources (e.g., host nation support agreements and inter-Service support agreements).

(2) For CSS planners, concept development is often the validation, refinement, or modification of contingency plans and SOPs. Within the options available, the planner includes details from them in supporting plans and orders. He uses much of the information developed during the estimation stage during the concept development stage. During the concept development stage, for example, fuel requirements of the MAGTF evolve as follows:

(a) The estimation process establishes the projected gross class III requirements and the projected availability of fuel.

(b) During concept development, CSS planners evaluate the time-phased support requirements, fuel hauling capabilities, and time-distance factors. These establish the specific requirements, as well as personnel and equipment requirements to support each element of the force. Those requirements, in turn, are the basis for specific fuel requisitions and task organization actions.

5011. Planning Concepts

Certain basic concepts govern logistic/CSS planning and operations like the seven principles of CSS. The CSS planner must consider these concepts through all phases of an operation. He must apply them with reasoned judgment. It is the application of these concepts which often produces the conflicts among the principles of CSS discussed in FMFM 4.

a. CSS planning must be concurrent and parallel with tactical planning to maximize support of the concept of operations.

b. Combat and combat support units must exploit their organizational capabilities before requesting assistance from external sources.

c. To the greatest extent possible, the MAGTF commander must relieve combat and combat support units of CSS burdens.

d. The impetus of CSS is from seaward, or the rear, directly to the point of application at the using unit.

e. The CSS system must be responsive, simple and economical. This requires application of the concepts of redundancy, austerity, and centralization discussed in FMFM 4.

5012. Annex D in Deliberate Planning

a. Deliberate planning for joint operations and, to an extent, combined operations falls within the purview of JOPS. Plans of this nature are part of the DOD resource allocation system known as the planning, programming, and budgeting system. This system influences the defense guidance issued by the Secretary of Defense. It relates directly to conventional warfare planning for specific, forecasted contingencies. JOPS plans support deployments of U.S. Forces directed by the National Command Authorities. They also support specific

a. Deployment Phase. Planning for the deployment phase is largely logistics/CSS in nature for each element of the MAGTF. It involves the following tasks:

- (1) Determination of lift requirements for personnel, equipment, and supplies.
- (2) Determination of lift by type (airlift, amphibious sealift, and commercial sealift).
- (3) Determination of staging bases, ports, airfields, railroads, road networks, and other facility requirements to support staging.
- (4) Organization of the MAGTF personnel, equipment, and supplies into temporary organizations for embarkation, movement, unloading, and landing.

b. Employment Phase. Planning for the employment phase focuses on the identification of CSS requirements. It involves the following tasks:

- (1) Determination of CSS requirements based on mission, concept of operations, troop and equipment lists, operational environment, and enemy capabilities.
- (2) Determination of time-phased CSS capabilities in the objective area.
- (3) Task organization of the CSSE and aviation-peculiar CSS support activities/elements/agencies.
- (4) Development of the concept of CSS.

c. Estimate Development. In developing estimates, planners seek to identify the specific tasks required to accomplish the mission. They then develop alternative courses of action and determine the supportability of each course of action. For

the CSS planner, the preliminary logistic/CSS estimate provides initial *who, what, where, and when* information on which subsequent planning efforts depend.

(1) Estimation is the qualitative assessment of the logistic/CSS factors for each alternative course of action proposed by the supported commanders. The CSS planner expresses capabilities and requirements in each of six CSS functional areas in general terms. He develops tentative task organizations and procedures for procurement and distribution to support the concept of operations. He uses only that amount of detail necessary to evaluate the supportability of each course of action. The validity of a logistic/CSS estimate depends on the accuracy of the identification and computation of requirements.

(2) The supported commander is the central figure in this process. He establishes the boundaries within which the CSS planner must operate. He does so by issuing planning guidance and delineating the courses of action under consideration. The resulting logistic/CSS estimate helps the commander decide which course of action to adopt as his concept of operations. The commander's decision completes the estimation process. The CSSE commander, as well as the ACE G-4/S-4/ALD/MALS CSS planners for aviation-peculiar support, then have precise answers to the *who, what, where, and when* they must support.

d. Concept Development. The concept development stage of planning produces the commander's concept of operations. Among other essential documents, it also produces the supporting concept of CSS. For CSS planners, the concept of operations provides the foundation for development of the concept of CSS. It ultimately results in Annex D (Logistics/CSS) to the operation order. These documents answer the critical questions of how they will accomplish the CSS functions and how much CSS they will provide.

timely guidance, and essential decisions. As the concept of operations becomes more specific, subordinate elements can begin preparation of more detailed CSS plans.

(3) Coordinated Planning. To accomplish the MAGTF mission, every aspect of the operational concept requires coordination among the ground combat, aviation combat, and CSS elements. To achieve this, every element has certain responsibilities for CSS planning. This mutual dependence requires concurrent, parallel, and detailed staff planning between and among all elements. Simultaneously, the MAGTF headquarters must coordinate with the ATF staff and, possibly, with participating joint and combined staffs. This coordination is essential to integrate MAGTF logistic/CSS operations with those of other organizations.

(4) Concurrent and Parallel Development. Based on both initial and revised guidance, the MAGTF and its elements develop their plans in a concurrent and parallel manner. Integrated planning shortens the planning cycle, enables early identification of potential problems, and improves anticipation of requirements. With proper coordination, concurrent efforts can prevent difficulties that might occur if planning is sequential or isolated. CSS planning must parallel operational planning. It must support the concept of operations of the MAGTF. Likewise, the MAGTF concept of operations cannot be developed without full consideration for the supporting concept of CSS.

b. Support Options. For the CSS planner, there are two support options. First, the MAGTF can deploy to an area with an established logistic support base. This can be host nation support, inter-Service support, or a combination. Second, the MAGTF can deploy to an area without an established logistic support base. Under the first option, the CSS planner must plan for reliance on or expansion of the existing support base. He must also consider an effective alternative to that support if it stops. Under the second option, the CSS planner must plan on providing CSS to the MAGTF from resources deploying with it. Under

either option, the CSS planner must consider MAGTF requirements in all six CSS functions, including their subfunctions. (See fig. 1-2.)

c. Control Options. As discussed in FMFM 4 and in paragraph 3002 of this manual, the CSSE commander as well as ACE and GCE CSS personnel use a combination of command and control methods to manage support. They use these methods during deployment and employment phases of operations. Methods are essential to the estimation and concept development stages of planning. The command and control methods are—

- Task organization.
- Command relationships.
- Formal missions for CSS units.

5010. Planning Phases

For the CSS planner, logistic/CSS planning involves two general, interdependent *phases*—deployment and employment. Within each phase, there are two *stages* of planning—estimate development and concept development. (See fig. 5-3.) The logistic/CSS requirements and tasks associated with each phase and stage are different.

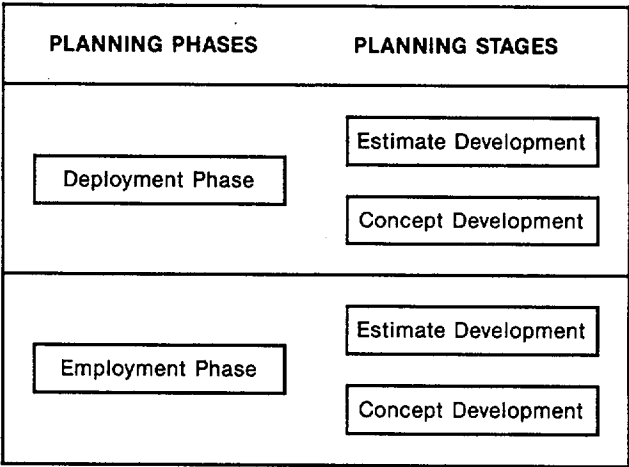


Figure 5-3. CSS Operational Planning Phases and Stages.

b. Concept of Operations. CSS personnel must have a complete and intimate knowledge of the supported commanders' concepts of operations. This knowledge is vital if CSS personnel are to anticipate the requirements of the supported elements. Anticipation is the key ingredient to satisfy the principles of responsiveness and flexibility.

c. Forces. Force structure and operation plans prescribe CSS resources and requirements. The availability of support from other Services or host nations influences the concept of CSS. Similarly, enemy capabilities influence the selection of a concept of CSS in a given situation.

d. Theater Characteristics. Theater characteristics include the distance between the objective area and sources of supply. Also important is the turnaround time for airlift and sealift assets. As in all operations, the environmental conditions, facilities, road nets, weather, and terrain also have potentially significant impact. Each can present potential constraints on tactical and logistic support operations. Additionally, the local population falls in this category in terms of both support requirements and capabilities.

e. Intensity of Operations. The expected intensity of operations determines those planning factors or combination of factors used to quantify CSS requirements.

f. Timing and Duration. The anticipated timing and duration of operations influence planning and preparation. They may limit the period available to complete plans. They also may limit the period to procure and stage equipment and supplies and complete preparations. These same considerations also dictate the period during which the MAGTF must sustain itself.

g. Functions of Operational Logistics/CSS. Analysis of the MAGTF/supported commander's concept in terms of the functions of operational logistics/CSS is the initial means of identifying the

support requirements for which CSS personnel will be responsible. Evaluation of these requirements in terms of the other elements discussed facilitates the process of translating these requirements into logistic support tasks. That evaluation, in turn, provides the basis for determining the task organization of the CSSE and establishing the plan for logistics/CSS which complements the various concepts of operations for the MAGTF and its subordinate elements. This same evaluation process will be conducted by ACE G-4/S-4/ALD/MALS personnel for the aviation-peculiar functional areas under their cognizance.

5009. Planning Environment

a. Characteristics. Limited current information and limited planning time are characteristics of MAGTF operational planning. At least initially, knowledge about many of the above planning elements is imprecise. The MAGTF staff first reviews existing contingency plans and SOPs. Staff members compare plans and SOPs to the assigned mission and to available information at each stage of the planning process. Operational planning often begins while the MAGTF staff and subordinate elements are forming, even if there is a nucleus staff. Thus, during the initial phase, the MAGTF is in a formative stage and undergoing training. In view of these characteristics, the MAGTF staff must place particular emphasis on the following techniques:

(1) Flexible Approach. Planning is an imprecise and continuous process which requires a flexible approach. Initial estimates are based on assumptions and minimal data. Commanders and staffs must continually reevaluate previous decisions and guidance. New information which becomes available can confirm or invalidate previous assumptions or data.

(2) Timely Effort. CSS planning must begin as early as possible at all levels of command. Early identification of requirements, capabilities, and special considerations accelerates coordination,

the MAGTF/LF commander's concept, initially these concepts need not be overly detailed, but must be in sufficient detail to provide refined focus for the efforts of their subordinate commanders.

- The GCE commander's concept provides the initial forecast of required logistics/CSS.
- The ACE commander's concept provides the initial forecast of numbers of helicopters that will support the helicopterborne assault, any associated helicopter landing zone or control and refueling requirements, the number of required forward arming and refueling points, and a time line of when they will be required.
- The CSSE commander's concept provides a forecast of how to accomplish the logistics buildup, initial tasks associated with the buildup, and a general time line of when the CSSE will be established ashore and LFSP operations can terminate in an amphibious operation.
- The Navy ship-to-shore commander's concept provides a forecast of beach party activities and the size and scope of these activities.

(4) CSSE Missions and Tasks. An analysis of CSSE missions is performed. Missions are grouped by type of task, time the task is performed, intensity of activity associated with the task (how much, how fast), location of task, and duration of task. From this process is developed a concept of support. Based on the description and capabilities of a notional CSSE organization, an initial CSSE task organization for the specific operation is created.

(5) CSSE Concept for Support and Organization for Combat. With the CSSE concept for support and initial organization completed, CSSE planners must consult with, and employ the expertise of, the various organizations that contribute units to the CSSE to refine the CSS support concept and organization. Concurrently,

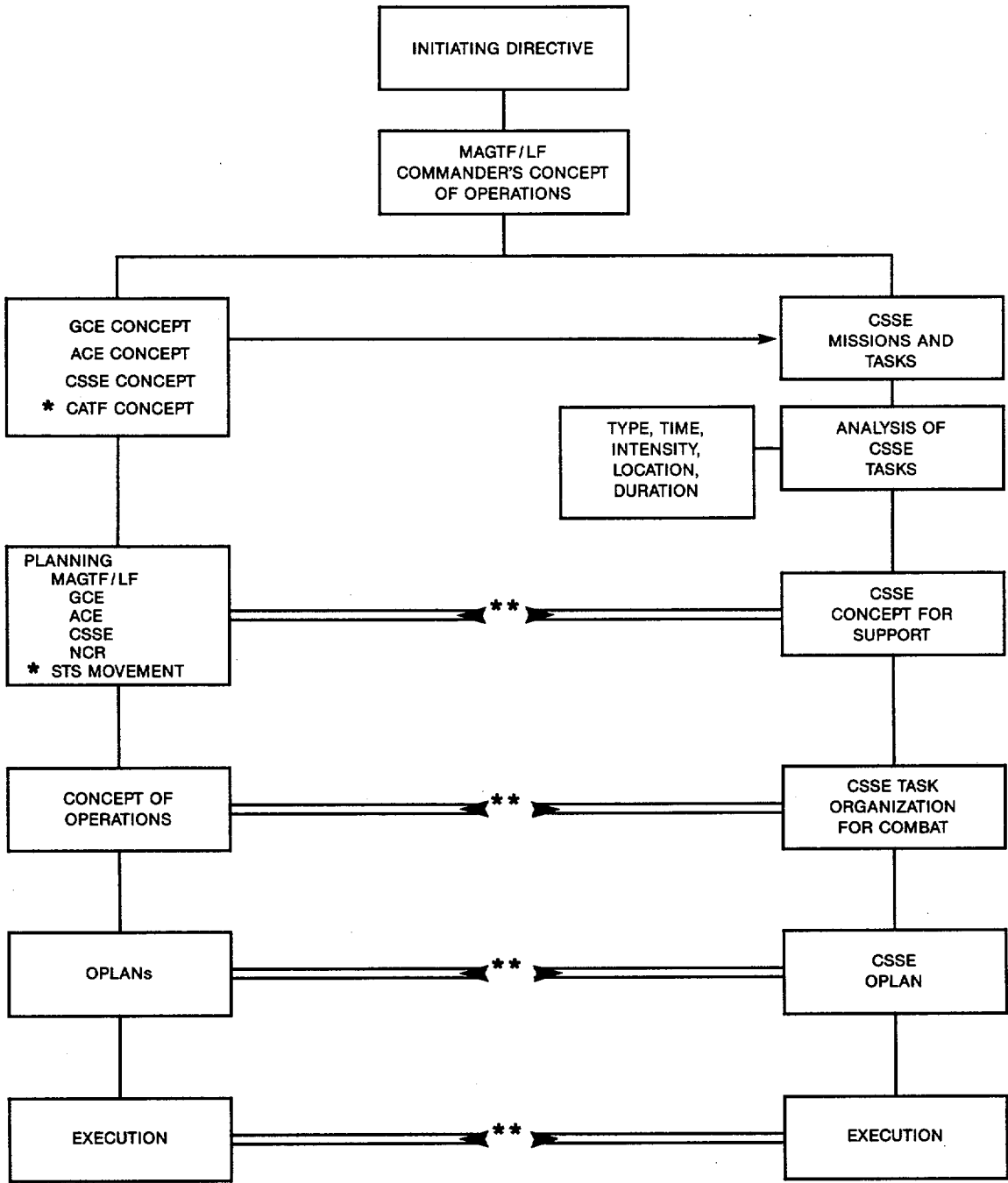
planning done by other MAGTF/LF and Navy units should proceed and a clearer operational picture begin to develop. Information such as scheme of maneuver, fire support requirements, required supply levels, casualty estimates, enemy prisoner-of-war forecasts, time tables, and naval construction regiment planning information enables CSS planners to create task organizations and appropriate command and control requirements. When the initial requirements are completed, they are forwarded to the MAGTF/LF commander for review and approval. Concurrent and parallel planning with close liaison between elements of the MAGTF/LF and Navy organizations continues. For an amphibious operation as the MAGTF/LF plans mature, CATF will establish the ship-to-shore control organization. This organization will ensure a parallel chain of command with the LF at all levels of command employed by the LF to perform the ship-to-shore movement. When the Navy control organization is established, the LF will establish a tactical-logistical group to assist, advise, and coordinate with each level of the Navy control group. CSSE planners must plan and coordinate closely with these organizations.

(6) CSSE Operations Plan. This plan is published and disseminated concurrently with the plans of other MAGTF/LF elements. Concurrent and parallel planning continues after publication and through execution of the operation. Where necessary, and when possible, changes to the CSSE operations plan are published.

5008. Planning Elements

Logistic/CSS planning in each phase and stage of planning must address each of the following elements:

a. Mission. The mission of the MAGTF as deduced by the commander's analysis of the initiating directive is paramount. The missions of subordinate elements must complement the MAGTF mission and may dictate additional parameters for CSS planning.



NOTE: * Amphibious Operations Only
** Parallel and Concurrent Planning

Figure 5-2. Logistics/Combat Service Support Planning Process.

can revise established priorities and reallocate logistic resources, or he can redefine the concept of operations.

e. Planning Documents. Chapter 6 contains detailed discussions of the primary documents for planning and executing combat service support for the MAGTF. The appendixes to this manual contain formats for them.

5007. Overview of the Deliberate Planning Process

a. Deliberate planning is a seven-step process. Logistic planning at the operational and tactical levels of war follows the same sequence and parallels the process used in deliberate planning at the strategic level.

b. The seven steps of deliberate planning are:

- Receive the mission.
- Analyze the mission.
- Issue commander's guidance.
- Prepare staff estimates.
- Provide commander's estimate of the situation.
- Provide commander's concept of operations.
- Prepare the operation order.

c. CSS operations involve the performance of many diverse tasks performed by various organizations from the CSSE. CSS planning begins on receipt of the initiating directive, CSS planners must plan concurrently and in parallel with other MAGTF/LF elements and Navy organizations that support ship-to-shore movement in amphibious operations. CSS planners must be aggressive to gather the required information, and, when necessary, must be in a position to influence decisions of the supported organizations. To ensure successful execution of CSS, CSS actions and plans cannot wait until all other plans are finalized and published. Because combat is a dynamic event and circumstances change, CSS plans must be flexible. While this appears difficult, it is achievable

through concurrent and parallel planning that starts early and adjusts through frequent consultation with MAGTF/LF and Navy organizations.

d. For CSS planners, additional planning requirements evolve constantly. These additional steps ensure the degree of coordination essential to the sustained support of the force. Active, vigorous participation by the CSSE commander, his staff, subordinate commanders, and liaison elements at the earliest stages of and throughout the planning process, further ensures dynamic, responsive, and integrated effort. Figure 5-2 reflects the following overview of the CSS planning process:

(1) Initiating Directive. This document states the MAGTF/LF mission. Within the initiating directive is information essential to plan the operation such as location and time from which can be extracted weather and topography constraints; e.g., jungle or arctic conditions. This information enables the CSSE commander to begin planning, and to initiate liaison with appropriate MAGTF/LF and Navy organizations as listed in the initiating directive.

(2) MAGTF/LF Commander's Concept of Operation. The concept of the MAGTF/LF commander is important as it provides all units a reference point around which to begin planning. In the initial stages this concept need not be extremely detailed; it is sufficient to provide focus for planning. Much of the initial planning, regardless of the commander's concept, is common to all operations; i.e., messing, berthing, equipment, and personnel readiness. Some planning is unique to each operation such as CSSE task organization. MAGTF/LF commander's concept will narrow the considered alternatives in this initial planning.

(3) Subordinate Element Commanders' Concepts. Predicated on the information contained in the MAGTF/LF commander's concept, subordinate commanders of the MAGTF/LF tasked to plan and execute the operation will develop their concepts. These concepts will provide the baseline for CSS planning. As with

operation plans for these contingencies either in complete format (operation plan [OPLAN]) or in concept format (contingency plan [CONPLAN]).

b. Time-sensitive planning involves emergencies with possible national security implications which may not be covered in the JSCP. The CAS provides a system for expediting joint planning and preparing an operation order (OPORD) in an emergency. Time-sensitive planning may involve the modification of an existing OPLAN, the expansion of a CONPLAN, or the development of an entirely new plan (known as a nonspecific-plan situation). This is often true for specialized operations such as amphibious operations. MAGTF missions often are in this category. Historically, MAGTFs have executed under a non-specific plan scenario.

This chapter provides fundamental information about the logistic/CSS planning process for combat operations.

c. Annex D (Logistics/CSS). Annex D of the MAGTF operation order contains the MAGTF commander's guidance for logistic support, combat service support, and sustainability of the force. This document implements the MAGTF commander's concept of logistics/CSS. It provides internal operational guidance for subordinate MAGTF elements and information required for coordination with logistic support agencies external to the MAGTF. The MAGTF G-4/S-4 prepares Annex D to the MAGTF operation order. The CSSE/ACE G-4/S-4/ALD/MALS perform the detailed planning and prepare the documents to carry out the logistic/CSS tasks specified and implied in the MAGTF operation order.

5006. Logistic Planning Effort

a. Focus. The effort of logistic support planning is on the requirements of the supported force in executing the commander's campaign plan or operation plan. At the operational and tactical levels of war, those requirements involve the broad functional areas of supply, maintenance, transportation, general engineering, health services, and services. The objective of the logistic planning effort, however, is the integration of the sustainability capability with the firepower and mobility requirements of the MAGTF.

b. Concept. The operative concept in the MAGTF's logistic/CSS planning effort is throughput. The throughput capability is the essence of sustainability. Throughput and sustainability encompass the three distinct phases of operational planning: deployment, employment, and redeployment. Of primary concern in this chapter are the deployment and employment phases. Each of these phases requires a thorough analysis of the MAGTF mission, enemy and friendly situations, the objective area, and the MAGTF commander's concept of operations. Planning for each phase also involves the use of both qualitative and quantitative analytical methods by the logistic planner.

d. Main Effort. The supported unit is the main effort in the logistic planning process. During the planning phase, the supported unit must accurately identify the type and extent of support it requires. Comprehensive, effective CSS planning results from a coordinated effort between the supported element(s) and the supporting CSSE/ACE G-4/S-4/ALD/MALS. Direct coordination between these elements is essential to planning. The CSSE often provides a liaison officer to each of the major supported units. The ACE/ALD/MWSG/MALS may also do this to ensure that aviation-peculiar CSS requirements are satisfied. The liaison officer ensures the CSSE/ACE/ALD/MALS remain aware of requirements which evolve during the process of developing the concept of operations, the scheme of maneuver, and the concept of logistics/CSS. If adequate transportation or other assets are not available, the supported unit must alter its concept of operations and scheme of maneuver. Alternatively, the supported unit must expect less than full support. At the operational level of war, the MAGTF commander is responsible for coordinating MAGTF throughput and sustainment requirements and ensuring that necessary support systems are in place to meet those requirements. When logistic support deficiencies have a potentially adverse impact on the MAGTF mission, the MAGTF commander makes the final decision. He

c. Transportation. Commanders should manage organic and assigned transportation assets intensively. Transportation is likely to be the most limited and limiting CSS capability in the MAGTF. If the commander does not properly manage his vehicles and material handling equipment, he can expect delays to combat operations. The best materiel management method is to move only what is essential to combat operations. These supplies should be moved only as needed, not before. Selection of the proper stockage objectives and reorder points is essential. See paragraph 7004a(1) for definitions and discussions of stockage objective and reorder point. Moving the wrong quantity places an excessive burden on the throughput system. This can eventually reduce combat capability.

d. External Support. MAGTF plans should make maximum use of host nation and inter-Service support available within the theater of operations. Plans should include, but not be limited to, use of facilities, supplies, utilities, captured materiel, and civilian labor. The CSSE commander/aviation logistics support commander should keep the number of CSS installations to a minimum and ensure dispersion of installations and capabilities. Avoiding total centralization and total decentralization requires careful balancing between the principles of responsiveness and economy. Commanders must weigh the relative economy of centralization against the responsiveness achieved by decentralization. Either extreme can reduce responsiveness, economy, and/or survivability.

e. Forward Support. The CSSE/aviation logistics support unit/activity should make maximum use of strategic level (wholesale/supplier) support sources for routine, noncritical requirements. The CSSE commander should relieve operational level (retail/provider) nonaviation-peculiar support organizations of routine tasks. The farther forward the CSS unit, the less responsibility it should have for routine support tasks. CSSDs should only be responsible for those supplies and services critical to combat operations.

f. Air Support. In planning for sustained operations, the MAGTF should expect to receive critical

items primarily by aircraft. However, dependence on airlift support should not exclude planning for use of surface lift.

g. Alternate Main Supply Routes. Transportation planning at every echelon should include the development of alternate MSRs. Use of a single MSR increases susceptibility to enemy action which should not jeopardize the throughput and sustainment capabilities of the MAGTF.

h. Security. The CSSE/aviation logistics support unit commander has an inherent responsibility for the security of his organization. While continuing to provide CSS, he must employ the full range of active and passive measures to defend against attempts to disrupt his operations. See chapter 12.

5005. Deliberate and Time-Sensitive Planning

There are two primary methods of planning joint and combined operations described in the Joint Operation Planning System (JOPS): deliberate (contingency projection) planning using the deliberate planning process and time-sensitive (crisis) planning using the crisis action system (CAS). The differentiation is important because it affects the methods and procedures which the MAGTF uses in its operational planning. JOPS, Volume I, specifically excludes operation orders from the procedures and formats of JOPS. Because Marine Corps forces may participate in joint/combined operations as forces assigned to a theater Commander in Chief (CINC), MAGTF planners must be familiar with JOPS. This chapter focuses on the deliberate planning process for logistics; chapter 6 deals with CAS logistic planning.

a. Deliberate planning is a cyclic process for the development of operation plans. These plans are based on specific, geographically-oriented contingency missions or situations. The joint strategic capabilities plan (JSCP) defines these missions for CINCs of the unified and specified commands, and for combatant commands. The CINCs prepare

resources to the subordinate elements of his organization. This includes those assets which he desires to retain as a reserve. These allocations must support and complement his concept of operations. In large measure, they also reflect his previous decisions concerning requirements and priorities. Like his assignment of priorities, the supported unit commander's allocations of CSS resources will affect the concept of CSS developed by the CSSE/MALS/MWSS.

b. Supporting Unit Responsibilities

(1) On a continuing basis, the CSSE commander, with the MAGTF G-4/S-4, advises the MAGTF commander on nonaviation-peculiar CSS capabilities and the methods which provide the best support of the MAGTF concept of operations. The CSSE commander and the MAGTF G-4/S-4 advise the MAGTF commander of any deficiencies and recommend resolutions for those deficiencies. When conflicts arise, the MAGTF G-4/S-4 prioritizes the requirements and then recommends allocations of resources to the MAGTF commander for decision. The ALD/MALS performs these same functions for the ACE commander in those areas under his cognizance. (See par. 5002d.) When conflicts arise, the ACE commander will prioritize requirements and recommend allocation of resources to the MAGTF commander for his decision.

(2) Based on the requirements, priorities, and allocations of the supported elements, the CSSE provides that nonaviation-peculiar support which is beyond the organic capabilities of the MAGTF elements. On the one hand, this means that the CSSE must monitor and support the collective nonaviation-peculiar requirements of the entire MAGTF. On the other hand, the CSSE must monitor and support the separate requirements of each element, including itself. When requirements exceed organic capabilities, the CSSE commander informs the MAGTF commander and, thereby, initiates procurement action for support from external sources. For aviation units, aviation-peculiar CSS is provided by the MALS/MWSG, or subordinate units from each. They provide

aviation-peculiar logistics/CSS that is beyond the organic capability of supported units. When support beyond their capability is required, they coordinate with the appropriate Navy/commercial support activity for the services/support required.

5004. Operational Techniques

The following techniques are selected examples which all commanders and staff officers in the MAGTF should consider in their efforts to achieve integration of effort in planning and executing combat and combat service support operations. These examples provide insights for developing and maintaining throughput systems and sustainment capabilities for the execution of logistic support of MAGTF combat operations.

a. Supply

(1) **Ground.** Commanders should maximize the basic load for all supplies, including class IX repair parts. However, the unit's basic load should not exceed what the unit can carry on organic transportation. Nor should it exceed what the commander anticipates needing within a reasonable period, even if the unit can carry additional quantities. See paragraph 7005a(1) for the definition and a detailed discussion of basic load.

(2) **Aviation.** Squadron commanders should ensure that their preexpended bins have been replenished by the supporting MALS and that their staffs have coordinated with the supporting MALS/MWSS/MAG HQ for aviation-peculiar logistics support en route and within theater.

b. Maintenance. Maintenance support planning by each MAGTF element should make maximum use of organic maintenance contact teams of the GCE and ACE and maintenance support teams of the CSSE. Repair and return of equipment as far forward as possible reduces the burden on both transportation and control capabilities. This also speeds up return of equipment to the user.

(b) In addition to these support elements, the liaison elements provided to supported units normally fall under the cognizance of the CSSE G-3/S-3.

(5) The CSSE has responsibilities at both the operational and tactical levels of war for the nonaviation-peculiar logistic support of the MAGTF. Within the headquarters of the CSSE, the G-3/S-3 coordinates support of the other MAGTF elements. The G-4/S-4 coordinates requirements of the CSSE itself.

(6) During planning for an operation, the CSSE G-3/S-3 must coordinate closely with the MAGTF G-3/S-3 and G-4/S-4. Based on this staff liaison, the CSSE G-3/S-3 identifies and recommends solutions for potential shortfalls within the nonaviation-peculiar CSS system.

5003. Coordination of MAGTF Combat Service Support Effort

Continuous liaison at the appropriate command levels is essential for coordination of effort between supporting and supported units. This is in consonance with the CSS principles of responsiveness, simplicity, and economy. Direct liaison between the elements of a MAGTF simplifies the completion of staff work. It also enhances the publication of appropriate guidance, direction, and orders to assigned forces. This concept implies direct, continuous coordination between cognizant staff sections of the supported and supporting elements. Direct involvement on the part of the higher headquarters is on an exception basis.

a. Supported Unit Responsibilities. The supported unit commander, through the coordinated efforts of his G-3/S-3 and G-4/S-4, initiates detailed planning for CSS. CSS planning by supported units begins with determination of requirements, assignment of priorities, and allocation of resources.

(1) **Determination of Requirements.** The supported unit commander determines and

identifies those CSS requirements beyond his organic capabilities necessary to accomplish his assigned mission.

(a) Assignment of a mission by a higher headquarters implies that headquarters is responsible for providing the means to accomplish that mission. This entails a certain analysis of the capabilities of the subordinate unit to be sure the mission is appropriate to that unit. Such an analysis is part of the staff estimate process. It reflects the coordinated efforts of the principal staff officers of the senior commander. They must use the best information available to them at the time.

(b) When a subordinate commander receives a mission, he is responsible for evaluating his specific capabilities and support requirements. He must evaluate his mission in terms of the specified and implied tasks involved in accomplishing that assigned mission. Often, the subordinate commander will identify certain deficiencies. These deficiencies may require additional augmentation of a specific type. They may also require assignment of a priority for assets available to the senior commander. Within its organic capabilities, the higher headquarters will provide assets to alleviate those deficiencies. If deficiencies exist beyond that point, it is the responsibility of the senior commander to resolve the matter. He can modify the assigned mission to meet the capabilities of the subordinate unit. As an alternative, he obtains more assets to alleviate the deficiencies. This evaluation is the determination of requirements process.

(2) **Assignment of Priorities.** The supported unit commander establishes and assigns priorities associated with the execution of his concept of operations and scheme of maneuver. This assignment of priorities, in turn, will significantly affect the support concept of CSS developed by the CSSE/MALS/MWSS.

(3) **Allocation of Resources.** The supported unit commander allocates available CSS

- (3) **Cannibalize** is to remove serviceable parts from one item of equipment in order to install them on another item of equipment. (Joint Pub 1-02)
- (4) **Overhaul** is the restoration of an item to a completely serviceable condition as prescribed by maintenance serviceability standards.
- (5) **Repair** is the restoration of an item to serviceable condition through correction of a specific failure or unserviceable condition. (Joint Pub 1-02)
- (6) **Rebuild** is to restore items to like new conditions. The rebuilt item's appearance, performance, and capabilities are the same as they were when originally manufactured.

(7) **Selective interchange** is the exchange of selected serviceable parts/components from a deadlined item of equipment for unserviceable repair parts/components from a like item. (MCO P4790.2, *MIMMS Field Procedures Manual*)

- b. Echelons of Maintenance.** Within the three levels of the ground equipment maintenance system, there are five echelons of maintenance: first through fifth echelon. (See fig. 8-1.)
- c. Types of Maintenance.** Within the three levels of the aviation equipment maintenance system, there are two types of maintenance: upkeep and rework. (See fig. 8-2.)

LEVELS OF MAINTENANCE	ECHELONS OF MAINTENANCE
<p>Organizational—Authorized at, performed by, and the responsibility of the using unit. Consists of cleaning, servicing, inspecting, lubricating, adjusting, and minor repair.</p> <p>Intermediate—Performed by designated agencies in support of the using unit. Includes repair of sub-assemblies, assemblies, and major end items for return to lower echelons or to supply channels.</p> <p>Depot—Major overhaul and complete rebuild of parts, subassemblies, assemblies, and end items.</p>	<p>First—Limited action performed by crew or operator as prescribed by applicable manuals.</p> <p>Second—Limited action above the operator level performed by specialist personnel in the using unit.</p> <p>Third—Component replacement usually performed by specially trained personnel in owning or CSS units.</p> <p>Fourth—Component and end item overhaul and rebuild performed by CSS units at semi-permanent/fixed sites.</p> <p>Fifth—End item overhaul and rebuild performed by industrial-type activities using production line techniques, programs, and schedules.</p>
<p>Note: Equipment technical manuals and stock lists specify echelons of repair for each item.</p>	

Figure 8-1. Levels and Echelons of Ground Equipment Maintenance.

LEVELS OF MAINTENANCE	TYPES OF MAINTENANCE
<p>Organizational—That maintenance performed by aircraft operating activities (squadrons) on assigned aircraft.</p> <p>Intermediate—That maintenance accomplished by MALS which is task organized to support specific aircraft equipment.</p> <p>Depot—That maintenance performed by either DOD or commercial contractors.</p>	<p>Upkeep—Performed by activities that are assigned aircraft, equipment, or the mission.</p> <p>Rework—Managed by Commander, Naval Air Systems Command.</p>

Figure 8-2. Levels and Types of Aviation Equipment Maintenance.

Chapter 8

Maintenance

Section I. Fundamentals

8101. General

a. Definitions. The following definitions are cited to provide scope for and to assist in focusing the discussion contained in this chapter.

(1) Maintenance (Materiel) (DOD). Maintenance is 1. All action taken to retain materiel in a serviceable condition or to restore it to serviceability. It includes inspection, testing, servicing, classification as to serviceability, repair, rebuilding, and reclamation. 2. All supply and repair action taken to keep a force in condition to carry out its mission. 3. The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously utilized, at its original or designed capacity and efficiency, for its intended purpose. (Joint Pub 1-02) The Marine Corps includes efforts to update and upgrade the capability of materiel as a function of maintenance.

(2) Levels of Maintenance. The Marine Corps ground and aviation equipment maintenance systems have three distinct levels of maintenance. They are: organizational, intermediate, and depot maintenance. These levels of maintenance correspond loosely to the levels of logistic support. (See par. 1002.) For the purposes of this publication, field maintenance is organizational and intermediate maintenance done by MAGTFs.

(a) Organizational maintenance is that maintenance which is the responsibility of and performed by a using organization on its assigned equipment. Its phases normally consist of inspecting, servicing, lubricating, adjusting, and the replacing of parts, minor assemblies, and subassemblies. (Joint Pub 1-02)

(b) Intermediate maintenance (field) (DOD) is that maintenance which is the responsibility of and performed by designated maintenance activities for direct support of using organizations. Its phases normally consist of **a.** calibration, repair, or replacement of damaged or unserviceable parts, components, or assemblies; **b.** the emergency manufacture of nonavailable parts; and **c.** providing technical assistance to using organizations. (Joint Pub 1-02)

(c) Depot maintenance is that maintenance which is performed on materiel requiring major overhaul or a complete rebuild of parts, assemblies, subassemblies, and end-items, including the manufacture of parts, modifications, testing, and reclamation as required. Depot maintenance serves to support lower categories of maintenance by providing technical assistance and performing that maintenance beyond their responsibility. Depot maintenance provides stocks of serviceable equipment by using more extensive facilities for repair than are available in lower level maintenance activities. (Joint Pub 1-02)

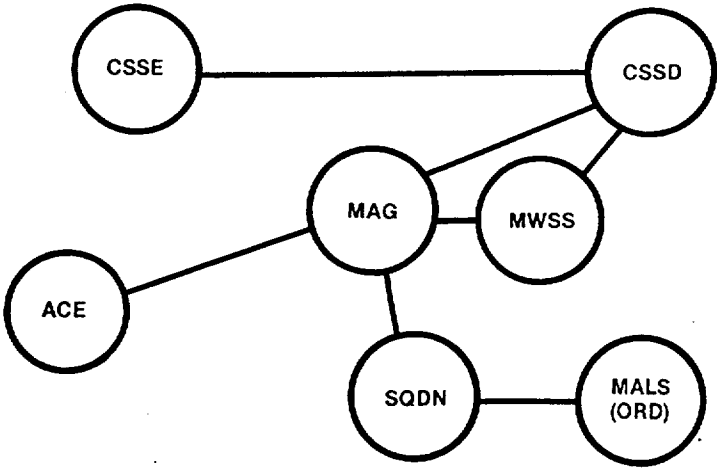


Figure 7-8. Ground Supply When Deployed.

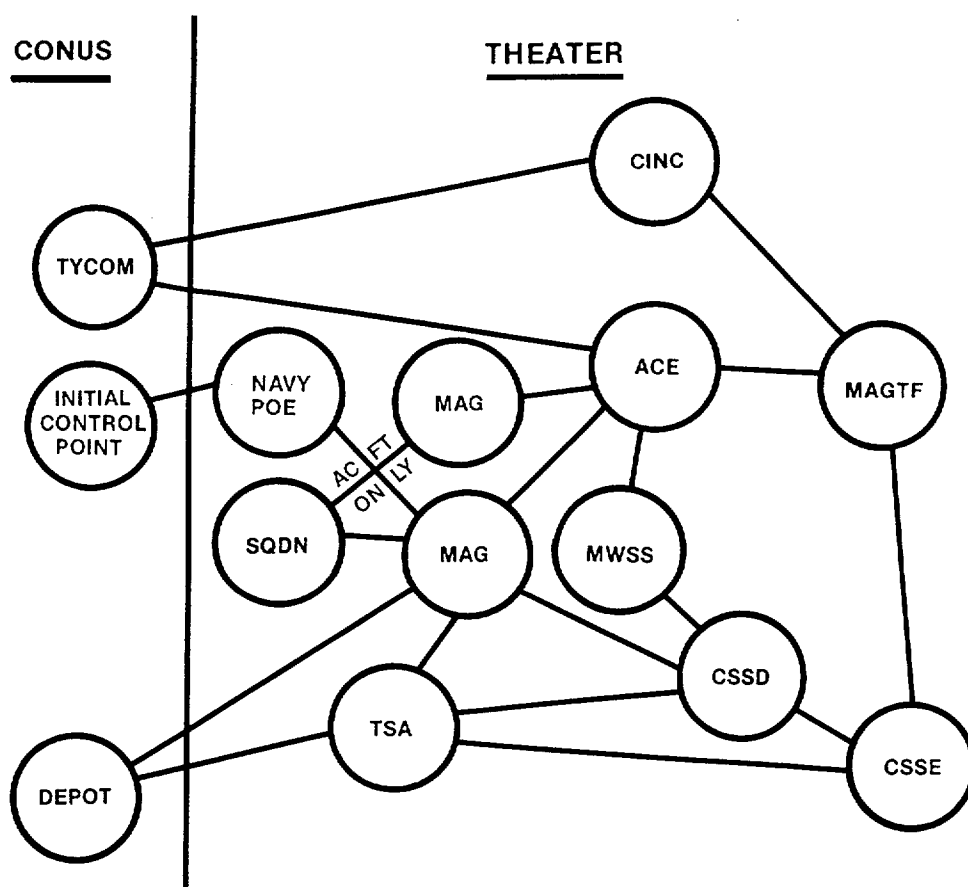


Figure 7-7. Aviation-Related Supply When Deployed.

item is not in stock, the MALS passes the requisition to the naval supply activity in the theater support area. If they cannot fill it, they pass it to the appropriate source in the CONUS.

b. The squadron requests replacement aircraft and depot level repair of aircraft. It passes the request for replacement aircraft to the aircraft group which passes it to the ACE. The ACE passes the request to the type commanders (FMFLant/Pac/Eur and COMNAVAIRLant/Pac/Eur). The ACE keeps both the MAGTF commander and CINC advised of his actions. The MALS, MAG, ACE, and type commanders coordinate placement of aircraft into depot maintenance. The transferring activity is responsible for flying replacement aircraft directly to the receiving squadron or to an airfield near the receiving squadron. The receiving squadron accepts the aircraft and reports its status to the ACE and TYCOM.

c. The CSSD supporting an aircraft group gets aircraft fuel and ammunition from a theater or CONUS source. The CSSD delivers the fuel to the MWSS. The MWSS dispenses fuel to aircraft. Similarly, the CSSD establishes an ammunition supply point (ASP) near the airfield. Although managed by the CSSD, both CSSD and MALS ordnance personnel work at the ASP. The CSSD issues each day's requirements to the MALS for delivery to the airfield. The MWSS transports the ammunition from the ASP to the airfield.

d. Figure 7-8 shows the relationship between aviation units and the CSSE for ground supply support and for aircraft fuel and ammunition support.

(1) **Unit Trains.** The S-4 positions unit trains so they are accessible to the CSSD but close enough to the battalion to remain responsive. He may have to split the distance between the battalion's forward positions and the CSSD. In any event, the exact position depends on the mission and terrain.

(2) **Battalion Trains.** Combat trains must be far enough forward to be responsive. Normally, they are not more than 3 to 5 km behind the tactical elements. Field trains, on the other hand, must be readily accessible to the CSSD to improve coordination. The CSSD may be 20 to 25 km behind the forward line of own troops, out of range of indirect fire artillery. The S-4 selects a central location to make it easier to support all the tactical elements. Again, mission and terrain are the dominant factors when selecting the exact position.

d. Positioning Considerations. Seldom will any train site possess all of the desirable traits. The S-4 must give priority to those which are the most important for the battalion's mission and the tactical situation. Responsiveness, however, should be the most important criterion.

(1) Built-up areas are good locations for trains because they provide cover and concealment for vehicles and sheltered areas for maintenance at night. When located in built-up areas, trains should occupy buildings near the edge of the area. This reduces the chance of being trapped.

(2) A good train location has —

- Defensible terrain to allow the best use of limited personnel assets.
- Enough space to permit dispersion of both vehicles and activities.
- Concealment from hostile ground and air observation.
- Firm ground to support materials handling equipment operations and heavy ammunition and POL vehicles.

- A helicopter landing site for helicopter resupply and medical evacuation.
- An adequate road network between the train and the battalion forward elements and between the train and the CSSD.
- Good communications with forward elements and with the supporting CSSD.
- A source of water, if possible.
- No terrain features which are obstacles to CSS operations or which give the enemy targeting sources.

e. Train Displacement. Proper positioning of trains minimizes displacements and increases the quantity and quality of CSS. When displacing trains, the S-4 selects the technique which best complements the battalion's tactical operations. He may displace the entire unit/battalion train concurrently with the displacement of the tactical elements or by echelon. Echelon displacement enhances continuity of CSS.

7007. Aviation-Peculiar Supply Support Operations

The Navy provides supply support for aircraft and aviation ground support equipment in the Marine aircraft wing. The Marine Corps supply system provides all other supply support to aviation elements. For aircraft fuel and ammunition, the source of supply is either the Navy or a theater activity. The CSSE receives and distributes aircraft fuel and ammunition regardless of source.

a. Figure 7-7 depicts the aviation-related supply relationships when a MAG deploys. The MALS is the focal point for aviation supply and maintenance. The MALS supply and maintenance departments manage aircraft consumable and repairable parts and supplies. The MALS supply department receives requisitions from the intermediate and organizational maintenance activities. It also gets requisitions from elements of the MWSS. If the

REAR	MAIN CP	FORWARD CP
S-1/ADJUTANT	EXECUTIVE OFFICER	COMMANDING OFFICER
SUPPLY CHIEF	HQ COMMANDANT	S-2
ADMIN/SUP CLERKS	S-4A/S-4 CHIEF	S-3/S-3A
REPLACEMENTS	MT OFFICER	S-4
CASUALS	ORDNANCE OFFICER	COMM OFFICER
	SUPPLY OFFICER	COMPANIES/BATTERIES
	ORGANIC CSS	ORGANIC CSS

Figure 7-6. Battalion Task Organization for Combat.

7006. Ground Unit Supply:
Train Concept

The train concept is a means of internally task-organizing and employing the organic CSS assets of the tactical unit. Within the Marine Corps, this concept equates to unit/battalion trains. Trains are not T/O entities. They provide CSS to units organic or attached to the battalion. Trains provide an internal procedure for the conduct of CSS by the tactical unit. They are the link between the forward/subordinate elements of the tactical units and the supporting CSSE. They provide responsive support at the forward-most user level. They may also provide CSS to units in support of the battalion. The organization and capabilities of trains vary with the mission and tactical situation. Depending on the type of unit and the transportation available, trains may be fully mobile. Usually, however, trains are movable rather than mobile.

a. Unit Trains. Unit trains centralize the CSS assets of the supported unit at a single location under the direct control of the unit commander. Unit trains are most appropriate in defensive, slow-moving, or static situations. The commander uses this option when the tactical situation dictates self-contained train operations. On occasion, the terrain may require this configuration. For example, during the early phases of an amphibious operation, the battalion must locate its CSS capability in the beach support area or landing zone. Unit trains provide simplicity, economy, and survivability against ground attack.

b. Battalion Trains. Normally, the commander echelons his CSS assets into *combat trains* and *field trains*. Combat trains are organic elements which provide critical combat service support in forward areas. Field trains consist of the remaining organic CSS elements located further to the rear. The commander selects this option to improve responsiveness, flexibility, and survivability against air attack. This option is preferable when the battalion is in the offense.

- (1) Combat trains handle rations, fuel, ammunition, and critical spare parts. They include maintenance contact teams with a recovery and limited repair capability. Combat trains also include the battalion aid station.
- (2) Field trains contain all the organic CSS capability not in the combat train.

c. Positioning Responsibility. The battalion S-4 coordinates with the battalion executive officer and S-3 in selecting train locations. If necessary, he also coordinates with the commanders of detached elements of the parent unit. When the field train is to collocate with another element, such as the supporting CSSD, the S-4 must also coordinate with that element. This option improves coordination with the supporting CSSD. It also enhances security. However, turnaround time, communications requirements, or other mission-related considerations may necessitate locating the field train elsewhere.

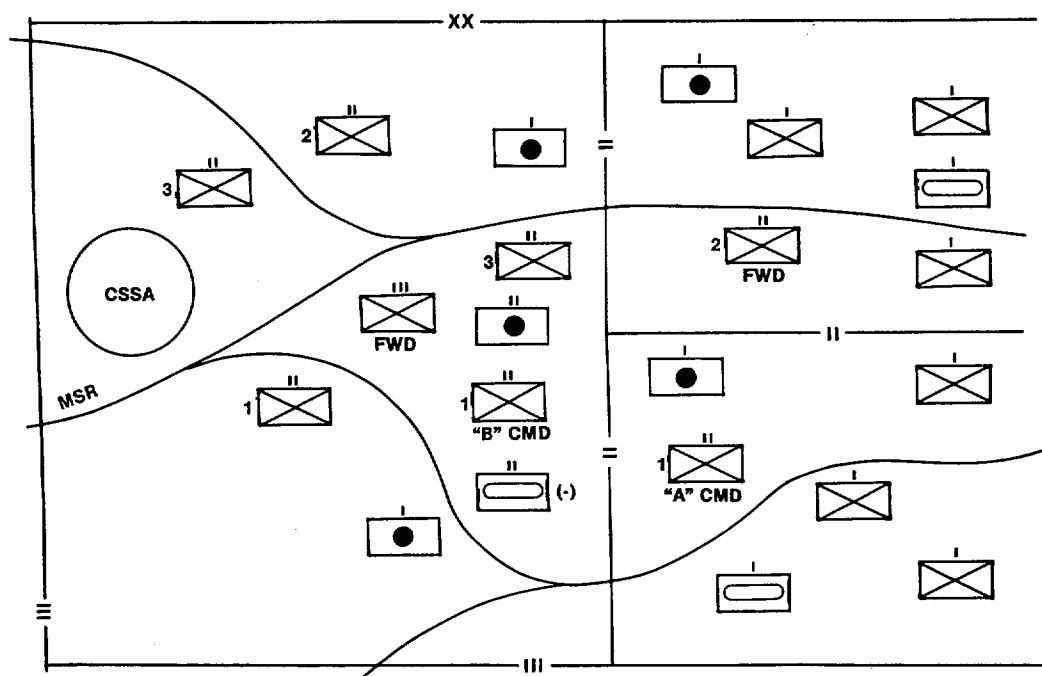


Figure 7-5. CSSD in Support of GCE Units.

battalions are on unit distribution; artillery and armor units are on supply point distribution. The CSSD establishes liaison with the infantry regiment. Requests from the battalions go directly to the CSSD. The CSSD issues supplies based on the supported commander's priorities and allocations.

(1) When employing combat trains, some of the battalion's organic CSS capability is also forward. Maintenance contact team repairmen, ammunition technicians, and supply personnel are with the combat trains. (See par. 7006.) It is these men who provide front line CSS. The battalion also routinely establishes a main CP. The main CP has those elements essential for support of tactical operations, but not needed forward. The preponderance of the battalion's organic CSS capability is routinely with the unit or field train. The commander often locates these with his supporting CSSD. Finally, all

units have administrative elements located behind the GCE rear boundary. Supply and warehousing personnel in the administrative rear distribute individual equipment. They also care for tentage, personal effects, and other equipment not required to sustain combat operations. Figure 7-6 shows breakdowns of a typical battalion in combat.

(2) The commander has the prerogative and flexibility to organize in a variety of ways to accomplish his mission. The example shown in figure 7-6 does not restrict their options. For example, the commander may divide forward command elements into *A* and *B* command groups. Similarly, he may position organic CSS differently. However, as a rule of thumb, the battalion commander should position his organic CSS capability forward of the supporting CSS installation.

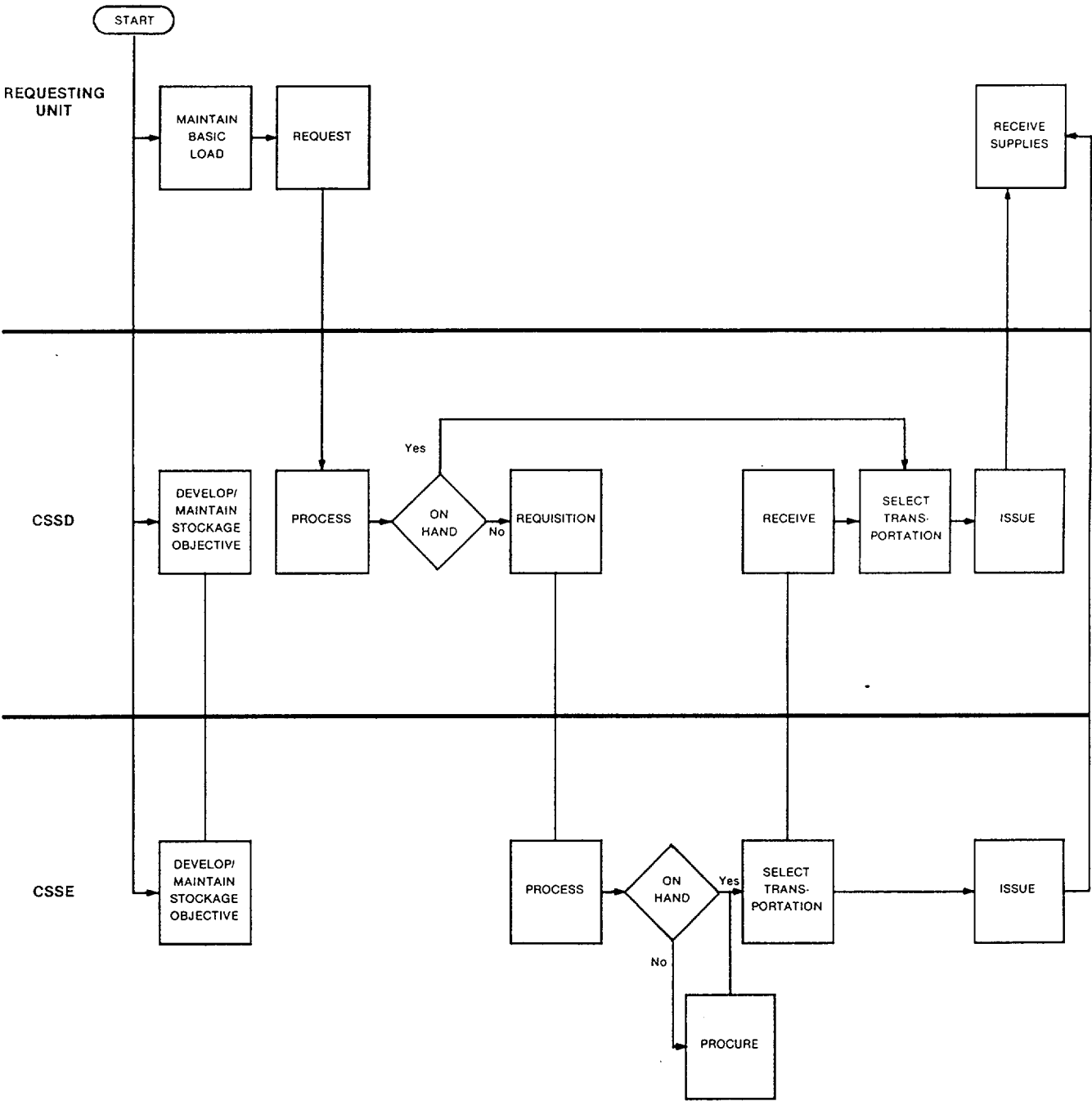


Figure 7-4. Ground Supply Operations During Subsequent Operations.

on call serials. The landing force commander or his representative makes the final decision on all changes to landing priorities. All other agencies must respond to his decisions.

(7) The shore party team or HST receives the supplies and distributes them to the user. Delivery by helicopter can be direct from the ship. It can also be from the beach if landing craft brought the item ashore.

d. Organic Supply Capability. The organic supply capability is at the battalion level in ground units and at the aircraft group level for aviation units. Marine Corps/Navy directives and local operating procedures dictate the procedures that units use to request replenishment in combat. Figure 7-4 depicts the management and execution of ground supply operations after the CSSE is ashore and functioning. That process is as follows:

(1) Simple, locally established manual procedures are the norm for initial requests from users. On receipt of user requests, the supporting CSSD determines if the item is on hand. If it is available, the CSSD transports it to users on unit distribution. Consumers on supply point distribution are notified where and when they can pick up the item. If the item is not on hand, the CSSD passes the requisition to the next higher level.

(2) The CSSE receives requisitions from the CSSD or, in some instances, direct from the user. The CSS agency uses formal procedures for both stock replenishment and for passing unfilled user requests to the CSSE. Where possible, CSSDs in direct support of consumers use automated systems to pass both requisitions and reports to the CSSE. During the early stages of an operation, the CSSE is not fully operational. It may not have data processing capability ashore to process automated requisitions from its subordinate CSSDs. There is likely to be a transition period when both the CSSE and CSSDs use manual procedures. It is also likely that inter-theater electronic transmission of supply data will be impossible.

(3) When the CSSE cannot fill the requisition, it either back orders or passes it. Where in-theater sources are available, the CSSE passes requisitions to these sources rather than to continental United States (CONUS) depots. Marine Corps user manuals and MAGTF operation orders establish specific supply procedures for an operation.

(4) The CSSE normally provides the transportation to deliver supplies and equipment to its subordinate CSSDs. Selection of the mode of transportation is the CSSE's responsibility. Surface transportation is the norm. However, water or air transport are good alternatives provided the aircraft or watercraft are available. Although the consumer does not select the mode of transportation, his request should contain any information which might influence the mode. For example, if the tactical situation requires rapid ammunition resupply, use of helicopters may be essential.

(5) Direct shipment to the consumer is the best method of delivery. Bypassing intermediate installations reduces handling. Sometimes it is necessary to deliver supplies to the supporting CSSD. This method achieves transportation economies when moving large bulk quantities. The CSSE also uses it to take advantage of lifts of opportunity. Rather than haul a partial load, the truck carries supplies to the CSSD that might otherwise go directly to the consumer.

(6) Committed infantry units and their attachments are normally on unit distribution. Other units are routinely on supply point distribution. The MAGTF commander selects the method of distribution.

e. Battalion commanders have several ways they can organize for combat. Routinely, they split their battalions into three elements. Forward elements include the companies or batteries and the forward command post (CP). Figure 7-5 depicts a tactical situation in which a CSSD is in direct support of units of the GCE. In this example, infantry

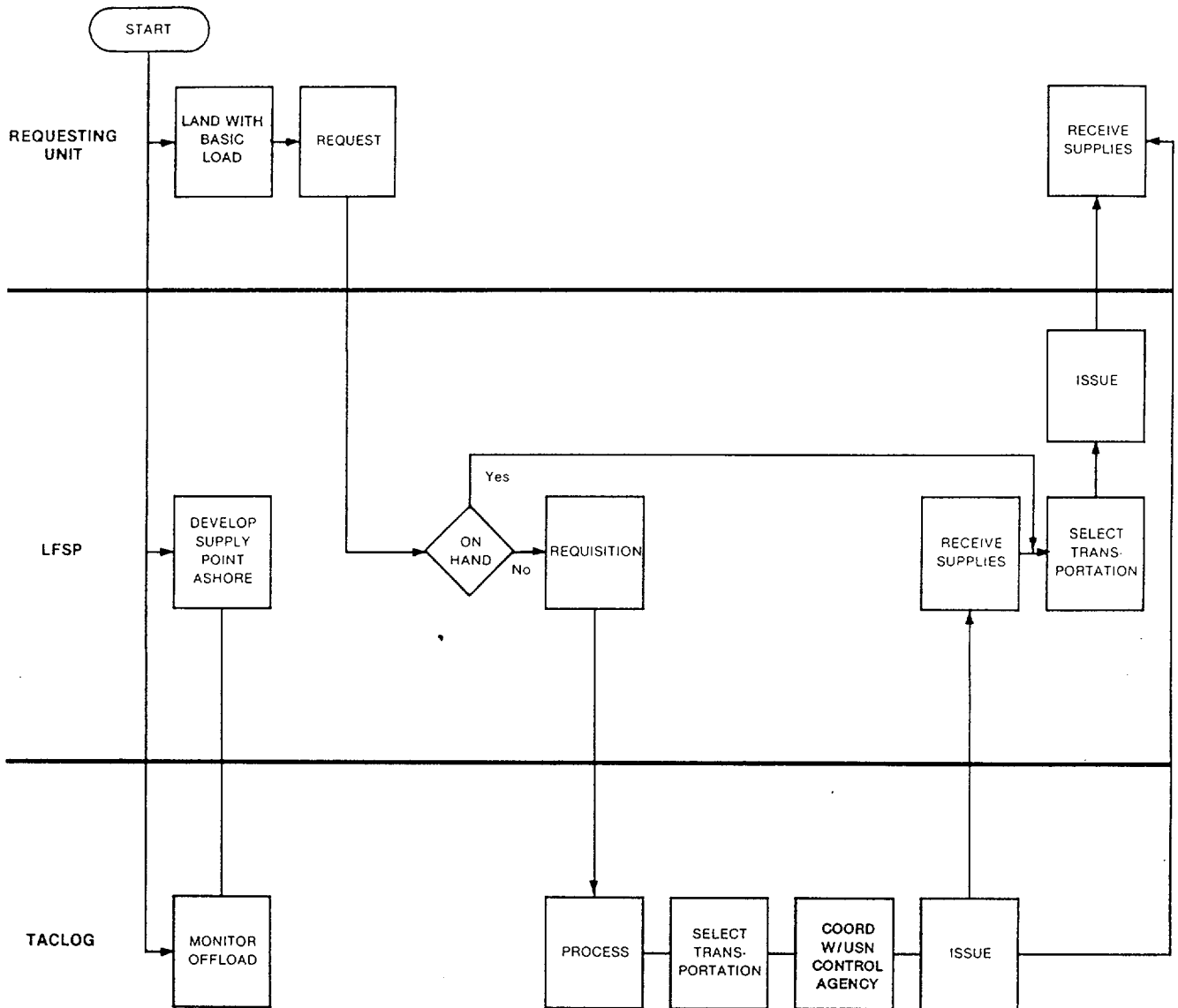


Figure 7-3. Ground Supply During the Amphibious Assault.

(3) Remaining Supplies. Remaining supplies are those which are not part of the basic load or the prepositioned emergency supplies. They constitute the major portion of the supplies transported to the AOA in the AE and the AFOE. When the tactical situation permits, the commander uses some of these supplies to build dumps ashore. The CSSE unloads the bulk of the remaining supplies during general unloading.

b. Resupply. Resupply is those supplies transported to the AOA after arrival of the AE and AFOE. Resupply may include host nation and inter-Service support. It may also include supplies aboard other ships and aircraft in an on-call status outside the AOA. Finally, resupply may arrive in the objective area by ships or aircraft on fixed schedules.

c. Ground Supply Operations During the Amphibious Assault. Figure 7-3 depicts the management and execution of ground supply operations during the amphibious assault. Although the agencies are different and the capabilities less, the process closely parallels that which the CSSE uses after it comes ashore. The transition is gradual. As combat forces move inland, more CSS capability lands.

(1) The LFSP provides liaison personnel who land with the assault elements of the GCE. The LFSP advance party lands in later waves. It establishes contact with these liaison personnel and with the TACLOG on the primary control ship for each colored beach. After the LFSP lands, it establishes the beach support area with dumps for essential classes of supply. During helicopterborne operations, a helicopter support team (HST) provides support to units landing in each landing zone. When the plan calls for a CSS buildup in the landing zone, the landing support company provides the nucleus for the HST. When there is to be no CSS buildup, the HST comes from the helicopterborne force.

(2) The landing force establishes a TACLOG at each level of the Navy ship-to-shore control organization. The purpose of the TACLOG is to advise Navy control groups of landing force

requirements for the waterborne and helicopterborne ship-to-shore movements. The TACLOG monitors scheduled unloading. It helps the Navy control organization during movement of scheduled waves, on call waves, and nonscheduled serials. The personnel in the TACLOG must have a thorough knowledge of the unit's tactical and administrative plans.

(3) Assault units submit requests for supplies to either the shore party or helicopter support teams. The teams fill the request or relay requests to the TACLOG over shore party or HST control nets. As an alternative, the assault element may pass requests directly to the TACLOG over a tactical net. This, however, may interfere with tactical message traffic. Therefore, they should do it only in an emergency or when communications fail. When combat units do this, the TACLOG should alert the shore party team or HST. They, in turn, must prepare to receive the supplies or equipment. The warning should identify the requesting unit and the quantity of supplies or equipment needed ashore.

(4) After the shore party group lands, it establishes inland dump sites. It controls the selective unloading of supplies, limiting the effort to high priority serials. Shore party group and helicopter support team personnel unload, sort, store, safeguard and issue supplies. The shore party teams and helicopter support teams distribute supplies directly to the consumer using the fastest available means. The emphasis is on responsiveness, even at the expense of economy and accountability.

(5) If a critical item is not on hand, the shore party or HST notifies the TACLOG by radio. The TACLOG first locates the item. It then coordinates with the Navy control organization to obtain the transportation to land it.

(6) Before the Navy assigns transportation to move unscheduled supplies ashore, the TACLOG must determine the impact on the tactical situation. It must assess the priority against the priority for landing scheduled and

can also contribute to waste of transportation capability. Like selection of unit or supply point distribution, the MAGTF commander should specify the most appropriate replenishment system. He makes the decision based on recommendations from the CSSE/ACE. Compromises normally dictate a combination of the two based on the tactical situation and available resources.

7005. CSSE Supply Support Operations

a. Landing Force Supplies. Landing force supplies are the supplies and equipment in the assault echelon (AE) and the assault follow-on echelon (AFOE). They include the initial supply support needed before arrival of resupply in the amphibious objective area (AOA). Landing force supplies include basic loads, prepositioned emergency supplies, and remaining supplies.

(1) Basic Load. Basic loads are the types and quantities of supplies which the commander directs his unit to carry for a specific operation. The basic load is the initial source of supply support. Subordinate commanders must maintain these levels. Basic loads may specify what each individual is to carry. The amount may change each day as the tactical situation dictates. There may be one basic load for landing and a different one for operations ashore. The basic loads for surface and helicopterborne forces may be different. The basic load should not exceed what the unit can carry on organic transportation. Nor should it exceed what the commander thinks he needs to continue combat operations until replenishment becomes available.

(a) The commander normally expresses the basic load in terms of day(s) of supply (DOS) or day(s) of ammunition (DOA). However, at the lowest levels of command, he may specify actual amounts. As a general rule, the lowest organizational commander prescribes the load which his units carry. However, when items are in critical supply, higher levels of command dictate the priority and allocation for their distribution. Commanders may also adjust the basic load based on their concept of operations.

(b) The basic load for combat organizations is comparable to the stockage objective for CSS organizations.

(2) Prepositioned Emergency Supplies. The commander uses prepositioned emergency supplies for replenishment early in the ship-to-shore movement. They are available on-call for immediate delivery to units ashore. This category is further broken down into floating dumps and prestaged helicopter-lifted supplies.

(a) Floating dumps consist of selected prepackaged class I, III, V, and VIII supplies. They are in landing craft or assault amphibious vehicles for immediate on-call delivery to units ashore. Floating dumps support surface assault elements. They report to the primary control ship (PCS) after H-hour. They remain near the PCS until directed to land. The primary control officer dispatches floating dumps to the beach in response to requests by the supported commander ashore, via the tactical-logistical group (TACLOG). The commander dissolves floating dumps once there are enough supplies ashore to meet critical needs. He unloads the landing craft and assault amphibious vehicles ashore. He uses the supplies to expand dumps in the beach support area (BSA). He then releases the landing craft and assault amphibious vehicles for other uses.

(b) Prestaged helicopter-lifted supplies are similar to floating dumps. They contain prepackaged units of selected high priority supplies positioned and maintained aboard helicopter transports and other properly configured ships. They are available for on-call delivery to units ashore. The commander uses this category of supplies primarily in support of helicopterborne units. He can also use them to support surface assault units, if required. Units request supplies from the TACLOG. The commander uses supplies remaining after the initial stages of the assault to expand dumps ashore. Prestaged helicopter-lifted supplies do not normally have assigned serial numbers. However, the commander may assign serial numbers to help identify and deliver specific supplies.

In this example, the CSS unit reorders when the on-hand balance reaches 22 days. The reorder quantity is the difference between the stockage objective and the onhand balance (reorder point). To determine actual quantities, the CSSE multiplies the number of days times the daily usage rate.

(2) Units should use supplies carried as basic loads, replacing only those quantities needed to reconstitute the basic load. (See par. 7005a[1].) Supply points should be dispersed to be responsive and flexible while providing passive security against attack.

b. Distribution Methods. The two normal methods of distribution are *supply point distribution* and *unit distribution*.

(1) **Supply Point Distribution.** This is the method of distributing supplies in which the receiving unit is issued supplies at a supply point (depot, airhead, navigation head, railhead, combat train site, distribution point) and moves the supplies in organic transportation.

(2) **Unit Distribution.** This is the method of distributing supplies in which the receiving unit is issued supplies in its own area, the transportation being furnished by the issuing agency. The receiving unit is then responsible for its own internal distribution.

(3) **Distribution Method Selection.** As a general rule, the MAGTF commander must use a combination of unit and supply point distribution. He gives first priority for unit distribution to those engaged units having limited organic transportation. He gives lesser priority to engaged units having organic transportation. He assigns the lowest priority to units which are not in contact with the enemy.

(a) From the consumer's viewpoint, unit distribution is the preferred method. However, the MAGTF seldom has enough transportation assets to permit unit distribution to all consumer organizations. The MAGTF

commander must make the decision on the type of distribution. He makes his decision based on an analysis and recommendation from the CSSE/ACE commander. A decision to use unit distribution has a significant impact on the *distribution system*.

(b) When the MAGTF commander selects unit distribution, the CSSE/ACE commander develops the transportation network from the supported organization to the rear. Their planning must stop when they use up all available equipment. This may generate shortages in rear areas. The CSS units may be unable to move enough supplies among wholesale and retail activities. Conversely, the CSSE/ACE commander may develop the transportation network from the rear forward, relying on supply point distribution. This has significant impact on *tactical operations*. It may restrict operations for units which have limited organic transportation.

c. Replenishment Systems. Replenishment systems are either pull systems or push systems. These systems are subject to availability of supplies and distribution capabilities. Two concepts which must be considered in the process of determining the replenishment system to be implemented are available supply rate and required supply rate.

(1) **Pull Systems.** A pull system requires that the consumer submit a request for the desired support. The request is a requisition. Pull systems provide only what the unit says it needs. Pull systems are not as responsive as push systems because they do not provide support in anticipation of need.

(2) **Push Systems.** Push systems use reports as the requesting document. For example, on hand or usage reports serve as the basis for resupply. The CSSE compares the report to the basic load or stockage objective. They then push the difference between the onhand and desired quantity to the unit. Use of this method requires caution in that push systems can contribute to excesses, burdening the user with more stocks than he can handle. This can lead to waste. It

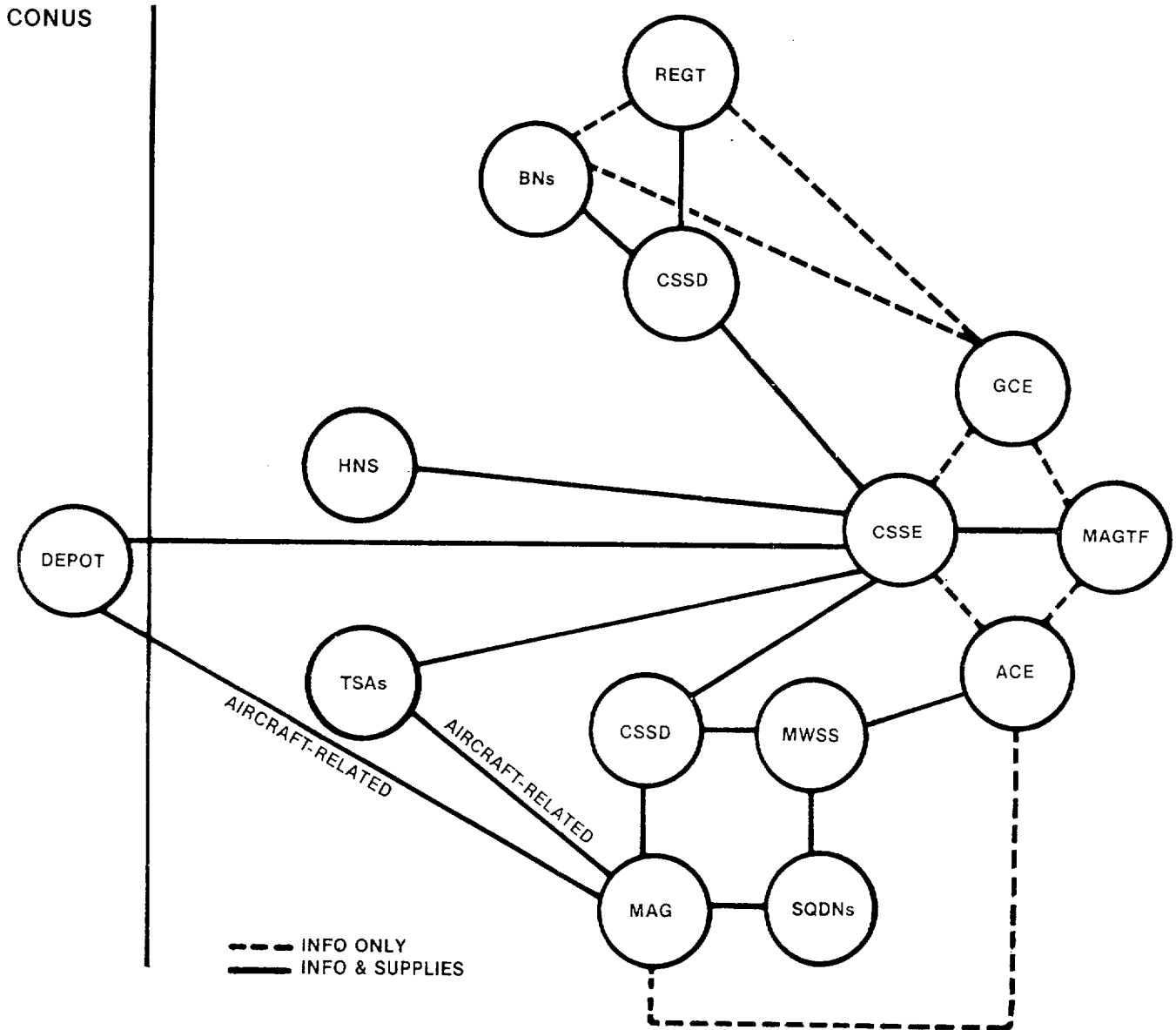


Figure 7-2. MAGTF Ground Relationships.

peacetime. The MAGTF commander prescribes the stockage objective for CSS installations based on the recommendations of the CSSE/ACE commander. Selection of the proper stockage objective is critical for proper management of transportation. It is also critical for continued support of combat operations. Too high a stockage objective can place an excessive burden on handling and management systems. Too low a stockage objective can delay or even prevent combat

operations. The reorder point is that point at which the CSS unit must submit a requisition to maintain the stockage objective. The reorder point is the sum of the safety level and the order and shipping time. For example:

Safety level	=	5 days
Reorder time	=	2 days
Shipping time	=	<u>15 days</u>
Reorder point	=	22 days

The CSSE/ACE controls the supply process through requisitioning, receipt, storage, stock control, shipment, disposition, identification, and accounting procedures established in directives. Ideally, the procedures used in peacetime are the same as those used in wartime. Combat requirements often necessitate rapid processing of requests submitted by other than normal methods.

The supply process must be responsive to the needs of the user, particularly in combat, in order to minimize attrition. Compromises acceptable in peacetime to improve economy and enhance accountability may not be appropriate in a combat situation. For example, storage of a commodity in one dump site may be appropriate in peacetime. Centralization in wartime may be inefficient, unresponsive and may reduce survivability. Therefore, the CSSE commander may establish multiple CSSDs and CSSAs in the amphibious objective area. Their capabilities and locations vary over time based on the tactical situation, the concept of operations, and the scheme of maneuver. Each CSSD has a mission to support a specific consumer. The CSSE manages the requisition, receipt, storage, and distribution of bulk commodities to CSSDs. The CSSDs manage the same functions but focus on responding to the immediate needs of the supported unit. The ACE, in a like manner, may establish multiple support sites to manage the requisition, receipt, storage, and distribution of materiel.

For any item of supply, the supply process is a cycle that involves procurement, use, and replenishment. The period of this cycle for each item varies based upon usage rate, storage and transport capacity, and procurement lead time. Normally, the shorter the cycle, the more intensive the management and transportation effort becomes for the CSSE/MWSG/MALS. Conversely, the longer cycle items require better forward planning and more storage. The CSSE/MWSG/MALS commander cannot control the length of the cycle. He can control only the distribution process.

The supply process always begins with the user. Figure 7-2 provides an overview of the MAGTF's supply relationships. It shows the consumer, his higher headquarters, the retail CSS agencies within

the MAGTF, and the wholesale agencies external to the MAGTF. Solid lines represent the flow of both information and supplies. Dotted lines depict the flow of information only. This chart is the foundation for later diagrams which depict the supply process in greater detail.

7004. Control of Supply Support

The CSSE/GCE/ACE commanders exercise control over subordinate units and CSS functions in much the same way. They plan and execute operations by structuring their forces, assigning missions, and establishing command relationships. Within this structure as it applies to the subfunctions of supply, CSSE/MWSG/MALS/commanders manage the flow of support from source (producer logistics) to consumer (consumer logistics). Among many of the techniques and procedures which are available, three are critical to the control of supply support.

a. Control. Supplies flow from the source to the consumer by the most direct route. CSS units should handle them as infrequently as possible. Control procedures must be as simple as possible. Record keeping should be uniform and simple. Records should include only that information essential to control supply activities and to ensure sustainability.

(1) Stockage Objective and Reorder Point. The stockage objective is the maximum quantities of materiel that the CSSE/ACE is to have on hand to sustain current operations. It consists of the sum of stocks represented by the operating level and the safety level. The operating level is the level required to sustain operations between submission of requisitions or between the arrival of successive shipments. These quantities are based on the established replenishment period (daily, monthly, quarterly). In combat, the replenishment period is more frequent than during peacetime operations. The safety level is the quantity required to continue operations if there are minor delays in resupply or unpredictable changes in demand. In combat, the safety level is more critical than during

DETERMINATION OF REQUIREMENTS
PROCUREMENT
STORAGE (to include care in storage)
DISTRIBUTION
SALVAGE
DISPOSAL

Figure 7-1. Subfunctions of Supply.

a. Determination of Requirements. In logistic/CSS terms, supply requirements are the needs for those commodities essential to begin and sustain combat operations. There are three types of supply requirements: routine, preplanned and long-term. Routine and preplanned requirements are relatively near-term.

(1) Routine Requirements. Routine requirements support normal daily operations. The CSSE/ACE supports routine requirements with available resources or through redistribution of assets within the MAGTF.

(2) Preplanned Requirements. Preplanned requirements pertain to support for special missions or operations. Like routine requirements, the CSSE supports these requirements with available resources or through redistribution of assets within the MAGTF. There is not enough time to obtain new resources.

(3) Long Range Requirements. Long range requirements involve unusual or high-cost items. If this type of support is not correctly determined and programmed in a timely manner, resources may not be available to support requirements. Errors in forecasting long term requirements can restrict operations. Support might not be available, the allocation of costly resources might exceed real requirements, or both.

b. Procurement. In the consumer phase of supply of interest to the MAGTF, procurement relates to those supplies and items of equipment which the commander determines he needs to

begin and sustain operations. The supply process is a continuous cycle. However, viewed chronologically, it follows requirements determination. The commander must remember there is no guarantee that he will receive the supplies which he thinks he needs.

c. Storage. Storage is the safekeeping of supplies and equipment in a ready-for-issue condition. The storage function includes the process of receipting for supplies and equipment from the source. It includes the responsibility to maintain accurate inventory controls. Similarly, care in storage is a responsibility of the activity holding the supplies and equipment.

d. Distribution. For the MAGTF, distribution is the issue of supplies and equipment to using units or to intermediate supply points for future issue. The distribution process has two steps. The first step is to requisition. A requisition identifies the user's needs. The second step is to issue. The supply activity issues supplies and equipment based on the commander's priorities and allocations.

e. Salvage. The salvage process encompasses the recovery, evacuation, receipt, processing, storage, reclamation, and reissue of materiel, to include captured materiel.

f. Disposal. Disposal is the process of eliminating excess, obsolete, surplus, or unserviceable property. Disposal may include transfer, donation, sale, or abandonment. It does not include redistribution or reissue.

7003. Phases of Supply Support

The CSSE/ACE deals with the tactical and operational phases of supply which impact on the sustainability of the MAGTF. These phases extend from receipt of finished supplies through issue for use or consumption by the user.

e. Operational Concept

(1) The primary operational concept of the TAVB is to transport an intermediate level capability, with spare parts for component repair, and limited support equipment for an MPS and ACE deployed in support of a MAGTF operation using the equipment in the MPS.

(2) Upon notification of movement, the TAVB is expected to arrive in the objective area within 15 to 20 days to marry up with aircraft, personnel, and support prepositioned by the F/W flight ferry and the FIE units.

(3) Transfer of the IMA spare parts and equipment ashore will commence upon arrival (if conditions permit).

(4) IMA operations can be sustained in the objective area if rapid move ashore is not possible. Under these conditions, the TAVB will prioritize its workload in support of flight line maintenance requirements to ensure that mission essential WRA/SRA support is provided.

(5) Although the concept of operations for the TAVB is designed primarily to support an MPS and ACE, it is conceivable the TAVB could be tasked to support an amphibious brigade-size operation. An amphibious operation provides for *forcible* entry into an objective area, as opposed to an *unopposed* entry required for an MPS. In all cases, the TAVB would still require an *unopposed* entry into an objective area prior to offload ashore.

supplies for a brigade-size force in support of Maritime Prepositioning Force (MPF) operations. MPF operations consist of using equipment and supplies (both ground combat and aviation) prepositioned aboard forward deployed MPSs to support a MAGTF that is flown into an objective area. The MAGTF would then assemble with its equipment in preparation for the conduct of subsequent operations ashore. These operations provide a means where a MAGTF can be deployed rapidly.

MPS are RO/RO civilian-crewed, MSC-chartered ships which are organized into three squadrons (MPSRONs). In peacetime operations, they are usually forward deployed in strategic locations worldwide. MPSRON-1 and MPSRON-3 are composed of four ships. MPSRON-2 is composed of five ships.

Each MPSRON has a fixed set of equipment and supplies embarked. Generally, this set contains sufficient quantities of all supplies (except classes VI and X) to last for 30 days of combat operations. In support of a brigade-size ACE, each MPSRON contains a complete set of organizational level P-, E-, and L-coded IMRL (both common and peculiar). This equipment will be offloaded and combined with the fly-in support package allowances to sustain aviation logistics support to the FIE aircraft for up to 30 days, or if augmented, until the arrival of intermediate level support.

The unique feature which sets the prepositioned equipment aboard MPS apart from other afloat prepositioned equipment and supplies is the association of specific forces with their prepositioned materiel. This association facilitates rapid employment of materiel in support of MPF operations. Dispersed stationing of MPS squadrons contribute to worldwide responsiveness while providing the flexibility to mass a large force at any one area using several squadrons and associated forces.

8306. Maritime Prepositioning Ships

The MPS program was developed to provide for a rapid and responsive sealift of equipment and

to form into an ACE, go on unit deployment, or participate in some other training or contingency exercise, the MALS, using the intermediate level skills portion of the tactical aircraft squadron's T/O, can align the applicable skills to the peculiar CSP (i.e., identified SE, AVCAL/COSAL, and MFs) and directly provide the complete CSP to the receiving *host* IMA of the ACE at a deployment site. The MALS concept identifies the skills a parent F/W or R/W MAG needs to support aircraft that it will retain and deploy with when it is assigned as the *host* IMA of an ACE.

8305. Aviation Logistics Support Ship

a. Background. In response to the urgent need to improve responsiveness and reduce airlift requirements during the critical initial stages of major force deployments, the Navy instituted a program to convert two C5-S-78a container and roll-on/roll-off (RO/RO) ships to transport a Marine aviation intermediate maintenance activity (IMA) from CONUS to a forward area. The ships have been reclassified as the aviation logistics support ship (TAVB) Wright Class (USNS Wright/TAVB-3 and USNS Curtis/TAVB-4).

b. Missions

(1) The primary mission of the TAVB is to provide dedicated sealift for movement of an intermediate maintenance capability to support the rapid deployment of Marine Corps F/W and R/W aircraft units in support of a MAGTF ACE. The majority of MFs normally operated by the IMA and supply while in garrison are loaded into the TAVB. The number and configuration of the MFs to be loaded in the TAVB, although largely driven by the capacity of the ship, is determined during the facility requirements evaluation/identification planning phase for the CSP in support of the ACE.

(2) A secondary mission of the TAVB is to provide for resupply in a conventional container or RO/RO configuration. Ship modifications are configured to retain maximum cargo capacity in the resupply mode.

c. Operation. The TAVB, when activated, will be operated by the Military Sealift Command (MSC) with civilian manning. The ship carries a Navy communication van to support its tactical missions and to provide interoperability with naval groups and task forces.

d. IMA Operations

(1) The IMA can be partially activated during ship transit. Prior to embarkation, the weapon systems supported during transit must be determined by considering mission essential weapon replacement assembly/system replacement assembly (WRA/SRA) support required. With partial IMA activation and operation en route, some inoperable WRAs/SRAs can be repaired, thereby reducing the requirement for the procurement of spare repairable components; however, component repair capability is driven by the availability of bit and piece support in the MAG at the time the TAVB is loaded. In the operational mode, the MFs on board the TAVB are designated as functional or nonfunctional. A functional MF is one that requires some degree of service from the ship (such as power, low pressure air, or water), and they must be accessible or actually manned during the ship's transit and until actually offloaded in the forward area. Nonfunctional MFs contain nonoperational work centers not critical to mission support while aboard the TAVB, including unmanned supply stores.

(2) The TAVB in the IMA operational mode can accommodate approximately 300 MFs of which 186 are functional, with 114 nonfunctional (30 maintenance and 84 supply MFs). Functional MFs are stowed on the main and second decks in single or double tiers. Double-tiered units are in clusters of four or eight. Access to upper-tier MFs on the main and second decks is provided by ladders and scaffolding systems called access modules. Access to nonfunctional MFs stowed below the second deck is by end-connected access modules. Remaining nonfunctional MFs stowed below the second deck are not accessible while the TAVB is underway and are called *deep stowed*.

Allowances are computed at combat hours to support a particular T/M/S and quantity of aircraft and are additive AVCAL/COSAL allowances. An FISP is protected stock material — under the cognizance of the parent MALS aviation supply officer. An FISP will not be drawn down (except to rotate stock in order to maintain proper shelf life and configuration control) without the approval of the wing or brigade commander. There are only two FISPs per T/M/S aircraft (generally one on each coast). FISPs for the 1st MAW are being developed. If a FISP is used in other than an MPF scenario, it must be augmented by assets (i.e., AVCAL/COSAL items and support equipment) from the parent MAG/squadron.

c. Training Exercise Support Package. Training exercise support packages (TESPs) are supplemental allowances designed to provide the organizational level spare/repair parts to support a specified number of a particular T/M/S aircraft for 15 days at peacetime flying hours. TESP allowances are sourced from and encompassed within a site's total AVCAL/COSAL allowance. A supplemental TESP allowance will be authorized only when a TESP requirement cannot be satisfied from a site's total AVCAL/COSAL without impacting on the readiness for the aircraft not deployed from the home site.

d. Training Squadron Allowances. Training squadron allowances (TSAs) and IMRL/AVCAL/COSAL/SE/MF allowances are designed to support a training squadron(s) attached to a MAG. TSAs are built to support a 30-day endurance period at peacetime flying hours. TSAs are added to the allowances of a MAG and are to be distinctly identified as such in allowance documents provided to MAGs.

e. Follow-On Support Package Allowances. Follow on support package (FOSP) equipment consists of those items that, although not required to initiate the assault, are required to sustain the assault. These are items that, because of sealift and airlift constraints, must be phased into a deployment

area by use of AFOE or follow-up shipping. Because FOSP assets are required to sustain the assault, allowances to support these items are built to a 90-day combat flying hour. These are supplementary allowances that must be distinctly identified in allowance documents provided to each MALS.

8304. Personnel Requirements in Support of the Marine Aviation Logistic Support Concept

a. Staffing. The fourth and most important element of the CSP program is people. Identifying equipment, parts, and facility requirements needed to provide intermediate level maintenance support to a MAGTF ACE is critical. Without adequate staffing of qualified maintenance, supply, and administrative personnel, this program would not succeed. MALS and supported squadron T/Os have been structured to provide the right people in the right quantities to support a task-organized ACE.

b. Organization. Each MALS is organized to provide a *core* intermediate level support capability by providing the supervisory and common support necessary to maintain any F/W or R/W aircraft that may be joined to a F/W or R/W ACE. The MALS T/O contains the personnel component of a common CSP, which forms the *nucleus* of an ACE *host* IMA (F/W or R/W). Each tactical aircraft squadron T/O will have a separate listing of intermediate level billets that consist of MOS skills peculiar to that squadron's T/M/S aircraft. These personnel are given a monitored command code which assigns them directly to the MALS within a MAG. This eliminates the bothersome process of checking into and out of an aircraft squadron en route to a MALS as was previously required with the H&MS. Consequently, the MALS provides the MAGTF commander with the capability to support the *command* and *peculiar* requirements of the TMS aircraft assigned to that ACE. Whenever the aircraft are detached from a parent MAG

requirements for reserve units will be sourced from a combination of 4th MAW/supporting air station assets and Navy prepositioned war reserve material stock (PWRMS). The PWRMS is identified by project codes to particular T/M/S aircraft.

8303. MALSC Allowance Categories

Aviation logistics support requirements for SE, MFs/shelters, and spare/repair parts are identified within each of the following categories.

a. Contingency Support Package. CSPs consist of the common and peculiar intermediate level logistical support required for the composited deployment of detachments/squadrons of particular T/M/S aircraft—with one exception. CSP AVCAL/COSAL allowances are the exception, because they provide the spares and repair parts to support both organizational and intermediate level maintenance. The four distinct elements that make up a CSP are—

- Personnel.
- Support equipment (IMRL).
- Mobile facilities.
- Spare/repair parts (AVCAL/COSAL).

For each element, there are master allowance documents; i.e., squadron/MALS tables of organization (personnel), MAG master IMRLs (support equipment), table of basic allowances, and the MAG master AVCAL/COSAL allowances (spares and repair parts). Because organizational level IMRL and MF allowances and personnel allocations are already, by their very nature, separately identified and rapidly deployable, they do not need to be incorporated into a CSP. However, IMRL preposition coded **P** and **E** and management code **L** items must also be identified to the appropriate CSP allowance categories (defined below). CSP allowances are computed at the combat flying-hour rate for a 90-day endurance period, and they will be supplemental allowances to those AVCAL/COSAL/IMRL/SE/MF allowances identified in master allowance documents. From the master

allowance documents, CSP allowances (broken into the following subcategories) are derived:

(1) Common Contingency Support Package Allowances. Common contingency support package allowances consist of those Marine common assets that the R/W or F/W host IMA of an ACE provides to support all or the majority of aircraft assigned. An F/W Marine common item is one that has application to at least the F/A-18 and AV-8B aircraft that are part of an ACE. A R/W common item is one that has application to at least the CH-53E, CH-46E, and AH-1W aircraft that are a part of an ACE. Weight, cube, cost, reliability, and supportability are the primary considerations in making this determination. Host IMAs, one R/W and one F/W per ACE, are sourced from designated MAGs. For planning purposes, it is assumed that the F/W and R/W IMAs will be geographically separated.

(2) Peculiar Contingency Support Package Allowances. The peculiar contingency support package allowances consist of those peculiar items required to provide intermediate level support for a specific T/M/S and quantity of aircraft, and associated support equipment that a MAG provides to a MAGTF ACE. A peculiar item is an item that is peculiar to a specific aircraft/support equipment application.

b. Fly-In Support Package. Fly-in support packages (FISPs) are organizational level parts support packages designed to support the fly-in echelon (FIE) aircraft of an MPF MAGTF ACE. A FISP, flown in with the FIE aircraft, will be combined with the organizational level aviation support equipment and organizational level parts to support the support equipment offloaded from MPS ships. This combination of assets is designed to provide readiness and sustainability for the deployed aircraft until the intermediate maintenance support capability arrives in the theater of operations aboard the TAVB, by airlift or other means. FISP allowances provide the supply parts normally removed and replaced at the squadron/detachment organizational maintenance level.

(c) The TAVB only provides a limited intermediate level capability for the ACE as a whole. When operating *in stream*, approximately 186 vans of the approximately 300 aboard can be operational. However, not all of the parts aboard the ship are accessible. Therefore, the range of intermediate level support is limited. As many as 684 vans can be transported, if none are required to be operational. In either mode, additional transportation may be required to bring the remainder of the intermediate level support (i.e., CSPs) into theater.

(d) Planners must consider the number of aircraft a CSP or FISP is designed to support and where this support is located in garrison. Using more aircraft, or flying them more than the packages are designed to support, will require logistics elements to reconfigure these packages, which is time consuming and difficult to do quickly. Some CSPs and FISPs will have to be transported from one coast to the other, which requires time and transportation assets. Those MFs which require air-cushion vehicles/platforms for movement require special consideration.

(e) The CSP concept has not been fully funded or implemented. Close coordination with aviation logistics planners is required to preclude unnecessary geographic separation of those TMS aircraft which do not have the full CSP logistics support required to support the geographic separation that might be desired.

(2) Amphibious MAGTF. An amphibious MAGTF will generally have to bring its ACE supply and maintenance support ashore. Few of the assets provided by the ship will come ashore. The support ashore must be provided by using CSPs. The number and type of CSPs for each TMS aircraft, the number of aircraft each CSP is designed to support, and the MAGs holding those CSPs are identified in the MCP. If a TAVB is used in an amphibious brigade-size force scenario, the organizational level support equipment (IMRL) that would

have been provided by MPS in an MPS brigade-size force scenario will have to be brought by the squadrons.

8302. Reconfiguration of Aviation Units for Deployment

a. Aircraft Transfers. When not deployed, Marine aircraft squadrons of a particular type/model/series (TMS) aircraft are generally consolidated and attached to only two or three MAGs. To form an ACE requires that one or more fixed-wing or rotary wing MAGs reconfigure into a task-organized fighting unit. As part of an ACE or as a source of aircraft for another MAG that is forming an ACE, a nondeployed MAG has to be able to rapidly identify what aircraft it must retain, detach and send to another MAG, or leave behind.

b. Logistics Support Transfer. Attachment and detachment of the aircraft to form an ACE is not that difficult, but the transfer, retention, and/or receipt of the logistics support for these aircraft is. Under the MALSC, aviation logisticians can identify people, support equipment (SE), individual material readiness list (IMRL) items, mobile facilities (MFs)/shelters, and spare/repair parts (aviation consolidated allowance list [AVCAL] and coordinated ship/station allowance list [COSAL]) needed to support each TMS aircraft that is part of an ACE.

c. MPF Considerations. They can also separately identify support requirements to sustain a MEF when it is associated with a Maritime Prepositioning Force (MPF) squadron and an aviation logistics support ship (TAVB), as well as when it is not.

d. Reserve Aviation Support Transfer. IMRL/AVCAL/COSAL/mobile facilities allowances for Marine Reserve aviation activities are also being developed to align with the CSP program portion of the MALSC. The 90-day endurance level

Section III. Aviation-Peculiar Maintenance Support Operations

Support for Marine aviation has been developed under what is termed the Marine aviation logistics support concept. The purposes for developing the MALSC and its associated subordinate concepts, should be clearly understood by all personnel who use or plan to use Marine aircraft.

8301. Deployment/Employment Planning Considerations

a. Marine Expeditionary Unit. The intermediate level support for the MEU ACE will be provided by the aircraft intermediate maintenance department (AIMD) of the air-capable ship (LPH/LHA/LHD) which the ACE is embarked. If the AIMD does not have the capability to support certain MEU ACE aircraft, the parent MALS will augment the ship's organic support with the necessary personnel, support equipment, and spare/repair parts. If the composite squadron of the MEU is directed ashore, intermediate level support can be provided —

- From the air-capable ship operating offshore.
- From a CONUS-based MALS with a contingency support package (CSP) which would deploy to the theater of operations.

b. Brigade-Size ACE. To sustain a brigade-size ACE, intermediate level maintenance and supply support is required. This support must be able to sustain the deployment of aircraft to two separate locations — one capable of supporting F/W aircraft and the other R/W aircraft. Each location requires an independent IMA support capability. At each location, a designated IMA (provided from existing MAGs) will act as the *host* for the aircraft that it receives. At each location, IMA support must be tailored to the particular aircraft assigned. The host IMA can provide common intermediate level support to all assigned aircraft. However, peculiar support (i.e., personnel, support equipment, MFs, and spare/repair parts) must come

from CSPs provided by the *parent* MAG that provides the aircraft.

(1) MPS ACE. An MPS ACE receives maintenance and supply support through the utilization and combination of assets: aboard MPS ships, within fly-in support packages, aboard a TAVB, and within CSPs. The aviation support equipment aboard the MPS combined with the organizational level remove and replace spares provided in the FISP, are designed to sustain ACE aircraft until intermediate level capability becomes available within the theater of operations. The number of hours a FISP for a particular aircraft is designed to support is contained in the Marine Corps Capabilities Plan (MCP). Partial intermediate level capability could arrive in theater aboard a TAVB, while the remainder is transported by other means. The CSPs to support the intermediate level repair for a particular TMS aircraft, as well as the common, will be split between the TAVB and other available means of transportation. Considerations are —

(a) An FISP can only support aircraft for 30 days. When a FISP is used without an MPS ship in support, the squadron supported will have to bring with it the support equipment that would have been provided by the MPS ships. If a FISP must support a particular TMS for a longer period/number of flight hours than those identified in the MCP, that TMS FISP must be augmented with additional assets from the parent MAGs AVCAL/COSAL. The MAGs holding FISPs and the number of aircraft they are designed to support are identified in the MCP.

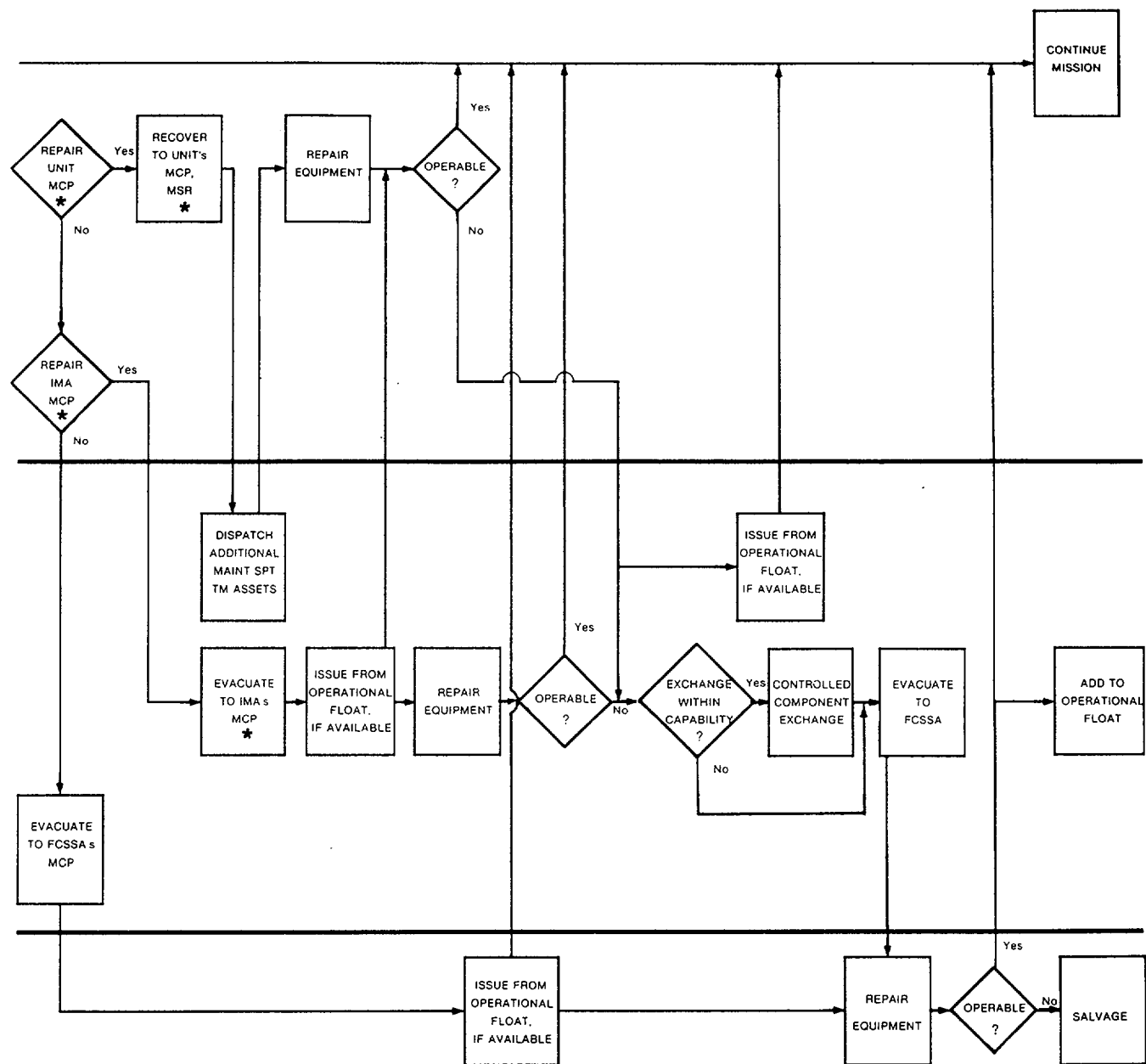
(b) MPS ships do not contain all of the support equipment required to support the organizational level maintenance for a particular TMS aircraft. Those items not aboard ship must be identified and brought by the squadron.

c. If materiel is not repairable or permanently unrecoverable, the owning unit recovers those parts and components that are salvageable. The owning unit should destroy equipment which they cannot recover or which is in danger of capture. If possible, they cannibalize materiel before destroying it.

d. Both tactical and CSS commanders must closely monitor and control recovery and evacuation operations. They must establish priorities which govern recovery and evacuation efforts, and carefully allocate personnel and equipment to these efforts. For example, combat vehicles, weapons platforms, and weapons often have a higher recovery priority than other items. The extent of damage also affects recovery priority. When the unit must recover two or more of the same item, they should first recover the item requiring the least repairs. Following is a list of suggested priorities, in descending order.

- Items immobilized by terrain.
- Items with failed or damaged component which require little repair.
- Damaged items which require significant expenditure of recovery and repair effort to return them to operation.
- Contaminated items which require significant recovery, repair, and decontamination effort.
- Salvageable items.
- Enemy materiel.

e. Combat and combat support unit commanders should position their recovery capability forward. As a rule, their recovery capability consists of the personnel and equipment in their maintenance contact teams. Commanders of intermediate maintenance activities hold their recovery assets at the FCSSA/CSSA where they can achieve a balance between economy and responsiveness.



* MCP - Maintenance Collection Point

Figure 8-6. Recovery, Evacuation, and Repair Cycle in Combat – Continued.

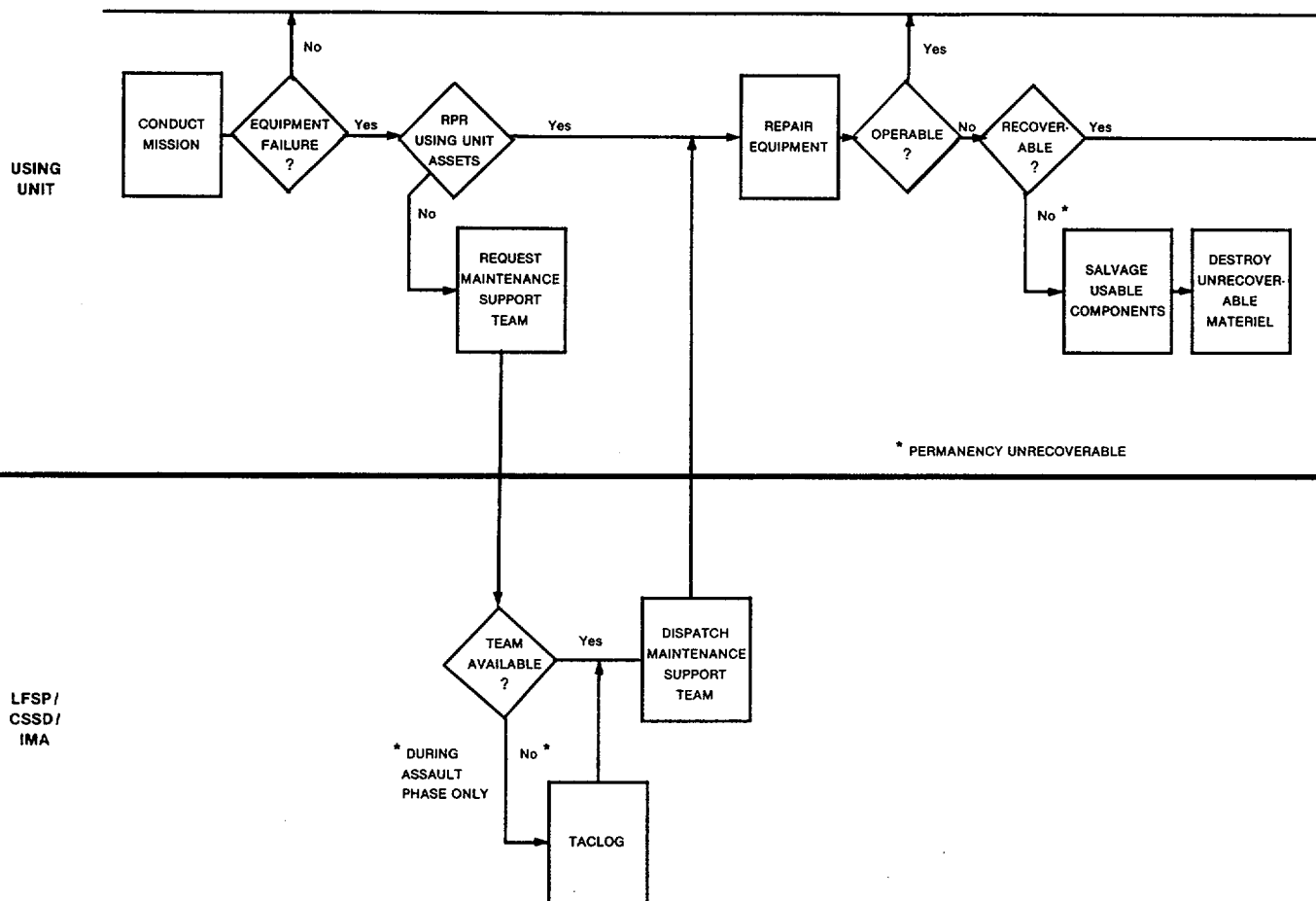


Figure 8-6. Recovery, Evacuation, and Repair Cycle in Combat.

item of equipment. This permits better use of maintenance and transportation assets. It also permits the maintenance team to draw and bring with them the needed parts. As an alternative, the CSS commander may position MSTs forward. He does so, however, only when he anticipates that the team will have enough work to justify this option. If he sends the team forward, he should also send a repair parts block. The team should remain forward only as long as the workload demands. CSSDs always have MSTs.

b. Forward Support Maintenance Detachment. The forward support maintenance detachment is the maintenance element of a CSSD. It operates the maintenance facilities and maintenance collection points in the CSSA. It evacuates inoperable equipment from the supported units' collection points. It performs intermediate maintenance within its capabilities. It provides the repairmen, tools, and test equipment for the MSTs which assist organizational maintenance elements. The forward support maintenance detachment is the furthest forward point of entry into the automated maintenance management system.

c. CSSE Maintenance Element. When a MAGTF forms, its CSSE is task-organized to support the deploying force. The MSSG is the smallest CSSE. Although it has extensive capabilities, the MSSG operates from a single CSSA. When needed, the MSSG commander uses MSTs. The maintenance capabilities of an FSSG are much greater. These commanders have the assets to form multiple CSSDs in addition to retaining a central maintenance capability. This central capability is the third element in maintenance support concept. The commander establishes this capability in the force combat service support area (FCSSA). It is here that the CSSE performs the more complex, time-consuming maintenance. The CSSE commander may also create MSTs from these assets. He uses these teams to support either organizational maintenance contact teams or to augment subordinate CSSD capabilities during surge periods. He keeps these MSTs on call in the FCSSA, rather than with either the supported unit or with subordinate CSSDs.

8205. Repair Parts Issue Point

The CSSE commander establishes issue points for all classes of supply. Ideally, he locates the repair parts issue points near his intermediate maintenance sites. At each forward issue point, the CSSD maintains a block of repair parts tailored to the anticipated needs of the supported unit. The repair parts block which CSSDs hold has limited range and depth. The MAGTF commander establishes the stockage objective for forward issue points based on the recommendation of the CSSE commander. Forward issue points stock only those parts and secondary repairables to make combat essential equipment operable. The composition of the block is a function of the type and density of equipment in the supported unit. Forward issue points routinely stock a maximum of 3 to 5 days of a limited range of items. Too large a block limits mobility; too small a block reduces responsiveness. The preponderance of the class IX stocks arrive in the AOA with the AFOE. When they arrive, the CSSE expands the primary issue point in the FCSSA. Eventually, the CSSE holds up to 60 days of repair parts.

8206. Recovery, Evacuation, and Repair Cycle

Figure 8-6 depicts the recovery, evacuation, and repair cycle during combat. Responsibilities are the same but capabilities differ during the various phases of combat operations. Capabilities increase as more of the MAGTF lands.

a. Recovery is the responsibility of the units which own the equipment. It is the owning units that retrieve immobile, inoperative, or abandoned materiel. They recover equipment to their maintenance collection point, to an MSR, or to the CSSD's intermediate maintenance site.

b. If neither the owning unit nor the CSSD can repair a recovered item, the CSSD evacuates it to the FCSSA. The CSSD may remove and use parts before evacuating an item if the MAGTF commander has authorized selective interchange. The CSSD evacuates recovered equipment direct to that agency which will repair or dispose of it.

situation requires should they abandon equipment. Assault elements are normally on unit distribution for resupply. They should place damaged equipment on resupply vehicles for return to the LFSP. Even extensively damaged items may provide parts for repair of other combat essential items of equipment. When they are unable to recover equipment, units should report the location of the LFSP for later recovery and evacuation.

b. Maintenance During Transition Periods.

When the tactical situation ashore stabilizes, the assault element commanders land their nonscheduled units. These include their unit/battalion trains with the organizational maintenance elements. When this occurs, the primary responsibility for maintenance shifts to the unit owning the equipment. As the assault units' organizational maintenance capability expands, the LFSP shifts its efforts to intermediate maintenance. Assault units position their trains near the LFSP. This permits mutual support and avoids unnecessary duplication of facilities. It also reduces the transportation burden.

c. Maintenance During Subsequent Operations. When the situation ashore stabilizes further, the LF commander lands the additional CSSE units that are in the assault echelon. Maintenance capabilities ashore gradually increase. The LF commander then disestablishes the LFSP. Only after the AFOE arrives does the CSSE commander reach his full maintenance capability. When it cannot repair an item, the maintenance unit holds it at the maintenance collection point or evacuates it to the next higher level.

8203. Organizational Maintenance Concept

All battalions and regiments have organizational maintenance capabilities. Proper employment of these elements is essential to sustain combat operations. Commanders must place as much emphasis on organizing and positioning their CSS assets as they do their combat assets.

The MCT is a key element of organizational maintenance. The MCT has organizational maintenance repairmen with tools, test equipment, and limited

repair parts. MCTs inspect, diagnose, classify, and repair equipment at forward sites. Every organization should have MCTs. MCTs may have communications, engineer, motor transport, or ordnance repair personnel. The commander determines the exact number of men and mix of skills in his MCTs. Where he positions his MCTs depends on the train option which he selects. If he is using combat trains, the MCTs are forward where they are more responsive to the tactical units they support. If he selects the unit train option, the MCTs are further to the rear. They are not as readily available to inspect, classify, or repair damaged or inoperable items.

MCTs are the key to a successful recovery, evacuation, and repair program. MCTs assist in the recovery of damaged equipment. They determine whether the item is repairable at the recovery site. If so, they fix it themselves or obtain parts and additional personnel and tools from the rear. If not repairable at or near the recovery site, they supervise evacuation of the equipment. Figure 8-5 shows the positioning of and relationships between various maintenance agencies. The GCE collection points represent the battalion and regimental trains. The diagram does not show distances. The terrain and tactical situation dictate the locations of both tactical and CSS elements. As a general rule, organizational maintenance elements are forward of the division's rear boundary.

8204. Intermediate Maintenance Concept

There are three elements in the intermediate maintenance concept. They are the MST, the forward support maintenance detachment, and the CSSE maintenance element.

a. Maintenance Support Team. The MST is to intermediate maintenance what the MCT is to organizational maintenance. The MST has intermediate maintenance repairmen with tools, test equipment, and repair parts. MSTs inspect, diagnose, classify, and repair equipment at forward sites. The CSS commander forms MSTs from his available intermediate maintenance assets. Unlike MCTs, MSTs are not routinely forward with the tactical units. They usually work on equipment in the CSSA until sent forward to repair a specific

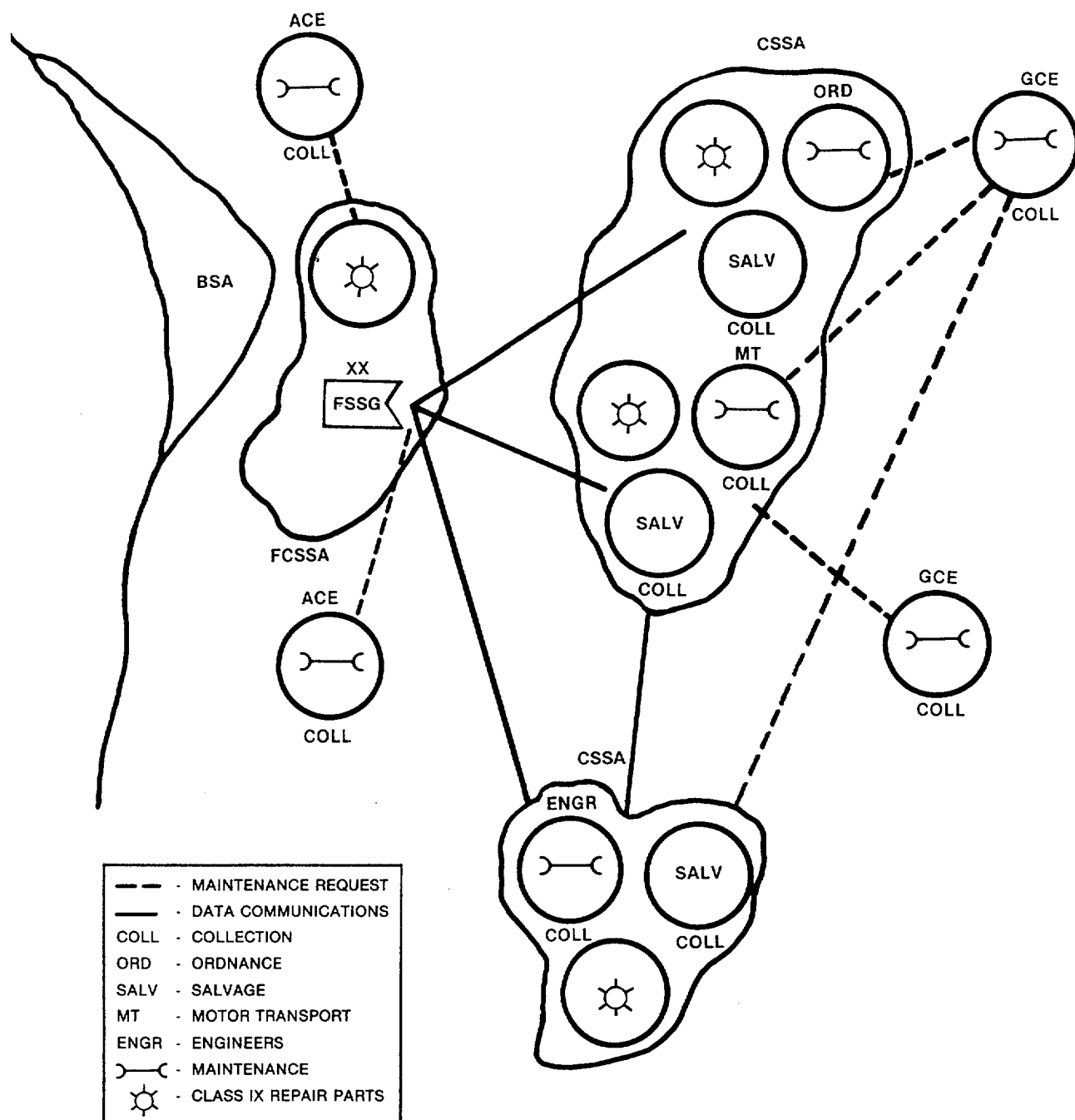


Figure 8-5. Ground Equipment Maintenance Process in Combat.

Section II. Ground Maintenance Support Operations

8201. Control and Execution Options

Figure 8-4 depicts the maintenance control and execution options available to commanders. They may centralize or decentralize control of maintenance operations. They may also centralize or decentralize execution of maintenance operations. The matrix shows the advantages and disadvantages of each possible combination.

		CONTROL	
		CENTRALIZED	DECENTRALIZED
EXECUTION		Most Flexible	Highly dependent on communications
		Least responsive	Lower responsiveness
		Most economical	
		Highest transport requirements	
		Flexible	Least flexible
		Responsive	Most responsive
		Less economical	Least economical
			Required for remote units/operations

Figure 8-4. Maintenance Control and Execution Matrix.

Combat situations normally dictate various options at various times. For example, during the amphibious assault, the LFSP has limited maintenance capabilities. The LFSP commander normally centralizes both control and execution of maintenance operations at the BSA or landing zone support area.

When the CSSE comes ashore, maintenance capabilities increase. This permits a shift to centralized control and decentralized execution of certain maintenance tasks. Some maintenance tasks are always centralized, if only because the CSSE has limited resources. To perform maintenance as far forward as possible, the commander must decentralize execution of essential tasks. As a general rule, the goal in combat should be centralized control with decentralized execution. Only when tactical circumstances or resources demand should the commander select another alternative. Similarly, the peacetime goal is centralized control with centralized execution. This is more economical, if not as responsive. In peace, economy is more important than responsiveness to conserve resources.

8202. Maintenance Process

Figure 8-5 depicts the maintenance process in combat.

a. Maintenance During the Amphibious Assault. Assault elements of the landing force are in either scheduled or on-call waves. Assault units land with few organizational maintenance personnel. The preponderance of their organizational maintenance capability is in nonscheduled waves. The only significant maintenance capability ashore is that with the LFSP. The LFSP has limited recovery, evacuation, and repair capabilities. It has a small block of critical repair parts tailored to match the quantity and type of equipment in the assault waves. The LFSP replaces components and assemblies rather than repair them. It uses selective interchange and cannibalization to offset the limited depth and breadth of the repair parts block. One of the first tasks of the LFSP maintenance detachment is to establish maintenance and salvage collection points. Equally important is an aggressive recovery and evacuation plan. Assault elements must recognize the importance of recovering damaged equipment and returning it to the appropriate collection point. Only if the tactical

Organizational maintenance focuses on operator/crew preventive measures required by technical manuals, on equipment failure, or on service schedules.

(2) Organizational maintenance also includes preventive maintenance checks and services. It includes inspection, lubrication, cleaning, preserving, tightening, minor adjustment, replacement of modules, replacement of parts, and retrograde of unserviceable items. When maintenance requirements exceed the unit's capability, the unit may request assistance.

(3) Organizational maintenance responsibilities include recovery of disabled equipment.

c. Intermediate Maintenance. In the MAGTF, the CSSE is the agency which normally performs intermediate ground maintenance for using organizations. For aviation-peculiar items, the MALS performs this function. This includes calibration, repair, replacement of damaged or unserviceable parts, components, assemblies, the emergency manufacture of unavailable parts, and providing technical assistance to using organizations.

(1) Units responsible for 3d and 4th echelon maintenance perform extensive technical inspections and repairs. The focus of this effort is timely repair as far forward as possible. Intermediate maintenance includes diagnosis, adjustment, direct exchange, light body repair, and technical assistance. It focuses on repair by replacement and maintenance of those items critical to accomplishing the mission.

(2) Maintenance support teams (MSTs) from the CSSE's IMAs augment the capabilities of

maintenance contact teams (MCTs) from the organizational maintenance activity of the supported equipment owner. IMAs can also supplement maintenance at each lower level maintenance activity. The distinction is that the CSSE provides MSTs as a function of its general support maintenance responsibility while the supported unit provides MCTs as a function of its organic maintenance responsibility.

d. Depot Maintenance. Materiel needing major overhaul or a complete rebuild of parts, assemblies, subassemblies, and end-items requires depot maintenance. This includes the manufacture of parts, modifications, testing, and reclamation. Depot maintenance for nonaviation-peculiar items serves lower categories of maintenance by providing technical assistance and doing that maintenance beyond their capability. Navy depots, commercial contractors, and other service depots provide this support for aviation-peculiar items. Depot maintenance provides stocks of serviceable equipment by using larger facilities than are available in lower activities.

(1) Generally, industrial-type activities and commercial contractors (civilian technical representatives) provide depot maintenance. For the Marine Corps, the logistics bases (Albany and Barstow) perform much of this maintenance. Other agencies perform in-theater depot maintenance on an exception basis.

(2) To support depot maintenance, the MAGTF must plan transportation for the evacuation of equipment to depot activities. Once depot retrograde equipment reaches the maintenance collection point, it is a transportation function rather than a maintenance function.

standard. Calibration is the adjustment of precision instruments which deviate from the standard.

d. Repair. The repair cycle starts when the maintenance activity removes or replaces a repairable item. It ends when the maintenance activity installs it or places it back in stock in a serviceable condition. A repairable item is one that the maintenance activity can recondition or economically repair for reuse when it becomes unserviceable. Two specific techniques included in repair are cannibalization and selective interchange.

(1) Cannibalization. The difference between cannibalization and selective interchange is that selective interchange addresses the replacement of the removed serviceable repair part/component, whereas cannibalization does not.

(2) Selective Interchange. The maintenance activity immediately reuses or requisitions the parts to repair other items of equipment. Selective interchange decreases the time to repair an item and return it to the user. Selective interchange is a lesser degree of cannibalization.

e. Modification. Modification is the maintenance action to change the design or assembly characteristics of systems, end items, components, assemblies, subassemblies, or parts. The purpose of modifications is to improve equipment functioning, maintainability, reliability, or safety characteristics. Maintenance activities routinely modify otherwise operable equipment. However, in some circumstances, the item may be in an administrative deadline status to prevent possible damage or unsafe operation.

f. Rebuild and Overhaul. Rebuild is a depot maintenance function. Depending on the item, overhaul may be either a depot or intermediate maintenance function. When rebuilding or overhauling items, the maintenance activity also performs modifications not previously made.

g. Reclamation. Reclamation restores condemned, scrapped, abandoned, or damaged

materiel, parts, and components. Reclamation action includes repair, refabrication, or renovation. The maintenance activity returns reclaimed items to the supply system. Reclamation is a depot function.

h. Recovery and Evacuation. Recovery is the process of retrieving or freeing immobile, inoperative, or abandoned materiel from its location. It includes returning it to operation or to a collection point for repair, evacuation, or disposal. Recovery is an owning unit responsibility. Evacuation moves materiel from one CSS maintenance activity to another for repair or other disposition. It includes moving equipment between the owning unit's maintenance site and that of the supporting CSSE/MALS. Evacuation is a CSS unit responsibility.

8103. Levels of Maintenance

a. Maintenance in Combat. Garrison maintenance techniques and procedures are familiar to maintenance personnel and, to a lesser extent, to equipment operators. However, peacetime procedures may not necessarily transfer to or work effectively under combat conditions. Where peacetime maintenance systems and procedures support operational requirements, the MAGTF should employ them. Where they are cumbersome, redundant, or impossible to administer, the MAGTF must use other techniques and procedures. Ideally, the peacetime systems and combat systems should be the same. Maintenance systems and procedures must support mission accomplishment during both peace and war.

b. Organizational Maintenance. The using unit performs organizational maintenance on its assigned equipment. It consists of inspecting, servicing, lubricating, adjusting, and the replacing of parts, minor assemblies, and subassemblies.

(1) Organizational maintenance includes 1st and 2d echelon maintenance responsibilities. The mission statements of certain units sometimes authorize 3d and 4th echelon maintenance.

d. Maintenance Support Concepts. Maintenance activities must operate in harsh conditions during amphibious assault operations and later operations ashore. Limited resources (time, personnel, facilities, transportation, and supplies) may require around-the-clock work schedules. Contamination of the battlefield may further complicate and delay repair of equipment. Units must minimize the time required to make combat essential items fully combat ready after damage occurs. During combat, they perform only mission essential maintenance, deferring nonessential maintenance until they are no longer engaged with the enemy. Units must recover, evacuate, and repair equipment as far forward as possible. Similarly, the lowest level maintenance activity having the proper capability should make the repairs. Repairing equipment as far forward as possible reduces transportation requirements and time while increasing equipment availability. Units should evacuate inoperable equipment only if they cannot repair it forward or if the repairs will take excessive time. Only a small percentage of damaged equipment is repairable at its initial deadline site. The MAGTF must have a well defined and universally understood recovery and evacuation process. In combat, recovery and evacuation may be the most difficult maintenance functions. However, they may also be the most important to sustain the MAGTF's combat power. To achieve the goal of repairing equipment as far forward as possible, critical repair parts must be as far forward as practical. In peacetime, the supply system is highly centralized to achieve economy. In war, centralization may be unresponsive. Combat may even require positioning of critical parts at the using unit level, a practice not authorized in peacetime. Combat may also dictate greater reliance on cannibalization and selective interchange.

a. Inspection and Classification. Inspection is the checking or testing of an item against established standards. Classification is the assignment of an item to a maintenance category based on established rules. Inspection and classification are the first and last tasks that a user and maintenance activity performs on a piece of equipment.

(1) Inspection. The inspection process determines maintenance requirements and satisfactory maintenance performance. All levels of maintenance include inspections. Inspections are most effective when the inspector is not the same person who performs the maintenance. The inspection reveals what is wrong.

(2) Classification. Classification determines who repairs the item and where they make the repairs. When a user or maintenance activity evacuates an item to a higher level, the higher level repeats the inspection and classification process. Inspection and classification are also the last tasks that the maintenance activity performs before returning equipment. This inspection confirms that they have made the appropriate repairs. The owner of the equipment makes the final inspection and classification before he places the item back in service.

b. Servicing, Adjustment, and Tuning. These are not precise tasks which have specific definitions. Servicing may include all repairs or maintenance, including adjustment and tuning. Tuning is a process of adjusting equipment to achieve precise functioning. Tuning often refers to engine adjustments. Engines, however, are not the only component needing adjustment. Regardless of precise definitions, the terms have one thing in common. They normally refer to maintenance of otherwise operable equipment. This includes equipment which the maintenance activity has just repaired.

c. Testing and Calibration. Testing and calibration are terms which apply to the maintenance of precision instruments. The instruments may be components of larger items or may be maintenance test equipment. The testing process compares the accuracy of the instrument to an established

8102. Subfunctions of Maintenance

Figure 8-3 lists the eight subfunctions of maintenance:

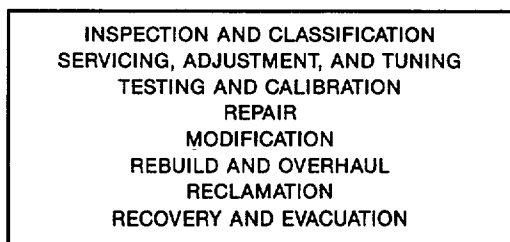


Figure 8-3. Maintenance Subfunctions.

(g) Station Operations Support Group. Air stations from which FMF units deploy establish station operations support groups to coordinate their efforts with those of the deploying units. Like major FMF commands, air stations have transportation, communications, and other assets useful to all commands during deployments.

(h) Flight Ferry Control Center. In addition to its MCC, the aircraft wing establishes a flight ferry control center to control deploying aircraft. The flight ferry control center operates under the cognizance of the MAW G-3.

d. Movement Control in the AOA/Theater

(1) Movement Control Center (MCC). The MCC is the primary agency in the AOA and theater, as it is in CONUS. As during deployments, lower level commands only activate MCCs while they are conducting movements. The MAGTF and its major subordinate commands maintain active movement control centers at all times. These may be no more than the motor transport and embarkation staff officers. In joint and combined operations, the MAGTF MCC establishes liaison and communications with the theater MCC and other commands or host nations in whose areas it is operating.

(2) Local SOPs. As with operations of MCCs during deployment, local SOPs establish the composition and procedures for MCCs. Figure 9-3 depicts relationships between various commands, their movement control agencies and supporting organizations after arrival in the AOA/theater. During amphibious operations, the MAGTF MCC is the senior movement control agency. The MAGTF commander often delegates responsibility for routine day-to-day movement control to the CSSE. During joint and combined operations, the MAGTF MCC will not be the senior movement control agency. However, the MAGTF commander often continues to delegate this responsibility to the CSSE.

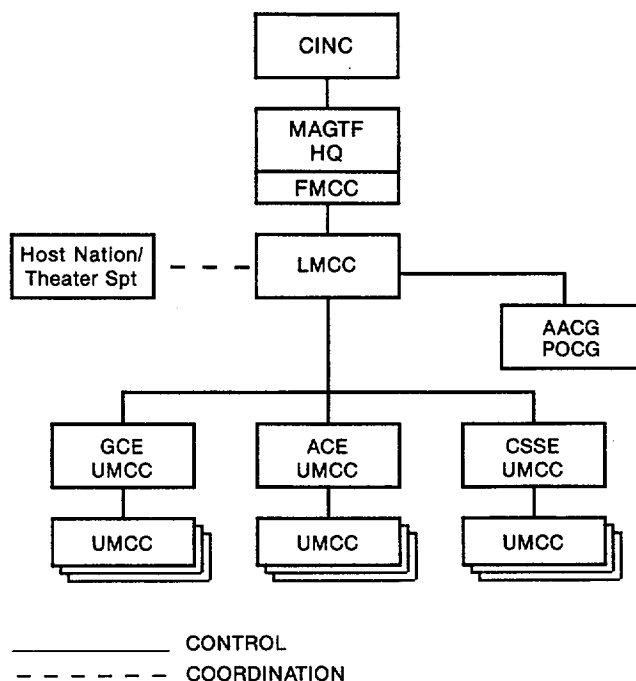


Figure 9-3. Movement Control Relationships in the AOA/Theater.

(3) MAGTF Movement Control Agencies. Movement control agencies in the AOA/theater are the same as in CONUS before deployment. Unit SOPs should be applicable during both deployment and employment. Modifications to meet specific theater requirements are in the transportation appendix to Annex D of the Operation Order.

e. Host Nation Support (HNS). The MAGTF should use HNS transportation support to the maximum extent feasible, consistent with tactical considerations, to augment its organic capabilities. An early task for MAGTF civil affairs units after arrival in the AOA/theater would be to investigate the availability of such support and to initiate the necessary support agreements.

f. Standardization Agreements. When operating in NATO or quadripartite ABCA countries,

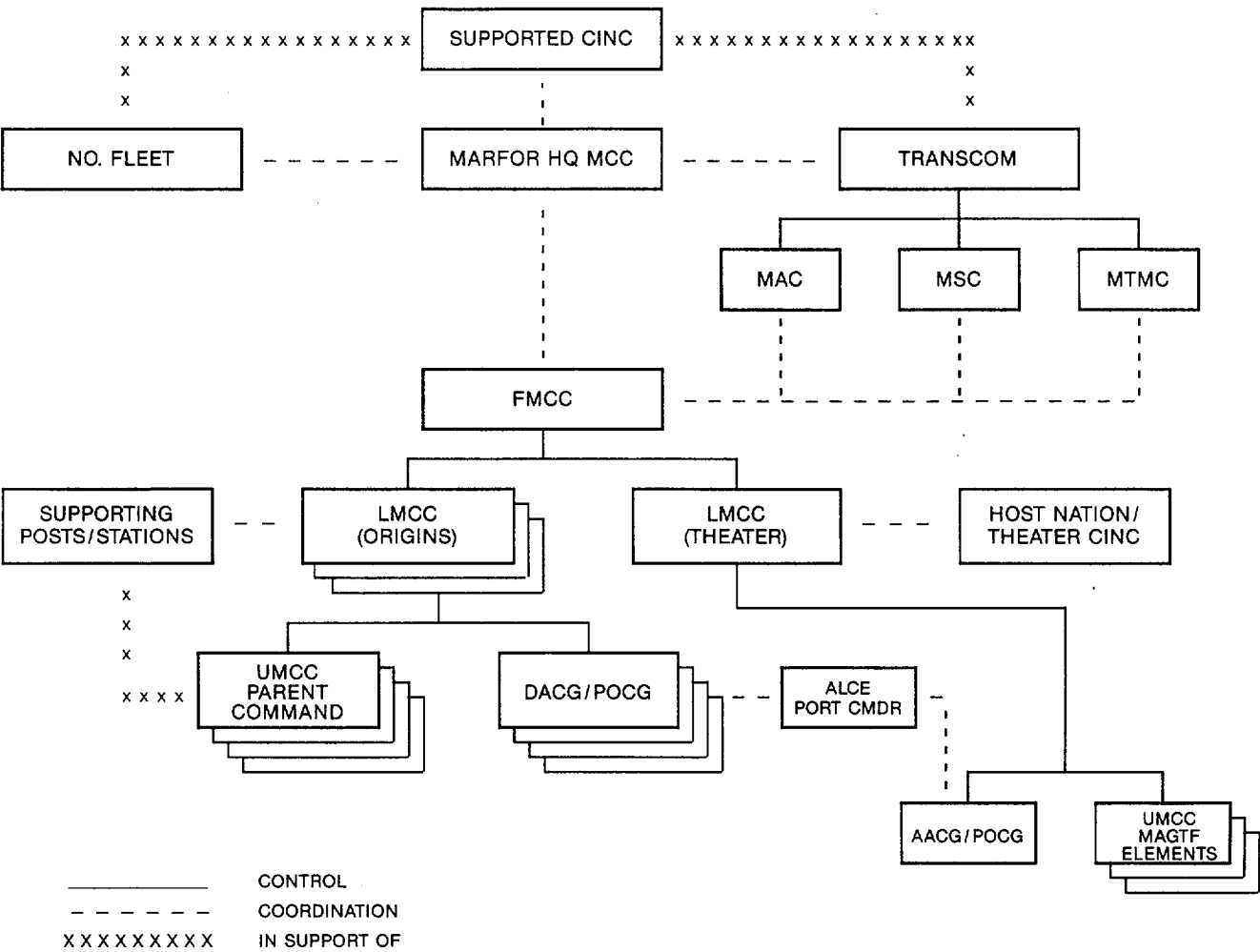


Figure 9-2. Movement Control Relationships During Deployment.

(d) MAGTF/Division/Wing/FSSG Unit Movement Control Centers (UMCCs). The division, wing, and FSSG commanders provide forces to deploying MAGTFs. Both they and the MAGTF commander control transportation and communications assets (trucks, MHE, radios) needed to execute deployments. On order, each command activates its UMCC to support deployment. The FSSG establishes two subordinate agencies. These are the departure airfield control group (DACG) and the port operations control group (POCG) at the APOEs and POEs.

(e) Organizational UMCCs. Every deploying unit down to battalion/squadron/separate company level activates a UMCC to control and manage its marshalling and movement.

(f) Base Operations Support Group. Bases from which FMF units deploy establish base operations support groups to coordinate their efforts with those of the deploying units. Like major FMF commands, bases have transportation, communications, and other assets useful to all commands during deployments.

(1) **Centralized Control.** The MAGTF commander should centralize control of movements at the highest level. Generally, he assigns this responsibility to the CSSE commander.

(2) **Regulation.** The MAGTF commander must regulate and coordinate movements to prevent congestion and conflicting movements over lines of communications.

(3) **Flexibility.** The transportation system must provide an uninterrupted flow of traffic. It must be able to adjust to changing situations. The MAGTF must use its limited transportation capabilities effectively. The commander must be able to divert or reroute traffic to maintain continuous movement of personnel, supplies, and equipment.

(4) **Maximum Use of Carrying Capacity.** This principle involves more than just loading each vehicle to its maximum carrying capacity. The MAGTF cannot store transportation capability which it does not use one day to increase capability on subsequent days. Idle, empty equipment is a waste of capacity. Similarly, fully loaded equipment sitting idle is as much a loss of capacity as partially loaded vehicles moving through the system. Allowing for adequate maintenance and personnel rest, the MAGTF commander must keep equipment loaded and moving. However, the tactical situation may not permit optimal use of transportation assets at all times. For example, the commander may hold vehicles or aircraft on standby for special missions.

b. Management Agencies. Transportation management and movement control agencies must be the same and function the same during peacetime as they do during deployments and periods of conflict. T/Os and T/Es should provide the agencies, personnel, and equipment to operate the control agencies. Sometimes, the agencies are permanent. For example, every MAGTF should have a full-time transportation agency. For smaller MAGTFs, this may be no more than one or two individuals in the CSSOC. In other cases, movement

control agencies are temporary. Battalions, squadrons, regiments and aircraft groups establish temporary movement control centers when their organizations are moving.

c. Movement Control During Deployments

(1) **Movement Control Center (MCC).** The MCC is an agency that plans, routes, schedules, and controls personnel and supply movements over lines of communication. Every organization establishes and operates an MCC for deployments.

(2) **Local SOPs.** Local SOPs establish the composition and procedures for MCCs. Figure 9-2 depicts relationships between various commands, their movement control agencies, and supporting organizations during deployment of a MAGTF. Although local variations are possible, commands should avoid creation of unique new terms and agencies.

(3) Movement Control Agencies

(a) **FMF Headquarters' MCC.** This is primarily an information processing and advisory agency to keep the FMF commander abreast of the status of subordinate unit deployments. This MCC can coordinate with the USTRANSCOM on transportation requirements, priorities, and allocations, as required.

(b) **Force MCC (FMCC).** This is the MAGTF commander's agency to control and coordinate all deployment support activities. It also is the agency which coordinates with MAC, MSC, and MTMC.

(c) **Logistics and Movement Control Center (LMCC).** CSS units or the supporting establishment organize LMCCs near deploying units. There is an LMCC at each marshalling base/station. The FMCC tasks the LMCCs to provide organic or commercial transportation, transportation scheduling, MHE, and other support during marshalling.

b. Deployment Modes. Transportation modes vary depending on the type of MAGTF, the purpose and duration of the deployment, and the anticipated employment. Deployments of larger MAGTFs require use of all transportation modes.

(1) Amphibious deployments require—

- Military or commercial trucks, buses, and rail from origins to POEs for all personnel, supplies, and equipment.
- Amphibious ships from POEs to the area of responsibility (AOR) for assault forces.
- Commercial ships from POEs to AOR for the AFOE.
- MAC or commercial charter airlift for AFOE and replacement personnel who cannot deploy by ship.
- Flight ferry of ACE aircraft which cannot deploy by amphibious ships.

(2) MPF deployments require—

- Military or commercial trucks and buses from origins to aerial POEs for all personnel, supplies, and equipment in the FIE.
- MPF ships for deployment of maritime prepositioned supplies and equipment.
- MAC or commercial charter airlift for MPF personnel, supplies, and equipment of the FIE.

(3) MEF Deployments. Usually, MEFs deploy as separate MAGTFs. On arrival in theater, they composite with the units, supplies, and equipment in the AFOE to form a single MEF MAGTF. Any mix of amphibious and prepositioned MAGTFs can combine to form a MEF. MEF deployments involve use of all transportation modes. They are the most complex deployments from a transportation perspective. The MEF elements deploy from different bases and stations which may be in widely-separated geographic areas.

(4) Forward Deployed MAGTFs. Forward deployed MAGTFs; i.e., MEUs, routinely

deploy aboard amphibious ships. Deployment support normally includes military and civilian buses, trucks, and rail from points of origin to the POEs. Transportation support planning frequently requires coordination with military detachments at foreign ports to arrange augmentation by foreign civilian transport and U.S. common user land transportation (CULT) agencies during scheduled port visits.

9006. Employment Transportation

a. Transportation Within the AOR/Theater.

Transportation available in the AOR/theater includes the organic assets of the MAGTF. It may also include transportation belonging to the theater/JTF commander or to the host nation. Specific capabilities depend on the situation. Assets may include airlift, rail, trucks, ships, boats, barges, and pipelines.

b. Movement Control in the AOR. The MAGTF commander is responsible for movement control in the AOR. He normally delegates this responsibility to subordinate commanders within whose zones of action or areas the movement takes place. Behind the GCE rear boundary, this normally is the CSSE commander.

c. Movement Control in Theater Areas. When operating as part of a unified command or JTF, the MAGTF commander follows the traffic management and movement control regulations of that command. Normally the higher commander establishes a movement control agency to provide movement management services and highway traffic regulation. This agency coordinates with allied and host nation movement control agencies. (See par. 9005 and FM 55-10, *Movement Control in a Theater of Operations*.)

9007. Movement Control

a. Movement Techniques. Movement techniques include—

inland waterways are relatively slow compared to other means of transport. They are especially vulnerable to enemy action and climactic changes.

(5) Inland Terminal Operations. Inland terminals serve air, rail, and motor transport operations. They provide cargo transfer facilities at interchange points between nets. They form connecting links between modes when terrain and operational requirements cause a change in carrier.

(6) Staging Area Operations. A staging area is **1. Amphibious or airborne**—A general locality between the mounting area and the objective of an amphibious or airborne expedition, through which the expedition or parts thereof pass after mounting, for refueling, regrouping of ships, and/or exercise, inspection, and redistribution of troops. **2. Other movements**—A general locality established for the concentration of troop units and transient personnel between movements over the lines of communications. See also **marshalling; stage.** (Joint Pub 1-02)

e. Air Delivery Operations. FMFM 4-3 contains detailed information on air delivery operations conducted by Marine Corps units. For the CSSE, air delivery offers options for supply and resupply operations which present potential economies in terms of responsiveness, assets, and security. Air delivery lends itself to supply support operations in helicopterborne and subsequent operations ashore, especially for bulk items (e.g., class I, water and rations, class III, and class V). As the initial resupply effort in support of helicopterborne operations, coordinated air delivery operations can reduce ground transportation requirements while enhancing the sustainability and combat power of the supported force. As a means of sustainment in subsequent operations ashore, air delivery can reduce both the vulnerability of resupply convoys to enemy interdiction and the number of lucrative targets presented by large supply sites. In each case, economy of effort is achieved through the compensatory reduction of security requirements associated with air delivery.

f. Freight/Passenger Transportation Operations. Department of Defense regulations in the 4500-series contain detailed procedures for management of common user transportation and traffic management. Marine Corps directives in the 4600-series specify DOD regulations.

9005. Deployment Transportation

a. Deployment Agencies. MAGTFs deploy from permanent installations for training exercises, forward deployments, and combat operations. Regardless of the type of deploying force, designated transportation operating agencies control and coordinate the marshalling, embarkation, and movement of the forces. (See par. 9001a.)

(1) External transportation agencies may include the—

- Supported CINC.
- Supporting CINC.
- Fleet commander.
- U.S. Transportation Command (USTRANSCOM) and its subordinate commands, the—
 - Military Sealift Command (MSC).
 - Air Mobility Command (AMC).
 - Military Traffic Management Command (MTMC).
 - The Defense Logistics Agency (DLA) and its remote storage activities.

(2) Marine Corps commands may include—

- Headquarters, U.S. Marine Corps.
- Fleet Marine Force(s).
- Deploying MEFs.
- Deploying MAGTF command element (if other than a MEF deployment).
- Divisions, aircraft wings, and force service support groups which are providing elements to the MAGTF.
- Bases and air stations from which the forces deploy.
- Marine Corps Logistics Bases (MCLB) (Albany and Barstow).

(a) **Open Route.** An open route has minimum control. It requires no prior approval from the commander whose area the route crosses. The only supervision along the route is traffic control by military police at critical intersections. The military police also enforce standard traffic laws.

(b) **Supervised Route.** This type of route requires that the commander whose area the route traverses exercise limited control. The military police establish traffic control posts and patrols. Any column of ten or more vehicles and any oversize or overweight vehicles require prior clearance. The commander may also limit access to the route.

(c) **Dispatch Route.** The commander whose area the route crosses exercises full control over a dispatch route. He establishes priorities for its use. Any vehicle or group of vehicles requires prior approval to use the route.

(d) **Reserve Route.** The commander sets aside this type of route for the sole use of a specific unit, specific operation, or type of traffic. If he reserves the route for a specific unit, the commander of that unit decides what control is necessary.

(e) **Prohibited Route.** No traffic of any kind may use a prohibited route.

d. Port and Terminal Operations

(1) **Ship-to-Shore Operations.** Ship-to-shore operations are generally associated with amphibious operations. (See chapter 13.)

(2) **Shore-to-Shore Operations.** Shore-to-shore operations involve water crossings in assault craft or in assault craft and aircraft. The purpose of this operation is to establish a force on or withdraw it from the far shore. It is usually a single-Service operation.

(3) **Logistics Over The Shore (LOTS) Operations.** LOTS operations may be over unimproved shorelines, through partially destroyed

ports, through shallow-draft ports, and through ports that are inadequate without LOTS capabilities. (See Joint Pub 4-03 for a detailed discussion of LOTS operations.)

(a) LOTS operations consist of loading and unloading break bulk ships, RO/RO ships, container ships, and bulk POL and water ships. LOTS operations include shoreline operations, stevedoring, and water and POL hose operations. They include operation of ships, watercraft, and lighterage in the loading and unloading areas.

(b) The unloading of amphibious and commercial ships during amphibious operations and commercial ships during MPF operations are **not** LOTS operations. They may use, however, some of the same equipment and procedures as LOTS operations. LOTS operations may involve units and equipment from the Army, Navy, and Marine Corps. LOTS operations may follow amphibious assault operations. The transition from amphibious to LOTS operations entails passing operational control of shore facilities to the Army **once the commander, amphibious task force (CATF) ends the amphibious operation.** The unified or joint task force (JTF) directs such transitions. The CATF or on-scene naval component commander normally retains assets that are at the site on termination of the amphibious operation. A unified or JTF commander may direct diversion of unloading assets from the amphibious task force. If he does so, he returns them at the earliest practical moment for use in their primary function.

(4) **Inland Waterway Operations.** An inland waterway normally operates as a complete system. It involves — singly or in combination — rivers, lakes, canals, intracoastal waterways, and two or more water terminals. Although civilians normally use them, military traffic can also use them. Inland waterways can relieve pressure on other modes of transportation. They are especially useful for moving a large volume of bulk supplies and heavy, outsize items not easily transported by other means. Although economical,

haul operations is the amount of tonnage moved during the operational period.

(b) Line (Long) Hauls. For this type of haul, the ratio of running time to loading and unloading time is large. Trucks doing line hauls make only one trip or portion of a trip per operating shift. The measures of effectiveness for evaluating line haul operations are time consumed, distance traveled, and tonnage hauled during the operational period. The transportation agency may express this in ton-miles or ton-kilometers.

(c) Zonal Hauls. Truck operations confined within the territorial boundaries of one command are intra-zonal. Trucks crossing boundaries and operating under the area control of more than one command are inter-zonal. The MAGTF commander makes policies and maintains control over inter-zonal operations.

(4) Hauling Methods

(a) Direct Haul. A direct haul completes a single transport mission in one trip. There is no transfer of supplies or exchange of equipment. The commander uses direct haul before he has established transfer or exchange points. He also uses direct haul to speed forward movements. This method is most common for local hauls. In a line haul type operation, direct hauls are hard on both drivers and equipment. They are also difficult for the parent motor transport unit to control.

(b) Shuttle. A shuttle is the same vehicles making repeated trips between two points. This method is most common for local hauls.

(c) Relay. Relay hauling is the continuous movement of supplies or troops over successive segments of a route without transferring the load. The motor transport unit does a relay by changing drivers, tractors, or both for each segment. This method is most common for line hauls. The relay system, using tractor-semitrailer combinations, is the most efficient method of line haul operation. It is the best technique when there

is a well developed road network which is not subject to interdiction. It is also the best when the unit cannot complete a one-way haul in one day. Containerization increases the effectiveness of this system and better uses the tonnage capabilities of the trucks. This system provides rapid throughput of cargo and guarantees adequate supervision and support along each segment of the route.

(5) Terminal Clearance. Clearing cargo from a beach, port, or airfield is critical to military throughput operations during peak periods of operation. It permits continuous discharge of ships or aircraft. Terminal operations units are responsible for cargo clearance. The availability and proper use of motor transport and MHE are essential. The motor transport unit plans and sets up the circulation net and regulates the flow of vehicles throughout the terminal area. Beach clearance operations are especially difficult due to the generally poor road conditions and the temporary nature of the support facilities available. Air terminal clearance is easier because roads and facilities are often better. However, vehicles may not be loaded to maximum capacity to unload the aircraft and clear the terminal rapidly.

(6) Convoy Operations. Convoys are task-organized to meet the requirements of the assigned mission. A transport element, an escort or security element, various support elements, and a command and control element may be included. FMFM 4-9 contains the techniques and procedures for conducting convoy operations. Units plan and execute their own convoy operations. The convoy commander is the direct representative of the commander initiating the operation and is responsible for the conduct, safety, security, and accomplishment of the convoy's mission. However, higher headquarters often establish control measures and regulations governing convoy operations. Commanders publish control measures and regulations in local SOPs and in their operation orders. Control measures include start points, check points, halts, and release points. Commanders can also classify routes in their area of operations as follows.

(5) **Coordinating.** Complete coordination is mandatory for integrated transportation support. Original guidance is seldom valid throughout the planning process. Constant coordination is necessary if transportation plans are to change as the commander's concepts, requirements, priorities, and allocations change.

9004. Transportation Operations

a. Embarkation Operations. Joint Pub 3-02.2, *Joint Doctrine for Amphibious Embarkation*, and FMFM 4-6, *Movement of Units in Air Force Aircraft*, contain detailed information on embarkation doctrine, techniques, and procedures.

b. Landing Support Operations. FMFM 4-3, *Landing Support Operations*, (under development) contains doctrine, techniques, and procedures for landing support operations. (See chapter 13.)

c. Motor Transport Operations. FMFM 4-9, *Motor Transport*, contains the doctrine, techniques, and procedures for motor transport operations. These operations may be either combat support or combat service support. The commander may attach motor transport units to or place them under the operational control of the units they are supporting. He may also control his motor transport resources by assigning an appropriate mission. (See chapter 3.) Successful motor transport operations require careful management. Proper planning reduces the number of vehicles sitting idle. It also reduces the number of vehicles driving around empty. The principle of economy also dictates that the number and type of vehicles match the task. Reducing turnaround time is another way to achieve economy. Factors affecting turnaround time are distance, rate of march, and the time it takes to load and unload. Motor transport units are not directly responsible for loading and unloading vehicles. The shippers and receivers—over whom the motor transport unit has no direct control—are responsible. Problems occur when consignees are slow to load or unload the trucks or when they fail to release them after unloading.

(1) **Operational Techniques.** The commander may increase the tonnage which a transport unit can move with a fixed number of trucks by—

- Loading each vehicle to its maximum allowable capacity.
- Increasing the authorized speed of the vehicles. The existing traffic and weather conditions also dictate a safe operating speed.
- Increasing the number of hours of operation for each driver and vehicle. However, the commander must provide time for the drivers to rest and for vehicle maintenance.
- Reducing turnaround time.

(2) **Motor Transport Planning.** Planners must consider—

- Specific tonnages and types of cargo, the cargo pickup and delivery points, and the availability of materials handling equipment (MHE).
- Capabilities of the motor transport units which are available. This includes the number, type, and readiness posture of the unit's vehicles. It also includes the number of drivers and mechanics.
- Capacities of the various routes they can use.
- Maximum safe operating speeds over each segment of the routes they can use.
- Specific locations of each motor transport unit, terminal, and trailer transfer point.
- Their requirements for petroleum, oils, and lubricants (POL), and military police, medical, maintenance, engineer, and communications.
- The threat.
- Terrain and weather.

(3) Types of Haul

(a) **Local (Short) Hauls.** For this type of haul, the ratio of running time to loading and unloading time is small. Trucks doing local hauls make several trips per day. The measure of effectiveness for evaluating local

- The time when the personnel, supplies, and equipment are available for movement from their points of origin.
- Time/distance factors between the points of origin, POEs, PODs, and destinations.
- Throughput capacities of support facilities.
- The capacity and security of staging bases and supply depots.
- Special requirements due to terrain, climate, and environment.

c. Planning Process. MAGTF planners are responsible for identifying transportation requirements and coordinating the use of common user airlift/sealift with the supported U.S. Transportation Command. MAGTF planners do this by ensuring force deployment requirements are registered in the Joint Operation Planning and Execution System. Force requirements must be accurately sourced to include level 4 detail for cargo and personnel in order for the MAGTF commander to validate deployment requirements up the chain to Combatant Command and U.S. Transportation Command. Regardless of the type of transportation, the planning process is basically the same. The first step is to determine what must move. Second, determine what transportation resources are available. Third, compare requirements to resources. Fourth, determine shortfalls, critical points, and recommended priorities. Last, develop the plan and coordinate it with all concerned.

(1) Determining Requirements. Each requirement for personnel, equipment, or supplies generates a corresponding requirement for transportation. Transportation planners express initial requirements in terms of tonnage or number of personnel and distance. In later stages, tonnages become classes of supply or even distinct items. Distances become routes between specific origins and destinations. The planner estimates requirements based on the supplies needed to support the MAGTF and the average distances during each phase of the operation. This estimate is a point of departure. It serves as a general check on the realism

of the requirements submitted by the user. It also states every supply or personnel action as a transportation requirement. This permits early identification and refinement of requirements. When requests for support are within the organic capability of the requestor, the planner refers the problem to the commander for resolution.

(2) Determining Resources. The transportation planner must consider the—

- Type of transportation units available.
- Characteristics and capabilities of each mode of transportation.
- Capabilities of available civilian transportation. The planner bases his estimate on a survey of facilities, inspection of equipment, and agreements negotiated with civilian transportation operators.
- Availability of indigenous labor or prisoners of war to supplement personnel resources.
- Capabilities of host nation transportation, both civilian and military.

(3) Balancing Requirements and Resources. The balancing process determines whether transportation capabilities are adequate to support the operation. It establishes the workload for each transportation mode. It is the most time-consuming portion of the transportation planning process. Planning must include more than just gross quantities of cargo and transportation resources. It must include planning for command and control and for support for the transportation units.

(4) Determining Critical Points. When he has completed the preliminary plan, the planner has enough information to analyze the transportation system. He can identify critical points where bottlenecks can delay throughput. The bottlenecks may occur due to shortfalls in either equipment or facilities. He should also identify critical time periods. Development and analysis of alternative schedules, modes, or routes can alleviate bottlenecks and increase flexibility.

g. Materials Handling Equipment. Materials handling is the movement of materials (raw materials, scrap, semi-finished, and finished) to, through, and from productive processes; in warehouses and storage; and in receiving and shipping areas. (Joint Pub 1-02) Materials handling equipment (MHE) are mechanical devices for handling of supplies with greater ease and economy. (Joint Pub 1-02) Effective use of available MHE is essential to movement control and maintaining the throughput of supplies and equipment. All subordinate elements of the MAGTF possess some amount of MHE capability. Some units hold MHE for their own dedicated use (e.g., artillery battalions). In other cases, CSS units hold MHE for use throughout the MAGTF. Those which have MHE must use their own before seeking help from other sources. Those which do not must request it in advance. There is a limited amount of MHE in a MAGTF. This dictates careful management. As with most scarce assets, a central agency can best manage MHE assets. The best alternative is centralized control of the assets and decentralized execution of the specific tasks. The controlling agency must be able to anticipate requirements and shift assets to critical points as the priority of effort shifts. As a general rule, the agency which controls use of motor transport resources should also control MHE resources. Where circumstance permit, commanders should use manual labor or other suitable alternatives. Rapid unloading and turnaround of available trucks increases hauling capabilities.

9003. Transportation Planning

a. General. Transportation planning is throughput planning. It involves the determination of throughput requirements: what, where, when, and how personnel and materiel must move to sustain the force. The transportation planning process is the same regardless of mode, distances, or locale. The operational commander provides his requirements and establishes priorities based on his concept of operations. Having determined movement requirements, the transportation planner sequences requirements in the following order:

- Start with desired arrival time at destination.
- Select mode of transportation.

- Determine ports of debarkation (PODs) and intermediate PODs (as required).
- Apply time-distance factors.
- Reconcile conflicting requirements for limited transportation assets (to include materials handling equipment) and support facilities.
- Test movement plan for feasibility.

b. Main Elements. The main elements of transportation planning are as follows:

(1) Requirements List. The requirements list identifies what personnel, supplies and equipment the planner must move. The planner integrates data from all sources, sequencing it by required delivery date and by priority within required delivery date. He further sorts it by destination, compiling a single time-phased listing.

(2) Lift Mode. The selected lift mode(s) identifies what transportation means move the personnel or cargo between point of origin and destination.

(3) Port of Embarkation (POE). For strategic movements, the planner identifies the geographic location (airport, seaport, land-line terminal) at which the movement starts. The POE and point of origin may be the same or separate locations.

(4) Port of Debarkation. For strategic movements, the planner must identify the geographic location at which each leg of a planned movement ends. The POD and destination may be the same or separate locations.

(5) Timing. Timely arrival of personnel, supplies, and equipment at the intended destination(s) is the goal of transportation planning. The key to transportation scheduling is flexibility. Timing of the beginning and ending of each leg of a movement increases flexibility. Basic limitations to timeliness include—

- Required delivery date at the destination.

other CSS and non-CSS functions. A common misconception is that the landing support function includes tasks which, in actuality, are subfunctions of the other five CSS functions.

c. Motor Transport. Motor transport is surface transportation using wheeled vehicles. It is the most versatile mode of transport. It links the aerial ports, ocean ports, supply centers, rail, and inland waterway terminals. During combat operations, it links BSAs, the FCSSA, CSSAs, and combat units. After air, motor transport is the most flexible mode. It is an all-weather mode which the MAGTF commander can use over any trafficable terrain, to include off-road. Motor transport units can move almost any type of cargo. They can provide either local, line, or zonal hauls. The commander may use organic, attached, or supporting motor transport assets to make moves. Commanders must establish priorities and allocate their assets based on the situation. Seldom does vehicle availability permit unlimited, uncontrolled movement. Management is the key to best use of limited vehicle assets. There are two ways to classify motor transport movements: by degree of control and by function.

(1) Degree of Control. Movements are casual, infiltration, or convoy. Casual (uncontrolled) movements consist of individual vehicles proceeding at will while doing routine administrative, staff, command, or support functions. An infiltration movement consists of a small group of vehicles moving to do a specific task. The group follows a specific route. It need not keep to convoy restrictions such as rate of march, checkpoints, and rigid start or stop points. A convoy is a group of vehicles organized for control and orderly movement with or without escort protection. Convoys move in accordance with specified control measures.

(2) Function. Functionally, movements fall into two general categories—administrative and tactical. The commander selects administrative movement when there is little or no likelihood of enemy contact. Administrative movements

make maximum use of available vehicles. They optimize the economical use of vehicle cargo capacities. They may include both military and civilian vehicles. The commander selects tactical movement when he must preserve unit integrity for tactical purposes. He combat loads the vehicles to maintain security and speed unloading at his destination. When making tactical movements, the timely delivery of unit personnel and cargo is of greater importance than economical use of the vehicles.

d. Port and Terminal Operations

(1) Port Operations. Ports vary in size. Large, deep-water complexes may contain several wharves, anchorage areas, shore-based cranes, dry dock facilities, cargo sheds, sorting and in-transit storage areas, and rail sidings. Small complexes are generally shallow-draft, one-or two-wharf facilities with minimum cargo handling, storage, and clearance.

(2) Terminal Operations. A terminal can be a military or commercial transportation facility.

e. Air Delivery. Air delivery is a function of throughput. It can be effected from either a fixed-wing aircraft or a helicopter; and it may be a low velocity drop (less than 30 feet/second), high velocity drop (greater than 30 feet/second), or freedrop. Used to its full potential, air delivery offers the commander a degree of versatility which can greatly enhance his tactical and sustainability capabilities. (See par. 9004e.)

f. Freight/Passenger Transportation. Freight and passenger transportation are subfunctions of traffic management. Freight/passenger transportation includes the procurement of both DOD and commercial transportation assets. It encompasses the movement of personnel, equipment, and supplies via all modes (i.e., air, bus, rail, truck, and water). It includes planning for troop movements on scheduled or chartered trains, aircraft, and buses in CONUS and overseas. It also entails port calling of passengers for overseas movement.

(22) Transportability. The capability of material to be moved by towing, self-propulsion, or carrier via any means, such as railways, highways, waterways, pipelines, oceans, and airways. (Joint Pub 1-02)

(23) Transportation Operating Agencies.

1. military—These agencies are the Military Traffic Management Command, under the Department of the Army, the Military Sealift Command, under the Department of the Navy, and the Air Mobility Command, under the Department of the Air Force. **2. civil**—Those Federal agencies having responsibilities under national emergency conditions for the operational direction of one or more forms of transportation; they are also referred to as Federal Modal Agencies or Federal Transport Agencies. (Joint Pub 1-02)

(24) Transportation Priorities. Indicators assigned to eligible traffic which establish its movement precedence. Appropriate priority systems apply to the movement of traffic by sea and air. In times of emergency, priorities may be applicable to continental United States movements by land, water, or air. (Joint Pub 1-02)

b. Throughput Concept

(1) For the purposes of this publication, the throughput system is defined as the logistic infrastructure which links: **a.** production logistics to consumer logistics; and **b.** the sources of operating forces' military capability to the sustainability of those forces. It is composed of lines of communications; the pipeline and associated distribution systems; posts, bases, and airfields; and civilian agencies, and supporting forces and service troops which operate those facilities and installations.

(2) The throughput concept involves all those pipeline-oriented functions, activities, facilities, procedures, and control methods necessary to create, maintain, and sustain the force. In relation to the functions of operational logistics

and CSS, such functions and activities are primarily transportation and supply related. However, throughput encompasses various aspects of each of the functional areas of operational logistics and CSS provided in support of the force from contracting for the initial movement from points of origin to points of departure, to in-transit support, to ship-to-shore movement, to the inland transfer of personnel, supplies, and equipment to points of use.

9002. Subfunctions of Transportation

a. Embarkation. A characteristic of successful amphibious operations is the rapid and effective manner in which assault troops establish themselves ashore. The assault force must expand its power and size to the maximum in the shortest possible time. This requires a rapid, yet orderly, buildup of personnel and materiel. The ability to do this depends, largely, on the manner in which the MAGTF has loaded its assault ships. Proper loading increases the flexibility of the amphibious task force. It is the key to a successful amphibious operation. Conversely, improper loading can threaten an operation. The concept of backwards planning impacts on the embarkation plan for the MAGTF: The scheme of maneuver ashore dictates the landing plans which dictate loading and embarkation plans.

b. Landing Support. Landing support is the assistance provided to effect the efficient and responsive throughput of personnel, supplies, and equipment during the ship-to-shore movement phase of the amphibious assault or across beaches in support of operations ashore. It includes control of the flow of men and materiel across the beach and into landing zones. Landing support does not end when the MAGTF completes the amphibious assault. It continues through landing of the AFOE. Landing support includes the evacuation of casualties and enemy prisoners of war during early stages of the assault. The landing support function does not include all of the functions which the LFSP performs. The LFSP is a task organization which performs many

(6) **Pipeline.** In logistics, the channel of support or a specific portion thereof by means of which materiel or personnel flow from sources of procurement to their point of use. (Joint Pub 1-02)

(7) **Sustainability.** The ability to maintain the necessary level and duration of operational activity to achieve military objectives. Sustainability is a function of providing for and maintaining those levels of ready forces, materiel, and consumables necessary to support military effort. (Joint Pub 1-02)

(8) **Air Delivery.** Also called airdrop. The unloading of personnel or materiel from aircraft in flight. (Joint Pub 1-02)

(9) **Embarkation (DOD).** The loading of troops with their supplies and equipment into ships and/or aircraft. (Joint Pub 1-02)

(10) **Embarkation Phase.** The period during which the forces, with their equipment and supplies, are embarked in the assigned shipping. (Joint Pub 1-02; listed under **amphibious operation**.)

(11) **Free Drop.** The dropping of equipment or supplies from an aircraft without the use of parachutes. (Joint Pub 1-02)

(12) **Logistics Over the Shore Operations.** The loading and unloading of ships without the benefit of fixed port facilities, in friendly or non-defended territory, and, in time of war, during phases of theater development in which there is no opposition by the enemy. (Joint Pub 1-02)

(13) **Movement Control.** The planning, routing, scheduling and control of personnel and freight movements over lines of communications; also an organization responsible for these functions. (Joint Pub 1-02)

(14) **Movement Control Post.** The post through which the control of movement is exercised by the commander, depending on operational requirements. (Joint Pub 1-02)

(15) **Movement Order.** An order issued by a commander covering the details for a move of his command. (Joint Pub 1-02)

(16) **Port (Operations).** A port is a place at which ships may discharge or receive their cargoes. It includes any port accessible to ships on the seacoast, navigable rivers or inland waterways. The term *ports* should not be used in conjunction with air facilities which are designated as aerial ports, airports, etc. (Joint Pub 1-02)

(17) **Ship-to-Shore Movement.** That portion of the assault phase of an amphibious operation which includes the deployment of the landing force from the assault shipping to designated landing areas. (Joint Pub 1-02)

(18) **Shore-to-Shore Movement.** The assault movement of personnel and materiel directly from a shore staging area to the objective, involving no further transfers between types of craft or ships incident to the assault movement. (Joint Pub 1-02)

(19) **Terminal Operations.** The reception, processing, and staging of passengers, the receipt, transit storage and marshalling of cargo, the loading and unloading of ships or aircraft, and the manifesting and forwarding of cargo and passengers to destination. (Joint Pub 1-02)

(20) **Traffic Management.** The direction, control, and supervision of all functions incident to the procurement and use of freight and passenger transportation services. (Joint Pub 1-02)

(21) **Throughput.** In logistics, the flow of sustainability assets in support of military operations, at all levels of war, from point of origin to point of use. It involves the movement of personnel and materiel over lines of communications using established pipelines and distribution systems. See also distribution; distribution system; lines of communications; pipeline; sustainability; throughput system. (Proposed Joint Pub 1-02)

Chapter 9

Transportation

9001. General

a. Definitions. Transportation is the movement from one location to another by means of railways, highways, waterways, pipelines, oceans, and airways. It includes movement by military and/or commercial assets. Throughput is the measurement of the transportation and distribution systems; sustainability is the product of the throughput system. (See par. 9001b.) For the MAGTF, transportation support is that support required to place sustainability assets (personnel and materiel) in the proper locations at the proper times to initiate and maintain operations. The transportation system includes not only the means but also the methods of control and management of those means. Figure 9-1 depicts the subfunctions of transportation.



Figure 9-1. Transportation Subfunctions.

(1) 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. (Joint Pub 1-02)

(2) Joint Deployment Agency (JDA). The activity that supports the Joint Chiefs of Staff and supported commanders in planning for and executing deployments. (Joint Pub 1-02)

(3) Joint Deployment Community (JDC). Those headquarters, commands, and agencies involved in the training, preparation, movement, reception, employment, support, and sustainment of military forces assigned or committed to a theater of operations or objective area. The joint deployment community usually consists of the Joint Staff, Services, certain Service major commands (including the Service wholesale logistic commands), unified and specified commands (and their Service component commands), transportation operating agencies, joint task forces (as applicable), Defense Logistics Agency, and other Defense agencies (e.g., Defense Intelligence Agency) as may be appropriate to a given scenario. (Joint Pub 1-02)

(4) Joint Deployment System (JDS). A system that consists of personnel, procedures, directives, communications systems, and electronic data processing systems to directly support time-sensitive planning and execution, and to complement peacetime deliberate planning. (Joint Pub 1-02)

(5) Lines of Communications. All the routes, land, water, and air, which connect an operating military force with a base of operations and along which supplies and military forces move. (Joint Pub 1-02)

a. Health Maintenance. Health maintenance includes those tasks to ensure the unit and its personnel are medically ready for combat operations. Included are the routine sick calls, physical examinations, preventive medicine and dentistry programs, records maintenance, and medical reporting.

b. Casualty Collection. Casualty collection involves the assembly of casualties at collection and treatment sites. It includes protection from further injury while waiting evacuation to the next level of care. Planning for casualty collection points must include site selection and manning.

c. Casualty Treatment. Casualty treatment includes triage and all levels of care from self-aid or buddy-aid through resuscitative care.

d. Temporary Hospitalization. Temporary hospitalization includes those services to provide MTFs for holding the sick, wounded, and injured for a limited time. This usually does not exceed 96 hours. Within the FME, only the medical battalion has the staff and equipment to provide temporary hospitalization.

e. Casualty Evacuation. Casualty evacuation includes the movement of the sick, wounded, or injured. It begins at the point of injury or the onset of disease. It includes movement both to and between MTFs. All units have an evacuation capability. They may use any vehicle to evacuate casualties. If they do not use a medical vehicle, they should replace it with one at the first opportunity. Similarly, aeromedical evacuation should replace surface evacuation at the first opportunity.

11003. Objective and Levels of Health Service Support

a. Objective. The objective of the health services system is to provide the care to preserve and restore the health of the MAGTF. This objective has two subordinate objectives. The first is to

return ill or injured personnel to duty as soon as possible. The second is to reduce mortality and disability. The health services system must provide the best possible care to the sick and injured in both peace and war. The best means to maintain the health of the MAGTF is promotion of good health and prevention of disease and injury. MTFs classify casualties based on their condition. The objective is to provide the greatest good for the greatest number.

b. Levels of Care. Continuity is the uninterrupted provision of health services to the sick, injured, and wounded. Once care begins, it must continue whether the patient is in an MTF or in the medical evacuation chain. Logistic and combat service support planning must provide for a coordinated system of hospitalization and casualty evacuation. The fleet medical support system provides a continuum of care shown in figure 11-2. It begins at the point of injury, wounding, or onset of disease. It extends to the level of treatment at which the system makes appropriate disposition of the patient. This phased system of care begins with mobile elements in the forward areas. It continues through the more sophisticated and capable but less mobile elements in the rear. It ends at MTFs in CONUS. This structure achieves continuity and contributes to flexibility, economy, and sustainability. The following levels of health service support have been established to ensure the continuum of care.

(1) Unit Level. The battalion aid station (BAS), group aid station, or squadron medical section provides unit level care to assigned and attached personnel. For organizations without organic medical elements, medical elements at the group or support squadron provide unit level care. They may also obtain support from medical and dental elements of a supporting CSSD. Unit level health services responsibilities normally include all subfunctions except temporary hospitalization.

(2) Force Level. The medical and dental battalions provide force level health service support. Force level support may also include

Chapter 11

Health Service

11001. General

The following definitions are cited to provide scope for, and to assist in focusing the discussion contained in this chapter.

a. Battle Casualty. Any casualty incurred in action. "In action" characterizes the casualty status as having been the direct result of hostile action, sustained in combat or relating thereto, or sustained going to or returning from a combat mission provided that the occurrence was directly related to hostile action. Included are persons killed or wounded mistakenly or accidentally by friendly fire directed at a hostile force or what is thought to be a hostile force. However, not to be considered as sustained in action and thereby not to be interpreted as battle casualties are injuries due to the elements, self-inflicted wounds, and, except in unusual cases, wounds or death inflicted by a friendly force while the individual is in absent-without-leave or dropped-from-rolls status or is voluntarily absent from a place of duty. See also **non-battle casualty; wounded.** (Joint Pub 1-02)

b. Casualty. Any person who is lost to the organization by reason of having been declared dead, wounded, injured, diseased, interned, captured, retained, missing, missing in action, beleaguered, besieged or detained. See also **battle casualty; non-battle casualty; wounded.** (Joint Pub 1-02)

c. Medical Evacuees. Personnel who are wounded, injured, or ill and must be moved to or between medical facilities. (Joint Pub 1-02)

d. Medical Intelligence. That category of intelligence resulting from collection, evaluation,

analysis, and interpretation of foreign medical, bio-scientific, and environmental information which is of interest to strategic planning and to military medical planning and operations for the conservation of the fighting strength of friendly forces and the formation of assessments of foreign medical capabilities in both military and civilian sectors. (Joint Pub 1-02)

e. Medical Treatment Facility. A facility established for the purpose of furnishing medical and/or dental care to eligible individuals. (Joint Pub 1-02) Also called MTF.

f. Non-Battle Casualty. A person who is not a battle casualty, but who is lost to his organization by reason of disease or injury, including persons dying from disease or injury, or by reason of being missing where the absence does not appear to be voluntary or due to enemy action or to being interned. See also **battle casualty; wounded.** (Joint Pub 1-02)

g. Wounded. See **seriously wounded; slightly wounded.** See also **battle casualty.** (Joint Pub 1-02)

11002. Subfunctions of Health Service

Figure 11-1 depicts the subfunctions of health services.

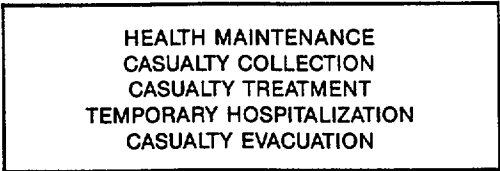


Figure 11-1. Health Service Subfunctions.

units have many low density items of equipment requiring special maintenance to keep them operational. Low density items range from mine detectors to stationary pumps and generators to mobile construction equipment. Unique ordnance items include explosive line charges, cratering charges, and shaped charges.

e. Utilities Support. Water purification, fuel distribution, and power generating equipment require significant motor transport, MHE, manpower, and fuel to begin and continue operations. Space requirements are normally large. Camouflage is difficult. Utilities installations also generate large amounts of heat and noise.

10005. Engineer Support Operations

a. Standard Missions. Engineer units use the four standard CSS missions: direct support (DS), reinforcing (Rein), general support-reinforcing (GS-R), and general support (GS). (See chapter 3 and Appendix E, Glossary.)

b. Engineer Support Relationships. The cycle of engineer support begins with the supported

(requesting) unit identifying a requirement for specific engineer support. The first source of support is its organic/attached engineering capability. If it has no organic/attached capability or if the task exceeds its capability, the unit requests assistance from its parent command. If the task exceeds the organic capability of the parent command, that command passes the request to the appropriate higher headquarters. Figure 10-3 depicts these relationships.

<u>SUPPORTED ELEMENT</u>	<u>SUPPORTING ELEMENT</u>
Requesting Unit	Organic Engineer Element
Parent Command	Organic Engineer Element
MAGTF	Organic Engineer Element
CATF	Naval Construction Forces Other U.S. Forces Host Nation Support Forces Civilian Forces
CinC	Naval Construction Forces Civilian Forces Other

Figure 10-3. Engineer Support Relationships.

support can range from relatively short-lived support of amphibious operations to extended support of a land campaign. Command relationships in amphibious operations are the joint responsibility of the CATF and commander, landing force (CLF). In supporting MAGTF/LF operations, the NCF can be a separate component of a MAGTF or an ATF. Normally, elements of the NCF are placed under the OPCON of the MAGTF/LF. If OPCON to the MAGTF, the MAGTF commander may keep it a separate element, place it under either the CSSE or the ACE, or otherwise task-organize MAGTF engineer assets for coordination of effort. NCF units are not capable of providing most combat support functions associated with GCE operations and, therefore, normally would not be placed under the GCE. The ultimate decisions on command relationships, missions, and tasks rest with the Navy and Marine commanders for the specific operation. The command relationships which they select determine who will plan their transportation and provide other support to the NCF. When OPCON to the MAGTF, the MAGTF is responsible for support of the NCF as established in appropriate doctrinal publications and/or other applicable agreements. If not OPCON to the MAGTF, the Navy commander is responsible for support of the NCF. For additional details, see NWP 22-9/OH 13-4 and OPNAVINSTs in the 5440 and 5450 series. Also see NAVFAC P-315, *Naval Construction Force Manual*, and NWP 22-5, *The Naval Beach Group*.

f. Engineer Group. Specific projects or conditions may arise that require the formation of an engineer group to support the MAGTF commander's concept of operations. Joint Pub 1-02 defines group as a *flexible administrative and tactical unit composed of either two or more battalions or two or more squadrons*. Under this concept, which specifically applies to combat support and combat service support units, the MAGTF commander may task-organize his engineer assets as an engineer group. Through a combination of administrative and command relationships, an engineer group can be task-organized from available NCF units, engineer attachments from other U.S. military forces, and/or host nation assets. All external coordination with MAGTF engineer organizations, to include task-organized

engineer groups, would be under the staff cognizance of the MAGTF engineer officer.

10004. Engineer Support Planning

The MEF engineer normally operates as a special staff officer under the staff cognizance of the MAGTF chief of staff. He assigns and integrates construction tasks and priorities for both Marine and NCF engineer components of the MAGTF. The NCF headquarters assists the MAGTF engineer in planning and coordinating construction requirements to best employ the unique capabilities of the NCF. Continuous liaison is vital during the planning, deployment, and execution phases of MAGTF operations. The following paragraphs highlight some of the areas of engineer support planning which require special consideration.

a. Heavy Equipment. Most construction equipment is heavy and slow-moving. It offers little protection for operators. Though able to negotiate rough terrain, its speed is such that it cannot keep up with the supported maneuver forces and must be transported by other assets.

b. Transportation. Engineer units do not have enough transportation assets to move themselves. When moving a large volume of equipment rapidly or over extended distances, augmentation is necessary.

c. Construction Materials. Many CSS engineering tasks require large amounts of construction materials. Time, manpower, equipment, and fuel to assemble and use these supplies are often significant. Careful planning will minimize multiple handling during movement of these items to the construction site. Movement directly from the source of supply to the job site is optimal.

d. Supply, Maintenance, and Ordnance Support. Supply, maintenance, and ordnance support for engineer operations is extensive. Engineer

a. Combat Engineer Battalion, Marine Division. The unit that provides engineer support within the Marine division is the CEBn. Support is primarily of a combat support vice combat service support nature. Refer to FMFM 13 for a detailed discussion of CEBn capabilities.

b. Marine Wing Support Group, MAW. The MWSG is one of the primary sources of aviation ground support for a MAW. While the MWSG possesses significant nonaviation-peculiar CSS capabilities, it does not possess the capabilities to provide support across the full spectrum of CSS. For nonaviation-peculiar support beyond its capabilities, it receives support from the CSSE; for aviation-peculiar support beyond its capabilities, it receives support from one or more MALS, or from other external support agencies/systems. The MWSG has a headquarters (HQ) and headquarters squadron (HQSQDN) and four MWSSs. Two are F/W support squadrons and two are R/W support squadrons. Organizations of the F/W and R/W support squadrons are similar. Both are capable of independent operations at remote sites in direct support of the ACE. This organizational structure provides standing squadrons and command elements which can transition directly from peacetime to combat operations.

(1) Headquarters and Headquarters Squadron, MWSG. HQ and HQSQDN, MWSG provide command and control for assigned units of the group and administrative support to the group headquarters. Unlike other headquarters organizations, HQ and HQSQDN, MWSG do not provide camp/base facilities for the MWSG command element.

(2) Marine Wing Support Squadron (MWSS)

(a) The MWSS provides essential aviation ground support to a deployed ACE. It may also supplement airbase facilities and services provided by a Marine Corps air station before deployment. Services provided by the MWSSs include: airfield operations support, general engineering, and motor transport, food services, medical, and

flight line security. Each MWSS is structured to provide support to either an R/W or an F/W element of an MAG ACE. If a MAG ACE is operating its F/W and R/W units at geographically separate sites, the support of two MWSSs would be required. If they are located at a single site, either two MWSSs would be employed, or one MWSS would be task-organized to support the requirements of both F/W and R/W aircraft.

(b) MWSS engineers provide engineer support to the supported MAG. The engineer operations division of the MWSS provides staff coordination of equipment, fuel, utilities, storage, and facilities maintenance support operations for the supported MAG at its location(s).

c. Marine Aviation Logistics Squadron, MAG. A MALS provides EOD support for supported squadrons. It also provides generators for the generation of tactical electrical power.

d. Engineer Support Battalion, FSSG. Engineer Support Battalion, FSSG provides general engineer support to the MAGTF. It also supports the internal engineering requirements of the FSSG. The primary mission of the engineer support battalion is to perform deliberate engineering tasks in support of the entire force. It also provides depth to the engineering effort by furnishing assistance to the CEBn and MWSG, and by assuming responsibility for engineer support to units to the rear of the GCE. It may also furnish assistance to or receive assistance from NCFs supporting the MAGTF. Refer to FMFM 13 for a detailed discussion of engineer support battalion capabilities.

e. Naval Construction Force. The NCF is a U.S. Navy engineer organization. It can construct, maintain, and/or operate shore, in-shore, and/or deep ocean facilities which support Navy and Marine Corps units. The NCF augments the MAGTF when construction requirements exceed the capabilities of MAGTF engineer units. NCF

TASKS	ORGANIZATIONS					
	CEBn	ESBn	MWSS	NCF	CIV/HNS FORCES	MALS
Beach Improvements		X		X		
Camp Const/Repair/Maint		X	X	X	X	
Construction Design		X		X	X	
Demolition	X	X	X	X		
Engineer Reconnaissance	X	X	X	X	X	
Explosive Ordnance Disposal		X				X
Field Fortifications	X	X	X	X	X	
Obstacle Removal	X	X	X	X	X	
Pioneer Roads	X	X	X	X		
Planning/Installation of Obstacles/Barriers	X	X	X	X	X	
Preengineered Structures		X	X	X	X	
Rapid Runway Repair		X	X	X		
Tactical Water/Hygiene Svc		X	X	X		
Tactical Bulk Fuel Storage		X	X			
Tactical Electrical Supply		X	X	X		
Unpaved Roads/Airstrips/ Marshalling Areas		X	X	X	X	
VTOL/Helo LZ Clearing		X	X	X	X	
War Damage Repair		X	X	X	X	

Figure 10-2. Engineering Task Matrix.

organization. The Marine Corps organizations are the CEBn, the Marine wing support squadrons (MWSSs), and the engineer support battalion. The Navy organization is the NCF which augments the MAGTF engineering capability when required. The following paragraphs summarize the missions and tasks of these organizations. This

manual does not discuss the engineer support roles of other U.S. forces, of civilian sources, or of host nation sources. See FMFM 13 for more information about engineer support sources and NWP 22-9/OH 13-4, *Naval Construction Force Support of MAGTF Operations*, about NCF capabilities and employment.

(combat, combat support, and combat service support) organic to the MAGTF lie in the level of planning and the focus of the effort involved. Refer to FMFM 13, *MAGTF Engineer Operations*, and FM 5-100, *Combat Engineer Operations*, for detailed discussions of these functions.

(3) CSS engineer support provided by the Engineer Support Battalion, FSSG, is largely general engineering. It differs from combat and combat support engineering provided by the combat engineer battalion (CEBn) of the Marine division in that general engineering is a planned and coordinated activity not directly associated with the immediate support of the GCE. Frequently, the number of tasks exceeds the capability of engineer support battalion assets to satisfy requirements. (See par. 10004.) Balancing requirements against capabilities requires constant command attention and close coordination.

10002. General Engineering Subfunctions and Tasks

a. Subfunctions of General Engineering.

Paragraph 10001 defines the broad functions of general engineering. Figure 10-1 shows the subfunctions of general engineering. Each subfunction encompasses several tasks, many of which arguably might be described as combat and combat support tasks. Especially in the engineer support area, there is a tendency to confuse functions with units. However, disassociating functions from the units which perform those functions is critical to a full appreciation of the distinctions between combat, combat support, and combat service support.

<p>ENGINEER RECONNAISSANCE HORIZONTAL AND VERTICAL CONSTRUCTION FACILITIES MAINTENANCE DEMOLITION AND OBSTACLE REMOVAL EXPLOSIVE ORDNANCE DISPOSAL</p>
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Figure 10-1. General Engineering Subfunctions.

(1) **Engineer Reconnaissance.** The gathering of specific, detailed technical information required by supporting engineer forces to prepare for and accomplish assigned missions.

(2) **Horizontal and Vertical Construction.** Deliberate engineering projects which normally involve time, manpower, material, and equipment-intensive tasks. These tasks usually relate to survivability and sustainability efforts.

(3) **Facilities Maintenance.** A facility is a real property entity consisting of one or more of the following: a building, a structure, a utility system, pavement, and underlying land. Within the limits of its capabilities, Engineer Support Battalion provides maintenance of facilities necessary to the accomplishment of the MAGTF mission.

(4) **Demolition and Obstacle Removal.** The destruction of structures, facilities, or material by use of fire, water, explosives, mechanical, or other means and the clearance of natural or manmade obstacles which hinder the ability to maneuver forces without undue restrictions.

(5) **Explosive Ordnance Disposal (EOD).** The EOD support capability of the MAGTF is located in the Explosive Ordnance Disposal/Nuclear Weapons (EOD/NW) Platoon, Headquarters and Service Company, Engineer Support Battalion, FSSG and in the EOD section of the MALS.

b. **Engineering Tasks.** Figure 10-2 shows a wide range of engineering tasks potentially assigned to engineer organizations. The tasks range from organic support provided by Marine engineer organizations to external support provided by assigned forces such as the naval construction forces (NCF) and civilian or host nation resources.

10003. Engineer Support Organizations

There may be as many as four Naval Service engineer units in the MAGTF. Three are permanent Marine Corps organizations and one is a U.S. Navy

Chapter 10

General Engineering

10001. General

a. Definitions

(1) **Countermobility.** The construction of obstacles and emplacement of minefields to delay, disrupt, and destroy the enemy by reinforcement of the terrain. The primary purpose of countermobility operations is to slow or divert the enemy, to increase time for target acquisition, and to increase weapon effectiveness.

(2) **General Engineering.** Intensive effort by engineer units which involves high standards of design and construction as well as detailed planning and preparation. General engineering support normally serves the whole MAGTF. (FMFM 4) It is that wide range of tasks in rear areas which serve to sustain forward combat operations.

(3) **Mobility.** A quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission. (Joint Pub 1-02)

(4) **Survivability.** The inherent capacity of the organization and its capabilities to prevail in the face of potential destruction. (FMFM 4)

(5) **Demolition.** The destruction of structures, facilities or material by use of fire, water, explosives, mechanical, or other means. (Joint Pub 1-02)

(6) **Explosive Ordnance.** All munitions containing explosives, nuclear fission or fusion

materials and biological and chemical agents. (Joint Pub 1-02)

(7) **Explosive Ordnance Disposal.** The detection, identification, field evaluation, rendering-safe, recovery and final disposal of unexploded explosive ordnance. It may also include the rendering safe and/or disposal of explosive ordnance which have become hazardous by damage or deterioration when the disposal of such explosive ordnance is beyond the capabilities of personnel normally assigned the responsibility for routine disposal. (Joint Pub 1-02)

(8) **Obstacle.** A natural or manmade obstruction which impedes freedom of movement by military forces.

(9) **Obstacle Removal.** The physical relocation of any structure, facility, or material such that it no longer exerts a negative influence on friendly activities.

b. Engineer Support Concepts

(1) Engineer support is nearly always situationally dependent on the size of the supported force, its mission, the scheme of maneuver, and the terrain. This requires extensive engineer intelligence derived from general collection assets, topographic units, and engineer reconnaissance.

(2) The functions of engineering are mobility, countermobility, survivability, and general engineering. The distinctions between the functions and the various types of engineer support

there are certain standardization agreements among the participating nations by which the MAGTF is obligated to abide. These agreements are called standardization agreements (STANAGs) in the NATO arena and quadripartite standardization

agreements (QSTAGs) in the ABCA arena. A list of applicable transportation or transportation-related STANAGs and QSTAGs are listed in appendix D.

items will be provided from that parent exchange. In the event a deployment/employment is extended for a long period of time or in case of extensive mobilization; exchange services will be provided through the establishment of a new Fleet Marine Force morale, welfare, and recreation (MWR) nonappropriated fund instrumentality. Funding for equipment, supplies, and resale goods will be provided from mobilization contingency funds maintained by the Commandant of the Marine Corps (Code MW). Requirements for this type support must be referred to Commandant of the Marine Corps (Code MW).

c. Concept of Organization. Support is provided in the form of a branch store with a mobile operation of the parent Marine Corps exchange. The field exchange will be provided by CSSE (only class VI supplies required to stock the exchange will be provided by the Marine Corps exchange). Resupply of class VI supplies for short-term support will be initiated by the CSSE field exchange officer. Resupply of class VI supplies will be coordinated and shipped in the same manner as other supply blocks for deploying units. Under normal circumstances, resupply should not be necessary during operations of 30 days or less. Should resupply be needed, planning factors to be considered would include troop strength, mission completion date, and the time it would take to resupply.

d. Ration Supplement Sundries Packs (RSSPs) Support. Marine Corps Order P10110.28__ defines the ration supplement sundries pack as a contingency item to provide necessary gratuitous issue of health and comfort items, for male and female personnel, of combat, combat support and combat service support employed units until such time as exchange facilities can be established in the area of operations. Because RSSPs are limited to only those items necessary to maintain the health of Marines, RSSPs are justified as class I (subsistence) supply for inclusion in supply blocks of deploying units. Contingency plans to support RSSP supply block deployment requirements must be in place and coordinated between the MAGTF commander and the MWR director. Funding for RSSP items will be accomplished by the deploying command.

e. MCO P1700.27 (Morale, Welfare, and Recreation Manual). This is the basic document for Marine Corps exchange services. The CSSE will provide all the exchange functional support for the MAGTF as follows:

- Marines from within the CSSE holding MOS 4130/4131 will make up the exchange platoon.
- The exchange platoon will bring with them all supplies and equipment necessary to support the MAGTF for a period of 30 days without resupply. The stock assortment will be reviewed by the MAGTF commander prior to deployment.
- Resupply, if necessary, will depend on availability of transport (air/sea). Resupply will be through the parent exchange or Marine Corps supply system.
- The number and exact location of tactical field exchange facilities will depend upon the tactical situation.

12006. Security Support

a. Responsibilities. Successful enemy action against command and control facilities and CSS installations can make it impossible for the MAGTF commander to accomplish his mission. That threat, however indirect, may be posed by conventional and/or unconventional forces. Consequently, combat support and combat service support installations to the rear of the GCE should be considered high-priority, lucrative targets. The MAGTF commander must provide for the security of all MAGTF units. Subordinate commanders have responsibilities for the security and survivability of their own units.

b. Security Measures. All commanders must take both passive and active measures to provide RAS and ensure the continuation of their units' missions despite the threat or the initiation of enemy action.

(1) Passive measures include—

- Dispersion and camouflage of installations.
- Hardening installations.

- Personal/U.S. Treasury check cashing.
- Currency conversion.
- Cross-service support, as required.

12004. Postal

a. Postal assets are task organized to provide postal support for the MAGTF and attachments. These assets include one mobile main post office and twelve mobile unit post offices. Each unit post office is capable of providing full postal support to a reinforced regiment. The main post office coordinates all postal functions and locations.

b. The bulk of postal support will be located throughout the MAGTF rear area. Unit post offices will provide postal support to the various CSSAs located in the FCSSA. On request from the GCE, mobile unit post offices may be located in the GCE rear area. These mobile units would provide full or partial postal services as required. The ACE is provided postal services through the use of mobile unit post offices. In the event postal services are not requested by the GCE or ACE, the delivery of mail for personnel in the GCE rear or in the ACE would be accomplished through use of resupply channels. All postal units will respond to the taskings of their respective area commanders but will receive procedural direction from the MAGTF postal officer who will be solely responsible for all postal operations.

c. During amphibious operations, postal support is divided into three phases.

(1) **Phase One.** During the assault phase, postal services generally will not be available.

(2) **Phase Two.** The second phase begins when the need to establish a postal unit is identified. In addition to processing incoming/outgoing personal and official mail, unit post offices will provide all postal services normally available in garrison. Mail delivery to units is accomplished by unit mail clerks/orderlies.

(3) **Phase Three.** The third phase begins when sufficient forces are ashore to establish a rear area. In this phase, postal assets are committed in support of the MAGTF mission and to accomplish—

- Advising the MAGTF commander on postal matters.
- Routing U.S. mail to/from the battle area.
- Selling stamps/money orders.
- Accepting letters/packages for mailing.
- Delivering/dispatching official and personal mail.
- Establishing a casualty mail section.
- Coordinating the resupply of unit postal offices operating throughout the area. Unit post offices are stocked with the supplies and equipment to support regimental-size organizations for a period of 60 days without resupply.
- Coordinating cross-service support as required.

12005. Exchange Services

a. **Establishment of a Tactical Field Exchange.** A tactical field exchange is established when no other source of class VI support is available. The establishment of a tactical field exchange will be determined by the MAGTF commander. Tactical field exchanges will be established at sites designated by the CSSE commander. Mobile exchanges may be sent to provide service to MAGTF maneuver element Marines when needed. The CSSE tactical field exchange officer is directly responsible for the establishment of tactical field exchange site locations and mobile exchange operations in accordance with guidance established by the MAGTF commander.

b. **Tactical Field Exchange Operations.** Deployed tactical field exchange activity will be operated as a branch of the parent Marine Corps exchange from which the unit is deployed. All internal supplies, resale goods, and any resupply

12002. Subfunctions of Services

For MAGTF operations, the subfunctions of Services are—

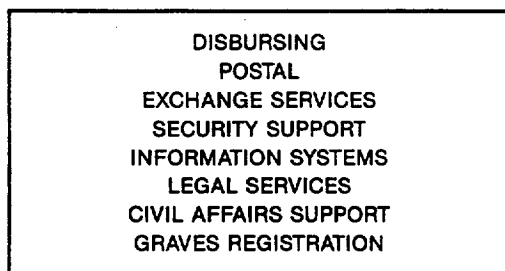


Figure 12-1. Subfunctions of Services.

12003. Disbursing

a. Deployment Capability. Disbursing assets of the CSSE can be deployed to provide full service disbursing support for all MAGTF organizations. Services for a MEF in theater are provided by the FSSG disbursing sections/platoons. This flexibility allows for the task organizing of disbursing assets to meet the needs of the MAGTF commander.

b. Location. Manpower restrictions and lack of mobility mandate that the committed MAGTF's disbursing support be located in the CSSE rear area. Geographical separation of the ACE from the GCE and its CSS units will necessitate collocating disbursing offices fully capable of providing the required disbursing services to both the ACE and the GCE. These offices will respond to the taskings of their respective commanders, but will receive procedural direction from the MAGTF disbursing officer who will be solely responsible for all disbursing operations.

c. Phases of Support. Disbursing support will meet two primary missions in theater: the payment of MAGTF obligations and pay-related support for deployed Marines and sailors. Disbursing support can be divided into three phases.

(1) Phase One. During the initial assault phase, when the force is establishing itself ashore, services required are minimal. Normally, the capability for payment of MAGTF obligations and/or individual emergency payments to Marines will be available. During this phase, mission accomplishment and survival divert attention to the battlefield. Disbursing personnel may be committed to augmenting other CSS efforts and to ensuring that, when command attention turns to financial concerns, services will be responsive and accurate. A minimum of personal finance records maintenance and accounting requirements, therefore, will be met.

(2) Phase Two. The second phase begins when the need to establish an office to provide increased service is dictated. In addition to phase 1 level support, on-call, company-level paydays will be coordinated. The contact team approach to providing payday support will be available for delivery of payday funds to MAGTF elements.

(3) Phase Three. In the third phase, with a rapidly moving offensive scenario, the MAGTF disbursing office may never fully provide complete phase II level services. This phase may be characterized by monthly on-call paydays to non-committed forces. All other disbursing tasks will be accomplished, to include—

- Guidance to the MAGTF commander on disbursing matters.
- Public voucher payment of assets purchased, services rendered.
- Civilian payroll support.
- Individual personal finance records maintenance.
- Data systems input for updating the central file, generating required reports, submitting financial returns.
- Temporary additional duty/permanent change of station travel advances and settlements.
- Cash depository for the Marine Corps exchange, postal, clubs.

Chapter 12

Services

12001. General

The following definitions are cited to provide scope for, and to assist in focusing the discussions contained in the chapter.

a. Burial. See **emergency burial**; **group burial**; **trench burial**. See also **graves registration**. (Joint Pub 1-02)

b. Died of Wounds Received in Action. A battle casualty who dies of wounds or other injuries received in action, after having reached a medical treatment facility. See also **killed in action**. (Joint Pub 1-02)

c. Emergency Burial. A burial, usually on the battlefield, when conditions do not permit either evacuation for interment in a cemetery or burial according to national or international legal regulations. See also **burial**. (Joint Pub 1-02)

d. Graves Registration. Supervision and execution of matters pertaining to the identification, removal, and burial of the dead, and collection and processing of their effects. See also **burial**. (Joint Pub 1-02)

e. Group Burial. A burial in a common grave of two or more individually unidentified remains. See also **burial**. (Joint Pub 1-02)

f. Killed in Action. A battle casualty who is killed outright or who dies as a result of wounds

or other injuries before reaching a medical treatment facility. See also **died of wounds received in action**. (Joint Pub 1-02)

g. Rear Area. For any particular command, the rear area is that area extending forward from its rear boundary to the rear of the area of responsibility of the next lower level of command. This area is provided primarily for the performance of combat service support functions. (Joint Pub 1-02)

h. Rear Area Security (RAS). RAS includes those measures taken before, during, and/or after an enemy airborne attack, sabotage, infiltration, guerrilla action, and/or initiation of psychological or propaganda warfare to minimize the effects thereof. (FMFRP 0-14)

i. Security. Security consists of the measures taken by a military unit, an activity or installation to protect itself against all acts designed to, or which may, impair its effectiveness. (Joint Pub 1-02)

j. Temporary Cemetery. A cemetery for the purpose of: **a.** The initial burial of the remains if the circumstances permit or **b.** The reburial of remains exhumed from an emergency burial. (Joint Pub 1-02)

k. Trench Burial. A method of burial resorted to when casualties are heavy whereby a trench is prepared and the individual remains are laid in it side by side, thus obviating the necessity of digging and filling in individual graves. See also **burial**. (Joint Pub 1-02)

commander orders camouflage, the order should be temporary. He should rescind it as soon as circumstances permit.

i. Defense of Self and Patients Under Care.

Protected personnel are—

(1) Authorized to carry individual weapons.

(a) The presence of crew-served weapons and other munitions in or around a medical unit may seriously jeopardize its entitlement to protected status.

(b) The deliberate arming of a medical unit with such items may constitute an act harmful to the enemy. This may cause the unit to lose its protected status.

(2) Permitted to fire only when they or their patients are under direct attack.

(3) Responsible for their own defense when operating at locations which prevent their being within the defensive perimeters of nonmedical units.

(4) Not required, under overall security defense plans, to take offensive action or to man or help man the perimeter defense of nonmedical units or areas. Additionally, Article 0845, Navy Regulations, prohibits such use of personnel.

j. Siting of Hospitals. To prevent collateral damage, hospitals and other MTFs should not be sited near military targets.

k. Medical Materiel and Stores. Units may never intentionally destroy medical material and stores. If such materiel cannot be evacuated, it must be abandoned. Belligerents must use captured medical materiel for the care of the wounded and sick.

However, such failure results in a loss of their protected status. Under Article 0845 of the Navy Regulations, members of the medical, dental, chaplain, medical service, or hospital corps and dental technicians shall be detailed or permitted to perform only such duties, in peace or in war, as are related to medical, dental, or religious units and establishments.

(3) Each individual seeking a protected status must —

- Carry a special, pocket-sized identity card (DD Form 1934). (NOTE: This card is different from the DD Form 2 [green in color for active duty personnel] which is a Geneva Convention Identification Card for members of the Armed Forces in general. The Geneva Convention category listed on the reverse of the DD Form 2 pertains to the amount of money the bearer would receive as a prisoner.)
- Wear an arm band bearing the Red Cross emblem on the left arm.
- Risk loss of the protection provided under the Geneva Convention if not properly identified.

(4) Misuse of Geneva Convention symbol of protection is prohibited.

f. Identification of Medical Units, Facilities, and Vehicles. The flag or emblem of the Geneva Convention (red cross on a white background) shall identify medical units, facilities, and vehicles. Other emblems recognized in the Geneva Conventions include the red crescent of Islamic countries and the red lion and sun formerly used by the government of Iran. In practice, the United States and many other nations respect the red shield of David (a six-pointed star) on a white background used by the forces of Israel. Unless tactical considerations dictate otherwise, the Geneva flag or emblem must be displayed on —

- All medical units and treatment facilities. These include areas such as those for dining, berthing, maintenance, and administration.

- All medical vehicles. The symbol protects any marked vehicle when being used exclusively for casualty evacuation or for transport of medical personnel and equipment. The Geneva Convention prohibits the use of medical vehicles for the transport of nonmedical personnel and equipment.

g. Medical Aircraft

(1) Medical aircraft must be exclusively employed for the removal of wounded and sick and for the transport of medical personnel and equipment. Such aircraft shall not be attacked but shall be respected by the belligerents while flying at heights, times, and on routes specifically agreed upon between the belligerent concerned.

(2) Medical aircraft must be prominently marked with a recognized Geneva Convention symbol of protection and with their national colors.

(3) Unless otherwise agreed, flights over enemy occupied territory are prohibited. Medical aircraft must obey every summons to land and, in the event of a landing, the aircraft and its occupants may continue their flight after being examined. Aircraft should be equipped with radio equipment capable of communicating with both friendly and enemy units to enable them to communicate routes and times and to understand a summons to land.

(4) In the event of an involuntary landing in enemy or enemy-occupied territory, the wounded and sick, as well as the crew of the aircraft, will be treated as prisoners of war. Medical personnel will be treated according to their status.

h. Camouflage. The Geneva emblem on personnel, medical units, facilities, and vehicles may be camouflaged where the lack of camouflage might compromise tactical operations. If the operational

(3) A CRTS or LF MTF has a degraded capability when —

(a) There is a major surgery backlog of more than six hours. The TF or LF surgeon may adjust this time period if the casualty flow requires.

(b) The bed capacity is more than 80 percent filled.

(c) There are medical personnel shortages due to casualties or excessive fatigue.

(d) There are critical shortages of medical equipment or supplies.

(e) There are critical shortages of blood or blood products.

11007. The Hague and Geneva Conventions

a. Laws. Both written and unwritten laws regulate the conduct of armed hostilities on land. The law of land warfare comes from two principal sources—custom and treaties. These include the Hague and Geneva Conventions. The violation of the rights and duties in these conventions can constitute a serious offense. For more information, see FM 27-10, *Law of Land Warfare*, and paragraphs 11006b through d.

b. Military Wounded and Sick. Military personnel wounded during military operations must receive medical care regardless of their nationality or legal status. Persons whose legal status is doubtful must be protected, treated as enemy prisoners of war (EPW) until their status becomes clear. Collection and treatment of the sick and wounded are the duty of all personnel but will be accomplished primarily by medical personnel. Security and accounting for these persons is a Services subfunction performed by military police units.

c. Enemy Prisoners of War. The law requires the collection, treatment, and evacuation of sick, injured, or wounded enemy and detained civilian

personnel through normal medical channels. They may be physically segregated from United States and allied patients, but treatment must be provided on the basis that the more seriously wounded are treated first, regardless of nationality. EPW patients must be evacuated in accordance with the MAGTF commander's guidance and as soon as their medical condition permits.

d. Civilians. Wounded or sick civilians and expectant mothers shall be given particular protection and respect. Civilians whose injuries or illness resulted from military operations shall be collected, treated, and evacuated as far as military considerations permit to the appropriate civil authorities as soon as possible.

e. Protected Personnel

(1) Captured medical and religious personnel are not EPWs but retained persons. Controls not inconsistent with their medical duties may be placed on their movements and activities. Personnel in an EPW camp shall be subject to its internal discipline. Within the framework of military laws and regulations, enemy medical and religious personnel shall be permitted to continue to perform their medical and spiritual duties. Protected personnel include personnel exclusively engaged in the following tasks and functions:

(a) The search for, collection, transport, or treatment of the wounded or the sick. This includes Marines exclusively employed as litter bearers.

(b) The prevention of disease.

(c) The administration of medical units and MTFs (including Marines assigned to the medical and dental battalions).

(d) Ecclesiastics (chaplains but not chaplains' assistants or religious program specialists).

(2) Under international law, the failure of medical or religious personnel to perform medical or spiritual duties exclusively is not an offense.

operational control has been passed ashore to the CLF. The task force medical regulating control officer maintains information on the status and capabilities of all MTFs in the AOA and, through the task force surgeon, keeps CATF apprised of the medical support situation.

(c) Primary responsibility for medical regulating is passed from CATF to the CLF when the DASC becomes operational ashore. At that point, control of the medical regulating net is assumed by the landing force medical regulating control officer. When this shift of responsibilities occurs, the task force medical regulating system (afloat) reverts to a standby status. It must be ready to resume medical regulating if the tactical situation demands. The landing force medical regulating control officer monitors the status of LF MTFs and serves as a liaison officer to the task force medical regulating officer. By being collocated with the control system for helicopters, the landing force medical regulating control officer can best monitor the movement of casualties and advise the HDC of the MTF best suited to handle inbound casualties.

(2) During the assault, medical regulating teams make maximum use of vehicles of opportunity to evacuate casualties to the CRTSs. Helicopters are the preferred mode. The task force medical regulating officer recommends the best destination for casualties to the HDC or to the PCS. The task force medical regulating officer also advises these agencies when patients must move from one MTF to another.

(3) As CSSAs ashore expand, medical capabilities improve. During the build-up ashore, LF medical regulating personnel coordinate with the task force medical regulating officer. Their objective is to prevent overloading of facilities.

c. Medical Regulating Guidelines

(1) All elements of the MRS must have accurate information on the status of MTFs in the area of operations.

(2) Aircraft and surface craft evacuating casualties must report the number of litter and ambulatory patients as soon as possible. When possible, they also report the types of casualties and their conditions.

(3) All elements of the MRS must be able to monitor control nets. However, medical regulating personnel normally do not talk with the pilots or the coxswains of craft transporting casualties.

(4) Helicopterborne casualties should go directly to a CRTS. If the HDC must send aircraft to other than a CRTS, there may be a later requirement for another mission to transfer casualties.

(5) Except for the medical battalion's control of its organic ambulances, no central system controls ground vehicles evacuating casualties.

(6) When possible, movement of patients between MTFs is by administratively scheduled means.

(7) The task force medical regulating system does not gather medical statistics or monitor the progress of any particular casualty. It is not a substitute for combat casualty reporting procedures.

d. Mass Casualties and Casualty Overload

(1) A mass casualty situation occurs when all local facilities exceed their capability to provide the designated level of care. If this happens, the MRCC will attempt to clear as many casualties as possible to facilities outside the area of operations.

(2) A casualty overload occurs when a single facility can no longer accept additional casualties. The cognizant medical regulating control officer must take positive action to restore the normal treatment capability of the affected facility.

wounds or injuries occur, the casualty applies self-aid, receives buddy-aid, or receives aid from a corpsman. Casualties move to beach or landing zone collection points established by the assault elements. Here, emergency medical treatment begins or continues. Returning landing craft or helicopters evacuate casualties.

b. The lead element of the BAS lands with the battalion command group. The BAS expands the capability at collection points. The medical officer examines, treats, and prepares casualties for evacuation. When landed, the rear element of the BAS replaces or reinforces the lead element. It may also move forward to support the units in contact. During the assault, casualties requiring care beyond the capability of the BAS move to the CRTSs.

c. As LF MTFs become operational ashore, casualties move to them. Hospital ships and other deployed medical elements, if available, further expand the capability for casualty receiving and treatment.

11006. Medical Regulating and Casualty Evacuation

a. Medical Regulating. Medical regulating is a casualty management system designed to coordinate the movement of casualties from the site of injury or the onset of disease through successive echelons of medical care to an MTF that can provide the appropriate level of care. The MRS has three principal elements, each with its own specific responsibilities.

(1) Armed Services Medical Regulating Office. The ASMRO regulates movement of patients from MTFs outside CONUS to and between facilities in CONUS.

(2) Joint Medical Regulating Office. Each unified command establishes a joint medical regulating office. The joint medical regulating office regulates patients to and between MTFs within the CINC's area of responsibility. It also provides information to the ASMRO about patients who are ready for movement to CONUS. The CINC may also establish lower level joint

medical regulating offices for subareas within his command.

(3) Task Force Medical Regulating System. Each task force commander establishes an MRS to coordinate movement of casualties to and between his MTFs. He also notifies the appropriate medical regulating element, usually the joint medical regulating office, when patients are ready for movement to theater or CONUS facilities. Consequently, medical regulating elements must have compatible communications. Plans must provide radio frequencies, communications security equipment, and radios for the medical regulating functions of both CATF and CLF.

b. Medical Regulating in Amphibious Operations

(1) The CATF initially establishes the task force medical regulating system for an amphibious operation. He provides the personnel and equipment to operate the afloat system. The CLF establishes the MRS ashore. Both commanders must include medical regulating in their operation orders. Ideally, task force medical regulating system representatives are with the air and surface movement control agencies. If not, they must have rapid and reliable communications with these agencies.

(a) The medical regulating control center is the ATF coordination center for the movement of casualties within the AOA. The medical regulating control center is normally located aboard the CATF flagship, collocated with helicopter direction center (HDC), direct air support center (DASC), or the primary control ship (PCS). It is directed and supervised by the task force medical regulating control officer. When control of medical regulating passes ashore, the landing force medical regulating control center is normally established with the DASC or the CSSOC and is directed and supervised by the landing force medical regulating system control officer.

(b) The task force medical regulating control officer supervises the task force medical regulating system. He is vested with the medical regulating responsibilities until

external agencies, such as casualty receiving and treatment ships (CRTS), during the amphibious operation. Similarly, it may include the fleet hospitals when they support Marine forces during subsequent operations ashore. The medical regulating section (MRS) coordinates movement of casualties to and between force level facilities.

(3) Theater Level. Hospital ships, communications zone fleet hospitals, Navy overseas hospitals, and other Services' MTFs provide theater level health service support. The theater or unified command MRS coordinates movement of patients to and between theater MTFs.

(4) CONUS Level. Naval medical command facilities provide CONUS level support. When required, other Service hospitals, federal hospitals, and civilian facilities activated under the National Disaster Medical System augment naval hospitals. The Armed Services Medical Regulating Office (ASMRO) coordinates movement of patients to CONUS facilities. It does so through the appropriate theater or unified command MRS.

- Filling medical personnel shortfalls in forward deployed MAGTFs and in deploying units.
- Identifying medical materiel items which units must bring in the fly-in or follow-on echelons.
- Identifying requirements for theater hospital beds, aeromedical evacuation, and blood and blood products, and passing those requirements to the appropriate commander.

c. Time Phasing. The health service support plan must support the concept of combat service support. The planner must also consider health services policies of higher commands. Effective phasing of support is critical to the sustainability of the force. When there are gaps, the planner should plan to use MTFs and units of other Services or nations in the theater.

d. Casualty Estimates. Planning for combat casualty care is planning for uncertainty. JOPS Volume III, *Medical Planning Module*, contains a model and guide for developing casualty estimates. The careful application of professional judgment to this guide will assist the planner in estimating casualties and health service support requirements for a specific operation.

e. Health Service Support Plan. The health service support plan must be easy to understand and execute. It must clearly define lines of evacuation and procedures for requesting evacuation. Treatment must begin as close to where the wound, injury, or the onset of disease occurs as the tactical situation permits. MTFs and medical personnel must be as far forward as possible. This reduces delays in initiating treatment. Those casualties who cannot return to duty move further to the rear. MTFs provide the maximum level of care consistent with their capabilities and the patient's needs.

11004. Health Service Support Planning

a. Planning Considerations. Health service support planning must provide for the accomplishment of the health services objective set forth in paragraph 11003a. Joint Pub 3-02, *Joint Doctrine for Amphibious Operations*; NWP 6, *Operational Medical and Dental Support*; and FM 8-55, *Planning for Health Service Support*, contain extensive lists of health service support planning considerations.

b. Early Tasks. The planning process described in chapter 5 and in chapter 13 applies to all aspects of health service support planning. Because the MAGTF lacks a total health services capability, planners must identify requirements which external resources must satisfy. Tasks for which planners must initiate action early in the planning process include—

11005. Health Service Support Operations

- a.** In the assault phase, corpsmen accompany their platoons during the ship-to-shore movement. As

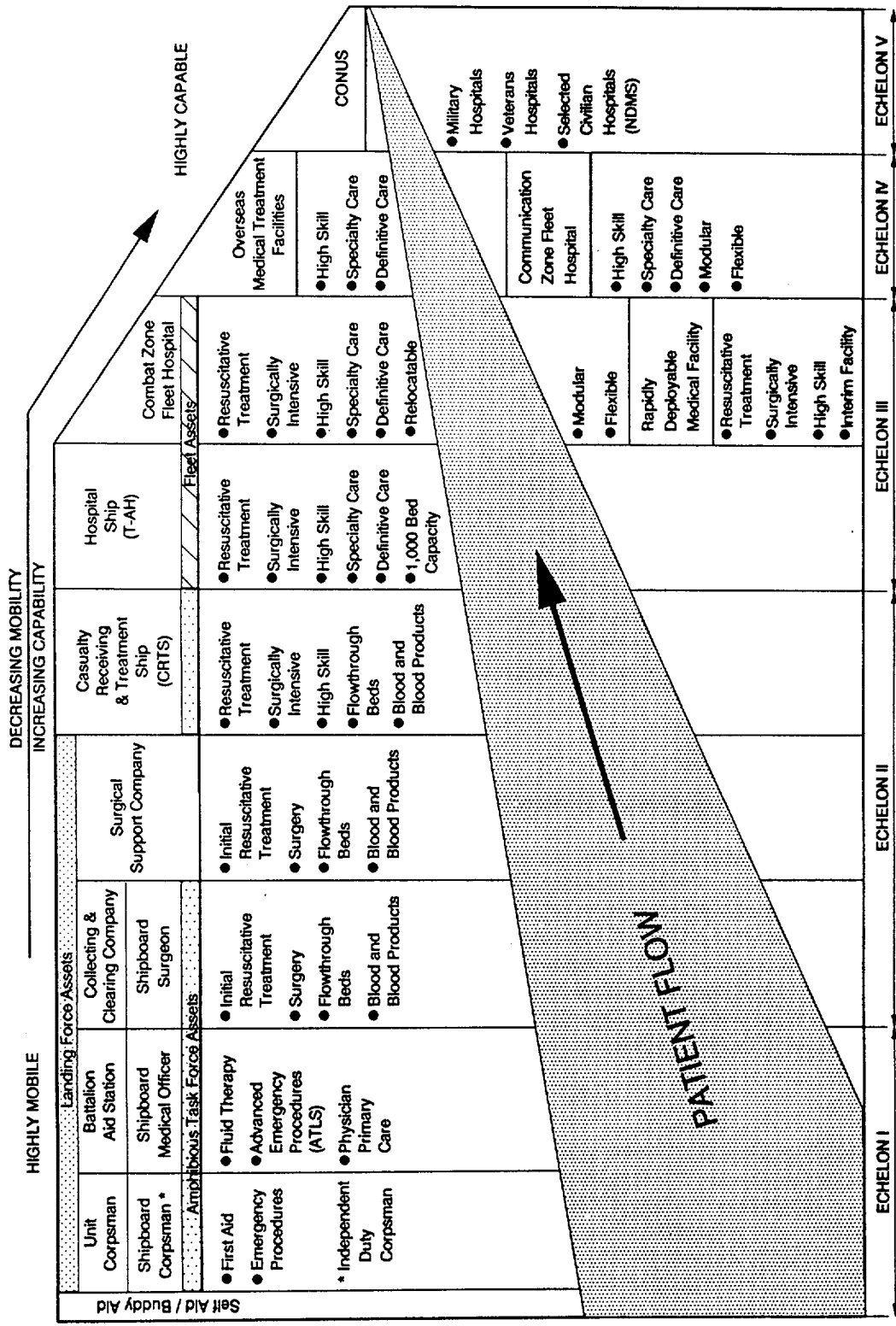


Figure 11-2. Continuum of Care.

of the amphibious task force in the objective area and the accomplishment of the amphibious task force mission. (Excerpt from Joint Pub 1-02)

(2) The assault phase is the most critical phase of the amphibious operation. Conducting the assault is the responsibility of the CATF. From the CSS viewpoint, the provision of landing support during the assault is the most critical task. Landing support is the help needed to land personnel, supplies, and equipment during the assault. It includes control of the flow of personnel and materiel across the beach and into helicopter landing zones (HLZs). The CLF provides landing support and other CSS through the task-organized LFSP.

(3) The supported tactical units are responsible for embarking and landing the landing support elements. To ensure the required coordination, the CLF attaches landing support elements to the supported tactical units for embarkation and landing purposes. LFSP elements are the primary source of CSS during the assault phase of the operation. Planners must be sure that advance elements of shore party teams and HSTs land in scheduled waves of assault units.

(4) **CSS in the Assault Phase.** To sustain the assault, CSS operations must support tactical operations. Therefore, the buildup of CSS capability ashore must parallel the tactical buildup. Landing support operations begin with the landing of LFSP advance parties. They continue until the operation ends. CSS early in the amphibious operation is limited to the provision of essential supplies and services; e.g., rations, water, ammunition, fuel, and medical support.

- Until the CSSE is established ashore, nonaviation-peculiar CSS operations focus on the LFSP and its shore party and HSTs.
- At the LF/MAGTF level, there is always an LFSP commander to coordinate the efforts of shore party and HSTs.
- Refer to Joint Pub 3-02.1, NWP 22-3/FMFM 1-8, and FMFM 4-3.

13005. Termination of the Amphibious Operation

The CATF terminates the amphibious operation when he has completed the ATF mission and satisfied all other conditions in the initiating directive. The following sequence of events takes place:

- The CLF determines that he—
 - Has firmly established the LF ashore.
 - Has secured the force beachhead.
 - Has sufficient combat, combat support, and combat service support forces ashore to sustain operations.
 - Has command, communications, and supporting arms coordination facilities ashore.
 - Is ready to assume full responsibility of operations ashore.
- The CATF and CLF agree to the above conditions.
- The CATF advises appropriate higher authority.
- Higher authority—
 - Terminates the amphibious operation.
 - Dissolves the ATF.
 - Provides instructions concerning subsequent external command relationships of the LF/MAGTF.

13006. Ship-to-Shore Movement

During the amphibious assault, the CATF is responsible for controlling the landing craft, landing ships, amphibious vehicles, and helicopters transporting the LF. Navy control officers aboard control ships supervise waterborne elements. The Navy control officer in the HDC of the helicopter transport group supervises helicopter elements. LF control agencies assist and advise the Navy control organization.

a. Types of Ship-to-Shore Movement. The types of landing vehicles available and the distances involved determine the types of ship-to-shore movements. The basic types of ship-to-shore movement are—

phase of an amphibious operation. The first rehearsal exercises ship-to-shore control agencies. The second rehearsal tests the actual plan.

(d) Considerations. Planners must consider that—

- Rehearsals should use the same equipment and supplies that the LF will use for the operation. If CSS requirements for rehearsals are extensive, planners must adjust overall requirements.
- The LF should not use equipment in rehearsals which it cannot readily replace or repair.
- The LF must plan for the possible loss of equipment and supplies during rehearsals.
- The LF must plan for maintenance of the equipment which they use in rehearsals which involve wet landings.
- A rehearsal is without value unless a comprehensive critique and adjustments to plans follow it.
- Secrecy, time, or costs may dictate that the rehearsal be a manual or computer-assisted simulation.

d. Movement Phase. The movement phase is the period during which the elements of the ATF move from the POEs to the AOA. The Navy provides much of the required underway support. However, the LF must plan for the administrative and maintenance requirements of embarked forces. Three types of activity occur during the movement phase:

- Continuation of planning.
- Care and maintenance of materiel.
- Preparation for the assault.

(1) Continuation of Planning. The LF should review plans to detect errors or flaws. Any of the following factors may cause a revision of plans:

- Results of rehearsals.
- New intelligence information.
- Losses or damage sustained while at sea.
- Changes in mission of the LF or one of its subordinate elements. CATF and CLF must be careful in directing changes to plans which will affect the scheme of maneuver and landing support plan. Once CSS units have loaded their personnel, supplies, and equipment, they have little flexibility until they land.

(2) Care and Maintenance of Materiel. Units can perform organizational maintenance on vehicles and equipment. Daily, if not more frequently, they should inspect all cargo.

(3) Preparation for the Assault. Other preparations by the LF include—

- Having correct loading documents. The Navy and LF control organizations need correct loading documents in order to conduct the ship-to-shore movement properly during the assault phase.
- Training Marines (ships' platoons) participating directly in the unloading.
- Preparing equipment for unloading, to include—
 - Readying helicopters and check slings and hooks.
 - Checking waterproofing of vehicles and equipment.
 - Checking all weapons.
 - Running vehicle engines and check loads.
 - Issuing prescribed loads to troops.
 - Staging and checking prepositioned emergency supplies.

e. Assault Phase

(1) The assault phase has two parts: the ship-to-shore movement and subsequent operations ashore. The assault phase is the period of time between the arrival of the major assault forces

13003. Landing Documents

Ship-to-shore control personnel require a detailed knowledge of the plans for landing personnel, supplies, and equipment. This permits them to respond efficiently and effectively to requests from operational commanders. They obtain their information from the landing plan. The landing plan contains detailed instructions for execution of the landing. Landing documents are in an appendix to the amphibious operations annex to the operation plan/order. These documents are known collectively as the Plan for Landing. FMFM 3-1 contains further details on Navy and LF landing documents.

13004. Phases of Amphibious Operations

a. Planning Phase

(1) The planning phase begins with the receipt of the initiating directive or the issuing of the LF/MAGTF activation order. It ends when the operation ends. Primary responsibility for overall planning rests with the CATF. However, CATF and CLF are coequals at this point. If they cannot resolve a disagreement, they refer the matter to their common superior for decision.

(2) From a CSS viewpoint, planning begins at the LF/MAGTF command element but quickly becomes concurrent at all levels of the LF/MAGTF. There must be a constant exchange of information to enable subordinate elements to identify specific CSS requirements and complete detailed planning. The LF/MAGTF concept of operations ashore is the basis for detailed CSS planning. This planning generally proceeds in the following sequence for each successive stage of the operation:

- Determination of requirements.
- Statement of requirements to higher authority.
- Allocation of resources and assignment of priorities.
- Preparation of detailed plans and orders.

b. Embarkation Phase

(1) Embarkation planning begins on receipt of the initiating directive or LF/MAGTF activation order. It continues at all levels of command through the planning phase. It ends with completion of embarkation.

(2) The embarkation phase is the period during which the forces, with their equipment and supplies, move to staging areas and embark in assigned shipping. The landing plan determines how the LF embarks. Ideally, the landing plan should be complete before preparing the embarkation plan.

(3) To help embarkation planning, the LF/MAGTF commander attaches landing support elements to supported tactical units for embarkation and landing:

c. Rehearsal Phase

(1) The rehearsal phase is the period when the CATF and CLF—

- Test the adequacy of plans, the timing of operations, and the combat readiness of participating forces.
- Make sure that all elements are familiar with plans.
- Test communications.

(2) Types of Rehearsals

(a) **Separate Force Rehearsal.** ATF elements whose tasks are not intimately associated with the main body conduct separate rehearsals. Normally, these do not involve CSS units unless the operation includes a landing by a separate force.

(b) **Staff Rehearsal.** Staffs scheduled to participate in an amphibious operation conduct command post or similar exercises. These may include computer-based simulations of the operation.

(c) **Integrated Rehearsal.** At least two integrated rehearsals are desirable for the assault

- Allocates Navy means to meet Navy-peculiar logistic requirements.
- Notifies responsible agencies of any unusual requirements for both standard and special items of Navy equipment. The CATF must identify and submit these requirements early in the planning phase. This is necessary to ensure they arrive at POEs on time.
- Prepares the overall embarkation schedule, to include plans for the assembly of shipping at POEs.
- Reviews and approves embarkation and loading points.
- Organizes assigned shipping into echelons to ensure support of the LF tactical plan is continuous.
- Provides the means to establish and maintain an adequate logistic support system in the objective area.
- Develops overall plans for evacuation and hospitalization.
- Develops plans for handling EPWs and civilian evacuees/internees. This includes establishing policy for civil affairs if not prescribed by higher command.

(2) The CLF—

- Determines the overall logistic requirements of the LF, including units, special equipment, and shipping.
- Allocates available means to meet logistic requirements of the LF.
- Determines the LF logistic requirements which agencies external to the LF must provide and submitting those requirements to the CATF.
- Develops plans for the assembly of supplies and equipment for embarkation. This includes the supplies and equipment of all assigned forces regardless of Service component.
- Prepares the LF embarkation and individual ship loading plans in coordination with the CATF.

- Develops plans for the deployment of LF aviation and other units to the objective area by air.
- Plans for the coordination of logistic support required by all elements of the LF.
- Prepares the LF concept of CSS and logistic/CSS annex to the LF operation order.

(3) Mutual CATF/CLF responsibilities are —

- Determining the separate and combined CSS requirements for the Navy and LF. The CATF then determines the ability of available naval forces to provide required support. The CATF forwards unfilled requirements to higher authority. This includes air movement support, naval construction forces, Navy cargo handling and port units, and host nation/inter-Service support.
- The CLF is responsible for the preparation of the embarkation and ship loading plans. **Each** ship's commanding officer must approve the ship loading plans for his own ship. CATF provides information for ship berthing and loading schedules. He includes this information in the embarkation plan. CATF resolves any differences between ships and troop embarkation teams regarding ship loading plans.
- The CATF allocates available amphibious task force CSS resources (such as Navy shipping, landing craft, and Navy units) to the CLF. The CLF sub-allocates these resources, as appropriate, to support the LF.
- Logistic plans which concern more than one element of the ATF because of their content and scope include—
 - Plans for assignment to shipping, embarkation, and loading.
 - Plans for supply and resupply, to include provisions for debarkation/unloading (i.e., the ship-to-shore movement).
 - Medical planning.
 - Landing force support party plans.
 - Engineer planning to support base development and garrison forces, if required.

assets necessary for conducting air operations (e.g., airfield lighting/marketing, landing aids, arresting gear, etc.). Bare base kits have been established to support all EAF/AM-2 airfields.

13002. Logistics/Combat Service Support Planning

a. CSS Requirements. An amphibious operation is characterized by the rapid build up of combat power ashore. Associated with this projection of combat power may be the requirement to land CSS units to sustain the LF. Based on establishing and maintaining an effective throughput system, CSS for amphibious operations may be required to transition from sea-based to shore-based support. Consequently, the assault elements must be self-sufficient during the early stages of the operation. Tactical and logistic plans must consider the capabilities and limitations of the ATF's CSS and naval logistic support capabilities.

b. Objectives. Logistics/CSS planning for amphibious operations must provide for the—

- Orderly marshalling and mounting of personnel, supplies, and equipment of the LF in mounting areas and embarkation areas.
- Establishment and maintenance of a responsive and adequate throughput system in the objective area to sustain the LF.
- Initiation of a logistic pipeline system to support subsequent operations and to support base development and garrison forces (if higher headquarters directs such development).

c. Publications. Joint Pub 3-02, *Joint Doctrine for Amphibious Operations*; Joint Pub 3-02.1, *Joint Doctrine for Landing Force Operations*; Joint Pub 3-02.2, *Joint Doctrine for Amphibious Embarkation*; and various other publications discuss the conduct of amphibious operations in detail.

d. Landing Force Planning. At the LF and higher levels, log/CSS planning for amphibious

operations concentrates on the broad areas of supply and transportation to equip, move, and maintain the committed forces. The LF and its subordinate elements focus their planning on the six functional areas of operational logistics and CSS. Additionally, planning must be—

- Detailed. There can be no broad arrows.
- Parallel between the LF and the ATF. One staff's problems and solutions may affect the others.
- Concurrent. All levels begin planning at about the same time. Lower echelons do not wait for a higher echelons to complete its detailed planning before beginning to plan.
- Continuous.

e. Planning With the Amphibious Task Force.

The ATF command and staff structure, which roughly parallels landing force structure, varies. The CATF organizes the ATF as he desires after consultation with the CLF. For example, CATF's decision to form an attack group depends on the number and type of assigned ships. He also bases his decision on tactical considerations, such as requirements for advanced bases. The LF CSS planner (and every other planner) must understand the ATF structure to ensure planning is parallel.

f. Planning With External Commands. Parallel planning with commands outside the ATF is often necessary. The U.S. Transportation Command (TRANSCOM) (comprising AMC, MSC, and MTMC) is one agency which often supports the ATF.

g. Responsibilities. A number of personnel share responsibilities for log/CSS planning in support of amphibious operations. Foremost among them are the CATF and the CLF.

(1) The CATF—

- Determines Navy logistic requirements, including special equipment and shipping requirements.
- Consolidates Navy logistic requirements and determining whether available means can satisfy those requirements.

(5) Repair and Replenishment Point

(a) A combat service support installation, normally in forward areas near the supported unit, established to support a mechanized or other rapidly moving force. It may be either a prearranged point or a hastily selected point to rearm, refuel, or provide repair services to the supported force. See also **forward arming and refueling point; train**. (FMFRP 0-14)

(b) A CSSD normally establishes a repair and replenishment point in support of a mechanized or other rapidly moving force. It may be either a prearranged point or a hastily selected point to rearm, refuel, or provide repair services to the supported force. Depending on the size of the supported force, the CSSD may establish multiple points. Although the main body of the CSSD normally follows in trace of the advancing mechanized force, repair and replenishment points are normally in forward areas near the supported unit. This presents some unique command and control problems because CSS assets can become scattered over a wide area. The CSSD can also select repair and replenishment points further to the rear of the mechanized force where they receive resupplies. Optimally, however, the CSS unit minimizes handling of supplies by having vehicles from the rear make deliveries directly to the users at repair and replenishment points.

(6) **Forward Arming and Refueling Point.** A temporary facility, organized, equipped, and deployed by an aviation commander, and normally located in the main battle area closer to the area of operation than the aviation unit's combat service area, to provide fuel and ammunition necessary for the employment of aviation maneuver units in combat. The forward arming and refueling point permits combat aircraft to rapidly refuel and rearm simultaneously. (Joint Pub 1-02)

(7) Airfields.

(a) **General.** The availability of existing airfields within or close by the MAGTF objective

area is a key planning consideration. ACE fixed-wing aircraft require runway surfaces which may be as long as 10,000 feet in length. Helicopter, short takeoff/vertical landing, and tilt-rotor aircraft requirements are considerably less. Fixed-wing aircraft can operate off lesser airfields by use of arresting gear and reduced fuel/ordnance loads, with subsequent refueling aloft for increased range. Additionally, lesser developed strips can be enhanced with expeditionary airfield (EAF) matting and components. If required, and time permits; a complete EAF can be installed.

(b) **Expeditionary Airfields.** An EAF is a prefabricated and fully portable airfield. The effort and assets (e.g., material, engineer support, operational guidance, security, etc.) required for the installation/operation of an EAF can require the participation/support of all elements of the MAGTF. When deployed, it provides the capability to launch and recover MAGTF helicopters and fixed-wing aircraft under all-weather conditions. Full expansion of EAF facilities into a strategic expeditionary landing field (SELF) allows the support and maintenance for a complete wing-sized ACE. The SELF has parking and taxiways to accommodate AMC and Civilian Reserve Air Fleet aircraft. Normally, responsibility for the construction of the EAF rests with the Engineer Support Battalion, FSSG or the engineers of an MWSS, unless the construction effort exceeds their capability. The Navy mobile construction battalion will provide augmentation to the FSSG/MWSS, or it can assume full responsibility for construction of the EAF, if required.

(c) **Bare Base EAF.** Bare base EAFs provide the capability for using an existing airfield or road network to establish an EAF. It is established in place of a full EAF, due to the extensive embarkation/construction requirements associated with the full EAF, and the associated AM-2 matting required. The bare base EAF concept calls for the use of available concrete/asphalt surfaced facilities. It involves embarking only those

b. Combat Service Support Installations.

Fixed installations are the source of most CSS for the LF/MAGTF. These installations are physical locations either aboard ship or ashore. Their number, location, and specific capabilities are dictated by the concept of CSS which, in turn, is based on the MAGTF mission and concept of operations. The LF/MAGTF's concept of operations must address the requirement to defend and protect these installations and facilities. The major types of CSS installations ashore include:

(1) Beach Support Area (BSA)

(a) In amphibious operations, the area to the rear of a landing force or elements thereof, established and operated by shore party units, which contains the facilities for the unloading of troops and materiel and the support of the force ashore; it includes facilities for the evacuation of wounded, prisoners of war, and captured materiel. (Joint Pub 1-02)

(b) The BSA is one of the first CSS installations established ashore during an amphibious operation. Established by the shore party group/team, the CSSE commander may eventually disestablish it, retain it, or consolidate it as part of the force combat service support area. In some situations, the BSA may be the only CSS installation ashore. In other situations, it may be one of several CSS installations.

(2) Landing Zone Support Area

(a) A forward support installation which provides minimum essential support to the helicopterborne assault forces of the MAGTF. It can expand into a combat service support area, but it is most often a short term installation with limited capabilities, normally containing dumps for rations, fuel, ammunition, and water only; maintenance is limited to contact teams and/or support teams. Also called LZSA. See also **beach support area; combat service support area; force combat service support area; forward arming and refueling point; repair and replenishment point.** (FMFRP 0-14)

(b) An LZSA is a CSS installation established to support helicopterborne assault elements. It is established by the CSSE when a build up of supplies or other CSS capabilities is anticipated. When a logistic buildup is not planned, the supported unit is responsible for the HST operations associated with support of the helicopterborne force.

(3) Combat Service Support Area

(a) A forward support installation which provides minimum essential support to the elements of the MAGTF in any one, all, or any combination of the six functional areas of combat service support. Also called **CSSA**. See also **beach support area; force combat service support area; forward arming and refueling point; landing zone support area; repair and replenishment point.**

(b) Task-organized CSSDs operate CSSAs in accordance with the CSSE operation order. CSSAs are primary targets. The LF must plan for their defense against all threats.

(4) Force Combat Service Support Area

(a) The primary combat service support installation established to support MAGTF operations ashore. Normally located near a beach, seaport, and/or an airfield, it usually contains the command post of the CSSE commander and supports other combat service support installations. Also called **FCSSA**. See also **beach support area; combat service support area; forward arming and refueling point; landing zone support area; repair and replenishment point.** (FMFRP 0-14)

(b) The CSSE establishes an FCSSA near a beach, seaport, and/or an airfield to support other CSS installations and to provide support not available at forward installations. Normally, the FCSSA contains the command post of the CSSE commander.

Chapter 13

Amphibious Operations

13001. General

The following definitions and combat service support installations are cited to provide scope for, and to assist in focusing the discussions contained in this chapter.

a. Definitions

(1) Amphibious Operation. An attack launched from the sea by naval and landing forces, embarked in ships or craft involving a landing on a hostile or potentially hostile shore. As an entity, the amphibious operation includes the following phases:

(a) Planning. The period extending from issuance of the initiating directive to embarkation.

(b) Embarkation. The period during which the forces, with their equipment and supplies, are embarked in the assigned shipping.

(c) Rehearsal. The period during which the prospective operation is rehearsed for the purpose of: (1) testing adequacy of plans, the timing of detailed operations, and the combat readiness of participating forces; (2) ensuring that all echelons are familiar with plans; and (3) testing communications.

(d) Movement. The period during which various components of the amphibious task force move from points of embarkation to the objective area.

(e) Assault. The period between the arrival of the major assault forces of the amphibious task force in the objective area and the accomplishment of the amphibious task force mission. (Joint Pub 1-02)

(2) Amphibious Assault. The principal type of amphibious operation that involves establishing a force on a hostile or potentially hostile shore. (Joint Pub 1-02)

(3) Amphibious Demonstration. A type of amphibious operation conducted for the purpose of deceiving the enemy by a show of force with the expectation of deluding the enemy into a course of action unfavorable to him. (Joint Pub 1-02)

(4) Amphibious Raid. A type of amphibious operation involving swift incursion into or temporary occupation of an objective followed by a planned withdrawal. See also **amphibious operation**. (Joint Pub 1-02)

(5) Amphibious Reconnaissance. An amphibious landing conducted by minor elements, normally involving stealth rather than force of arms, for the purpose of securing information, and usually followed by a planned withdrawal. (Joint Pub 1-02)

(6) Amphibious Withdrawal. A type of amphibious operation involving the extraction of forces by sea in naval ships or craft from a hostile or potentially hostile shore. See also **amphibious operation**. (Joint Pub 1-02)

They assist in planning and conducting MAGTF civil affairs operations to implement MAGTF civil affairs missions/goals within the MAGTF area of responsibility. For MAGTF operations, civil affairs responsibilities are normally confined to periods of limited duration between the arrival of the first tactical units and the termination of operations or the transfer of responsibility to U.S. Army civil affairs units. MAGTF civil affairs activities are normally limited to those minimum essential civil-military functions necessary for the accomplishment of the primary mission. Refer to Joint Pub 3-57, *Doctrine for Joint Civil Affairs*, for detailed guidance on civil affairs.

b. Civil affairs support is that support provided by all individuals and elements of the MAGTF to achieve the established civil affairs goals of the command. As a sub-function of Services, civil affairs support includes the provision of support in any of the six functional areas of CSS. Civil affairs support tasks are largely logistical in nature and generally involve population and resource control and assistance in support of MAGTF operations; however, the capability to perform those tasks is not peculiar to the CSSE. As in other areas of combat service support, supported units possess civil affairs support capabilities and the CSSE provides that support beyond the organic capabilities of the supported units. Marine Corps civil affairs assets are MAGTF assets. Current Marine Corps civil affairs units reside in the reserve establishment.

c. In the FMF, designated personnel from the legal services support section provide a limited civil affairs capability to the MAGTF commander when civil affairs assets resident in the reserve establishment are not available.

(1) When tasked, legal services support section personnel will augment reserve civil affairs units, or in the absence of reserve units, form the MAGTF civil affairs unit within the MAGTF command element. When so tasked

and employed, legal services support section personnel will normally be assigned to the MAGTF command element.

(2) The civil affairs function is one which will be conducted in all phases of the operation and in every geographic zone of the operation.

12010. Graves Registration

a. Graves registration and mortuary services are necessary functions in support of military operations. Mortuary services require specialized capabilities beyond those of the CSSE and the MAGTF. These services are provided by the U.S. Army for the Department of Defense.

b. Within the Marine Corps and for MAGTF operations, graves registration operations are separate from health services operations. Graves registration operations consist of search, recovery, and identification of deceased personnel and the final disposition of their personal property. Responsibility for the full and proper execution of graves registration operations is a leadership responsibility from the smallest unit to the largest. Individual actions in the recovery and accountability of fallen Marines and sailors are the basis of the Marine Corps graves registration effort.

c. Inherently, every small unit leader and commander bears responsibility for providing graves registration services. Graves registration procedures begin at the point where the Marine or sailor died. Formal chains of evacuation and accountability begin at the unit level. Each battalion should establish casualty collection teams and collection points, normally collocated with aid stations, to ensure this function is addressed. OH 4-24, *Graves Registration Operations* (interim publication to FMFM 4-8 [currently under development]), provides detailed information on this function.

system. Intra-theater electronic data communications is essential for high volume CSS and manpower management users. Users within the FCSSA routinely rely on voice quality telephone circuits to transfer data to and from the information systems support facility. Users not in the immediate vicinity of the FCSSA must use nonelectronic methods; e.g., courier diskette. Where electronic means are the primary method, nonelectronic backup methods must be available.

h. Information Systems Support Planning.

Planning for information systems support must include the identification of requirements, establishment of priorities, and allocation of resources. The ISMO must identify the information systems requirements for each major functional system. He then identifies processing priorities and allocates information system resources. The MAGTF operation order must document the requirements, priorities, and allocations. It must show the data flow within the MAGTF and between the MAGTF and the regional automated services center/naval regional data automation center designated as the garrison data entry point. It must depict information systems equipment distribution and maintenance procedures. Ideally, the operation order references the MAGTF information systems SOP, giving only that supplemental information needed for the specific operation.

12008. Legal Services

a. The legal services support section, H&S battalion, FSSG is the command entity which provides legal services support for internal CSSE requirements and externally for the requirements of the other MAGTF elements. In support of a MAGTF, external legal services support tasks are normally performed by the CSSE through one or more legal services support teams. Refer to FMFRP 4-10, *Legal Services Support*, for detailed guidance on legal services.

b. Most legal services work in support of MEB/MEU operations involve command advice,

injury/death/claims/supply investigations, legal review of operations plans, law of war training, legal assistance, nonjudicial punishment, and summary and special courts-martial work.

c. MEF operations may involve the deployment of all available legal services personnel. Each major subordinate command has an organic staff judge advocate (SJA) section to ensure coordination of legal services support for the command and its subordinate organizations.

d. Legal services support section and legal services support teams are employed at appropriate times and places in support of major MAGTF personnel concentrations in the area of operations. Legal services support teams may vary in number, size, and composition depending upon the mission, size, and composition of the MAGTF; expected duration of the operation; and the scheme of maneuver and topography involved in the operations.

e. With regard to legal services support in the FCSSA, depending upon circumstances and the planned scheme of maneuver, one or more legal services support teams might be located within the CSSAs to accomplish command advice, military justice, law of war, investigative, and claims processing functions.

f. As operations progress, the legal services support section would be employed at the CSSE headquarters. Full legal services would be available to MAGTF commands.

12009. Civil Affairs Support

a. Civil affairs is a command responsibility involving those activities between MAGTF elements and both the civil authorities and local civilians in the area of operations. Civil affairs units, when assigned/task organized, normally are assigned to the MAGTF command element and function under the staff cognizance of the MAGTF G-3/S-3.

from mainframe data bases/systems on a monthly basis. The MDL is the origin of all standard source data elements used by the MAGTF/LOGAIS family of systems, and contains critical elements such as tables of organization/equipment, ammunition consumption factors, and aviation data.

Within the MDL, the data management & standardization (DM&S) program enforces data accuracy, currency, definition, and naming standards by establishing a common model of MAGTF II/LOGAIS data resources in compliance with DOD 5000.11 and Joint Pub 6. DM&S serves as the foundation for the integration of the MAGTF II/LOGAIS family of systems.

(3) JOPES Integration. MAGTF II/LOGAIS is designed to provide all of the information necessary for seamless JOPES integration. MAGTF II/LOGAIS provides timely and accurate force data to the CINC of the theater involved, accurately identifies lift requirements to move a MAGTF, and updates the Joint Chiefs of Staff on real time force postures via JOPES. MAGTF II/LOGAIS supports the command element, GCE, ACE, and CSSE of the MAGTF.

d. MEF Information Systems Support Operations. The size and scope of MEF operations require that these MAGTFs have information systems in the AOR as early as possible. This is particularly true for those systems which support the CSSE. The CSSE deploys with an information systems support team. The team manages equipment maintenance, provides technical support, and provides a local programming capability. This team consists of a team leader, personnel, and equipment task-organized from the FSSG. The team leader may simultaneously serve as the MAGTF ISMO. While deployed, the ISMO works directly with the functional managers for each standard FMF information system. He coordinates the preparation and transmission of data from the MAGTF to the regional automated services center assigned as the garrison data entry point. The

FSSG also has a deployable information systems support facility to support manpower, supply, maintenance, embarkation, disbursing, and aviation systems as well as local processing requests. The CSSE information systems support facility arrives in the AOR as part of the AFOE and is normally positioned in the FCSSA. This facility aggregates, processes, and forwards the MAGTF's data to the garrison data entry point using AUTODIN, couriers, or mail. Data transmitted to the MEF from the garrison data entry point goes to the CSSE information systems support facility for processing and for distribution within the MAGTF. The officer-in-charge of the information systems support facility is a special staff officer responsible to the CSSE commander for information systems. He may also serve as the CSSE ISMO.

e. MEU Information Systems Support Operations. The MSSG deploys with a paper tape punch and magnetic tape unit. It prepares data for transmission through the naval communications system while afloat and through AUTODIN while ashore. The MSSG also deploys with an information systems support team. The MEU should use magnetic media whenever the communications system can support it. The ISMO, however, must also plan to use couriers or the mail to sustain information systems support operations.

f. Functional Managers. The MAGTF commander appoints a functional manager for each FMF system. This individual coordinates processing support as well as data collection and distribution with the ISMO. Functional managers for supply, maintenance, and disbursing systems are in the CSSE. The functional manager for the manpower management system is the manpower information systems support officer under the MAGTF G-1/S-1. The functional managers for the aviation maintenance and flight readiness systems are in the ACE. The functional manager for embarkation systems is the MAGTF embarkation officer.

g. Data Communications. The MAGTF ISMO works with the MAGTF CEO and the functional managers to establish a data communications

providing the commander a local processing and retrieval capability. The CSSE provides centralized processing support capability to the MAGTF when deployed or employed.

(2) Marine Air-Ground Task Force II/Logistics Automated Information System (MAGTF II/LOGAIS). MAGTF II/LOGAIS is a family of coordinated, mutually supporting automated systems. MAGTF II/LOGAIS enables commanders at different levels to manage assets and track asset availability. Information can be pushed downward, enabling deployed commanders to project inbound assets as well as manage on-hand assets. Intermediate and theater commanders can also evaluate current and future asset postures. The systems calculate sustainment requirements and process requisitions both inside and outside the area of responsibility (AOR) from Defense Automated Addressing System, Defense Logistics Agency, and the Marine Corps logistics base. The systems also allow MAGTF commanders to provide support to other service units. MAGTF II/LOGAIS provides the MAGTF with the necessary tools to support war planning in both deliberate and time-sensitive situations, and execution from initiation of mobilization or deployment through employment in the AOR. Each system can operate independently and can perform discrete functions:

(a) MAGTF II. MAGTF II is a system that allows MAGTF planners to select and tailor MAGTF force structures, estimate sustainment, and estimate airlift/sealift requirements for plan feasibility.

(b) MAGTF Deployment Support System II (MDSS II). MDSS II enables commanders at various echelons of a MAGTF to build and maintain a data base that contains force and equipment data reflecting how the MAGTF is configured for deployment. This data can be maintained during normal day-to-day garrison activities and updated during plan development and execution.

(c) Transportation Coordinator's Automated Information for Movements System (TC AIMS). TC AIMS provides the MAGTF

commander with an automated capability to plan, coordinate, manage, and execute MAGTF movement from the point of origin to the air and sea POE, and from the POD to the final destination. During the planning and execution phase of an operation, TC AIMS updates MDSS II, MAGTF II, and Defense Transportation System with movement requirements and status.

(d) Computer-Aided Embarkation Management System (CAEMS). CAEMS produces amphibious, MPF, and MSC ship load plans and associated reports. CAEMS employs linked computer-aided design and data base systems to recognize ship and cargo characteristics, to conduct cargo onload and offload flowpath analysis, to allocate cargo to stowage spaces, and to ensure stowage compatibility requirements are met. During the planning and execution phases of an operation, CAEMS updates MDSS II.

(e) Computer-Aided Load Manifesting (CALM). CALM produces AMC approved aircraft load plans and reports. CALM automatically computes the optimal configuration of cabin loads of C-130, C-141, C-5, and KC-10 aircraft by aggregating weights, volume, center of balance, and cargo compatibility. During planning and execution phases of an operation, CALM updates MDSS II, MAGTF II, and Joint Operation Planning and Execution System (JOPES) with actual aircraft load plans.

(f) Landing Force Asset Distribution System (LFADS). LFADS is a supply and equipment management system for the support of the MAGTF commander and provides sustainment support to the MAGTF during deployment. LFADS produces materiel requisitions that are passed to sources of supply. On-hand assets and replenishment status can be tracked at various echelons, giving an accurate logistics posture as an operation evolves.

(g) MAGTF Data Library (MDL). The MDL programs encompass source planning management and technical data extracted

to the success of that defense is in the effectiveness of active measures.

(b) MAGTF Rear Area Security Coordination. Generally, the MAGTF commander will designate the ACE commander and/or the CSSE commander as the RAS coordinator. The ACE commander may be the sole RAS coordinator if the ACE is established ashore within the AOA. If not, the CSSE commander normally would be designated the RAS coordinator.

(3) Enemy Prisoner-of-War Management. MPs control the flow of EPWs from their capture to their internment in EPW camps. They operate collection points and evacuate captured EPWs to collection points or temporary holding compounds. MPs, when augmented by other units, operate the MAGTF's EPW holding facility.

(4) Law and Order. The MPs' law and order mission extends the CSSE commander's ability to suppress the chance for criminal behavior and to provide police services. These services include criminal and traffic investigations and the preservation of good order and discipline. This mission is limited in a combat environment and is performed only when the commander requires it and the battle intensity permits.

12007. Information Systems Support

a. Organic Capabilities. Commanders down to battalion, squadron, and separate company level have organic information systems capabilities to manage their personnel, logistics, and training responsibilities. Each organization has one or more computers to support data input to Marine Corps information systems. In addition, Marine air groups receive/possess a variety of computer hardware suites and software applications for submitting input to, and receiving output from, Navy support systems. Also, each major command has a special staff officer, information systems

management officer (ISMO), to supervise the command's information systems support operations. The ISMO is responsible for the technical direction, control, and coordination of information systems support tasks.

b. Information Systems Management Officer Responsibilities. The ISMO —

- Provides programming support.
- Advises the commander and his staff on information systems matters.
- Serves as the primary point of contact for command information systems matters.
- Acts as the command point of contact with other Marine Corps agencies and other service authorities for information systems.
- Coordinates command information systems support requirements and priorities with supporting and external information systems support activities.
- Exercises staff supervision over command information systems activities and equipment.
- Coordinates command information systems training.
- Coordinates the preparation, testing, and execution of command information systems procedures.
- Participates as an information systems development team leader/member.
- Coordinates telecommunications requirements for information systems with the communications-electronics officer (CEO) and supporting information systems activities.

c. MAGTF Information Systems

(1) General. Each MAGTF element has at least one computer and required software to support data input for standard FMF information systems. These systems include the manpower, supply, maintenance, transportation, embarkation, disbursing, and peculiar aviation systems. These devices also support local applications for commanders and their staffs,

- Preparing plans and positions to defend installations, barriers, and obstacles.
- Taking deceptive measures such as dummy installations.
- Positioning units so that they can be mutually supporting, if attacked.

(2) Active measures include—

- Training technicians in basic infantry skills, including antiarmor and air defense techniques.
- Equipping CSS units with crew-served weapons for local defense.
- Conducting patrols, establishing observation and listening posts, maintaining checkpoints, and using other local security techniques.
- Positioning light area air defense units in depth in rear areas.
- Establishing liaison with MAGTF fire support coordination agencies and training technical personnel to call for and adjust supporting arms fires.
- Appointing an agency to coordinate security in rear areas.
- Establishing reaction forces for individual organizations and for geographic areas.
- Requesting the MAGTF commander to task reserve or other non-CSS organizations in rear areas to augment CSSE security forces during emergencies.

c. Role of the Military Police. Security support is provided primarily by the military police (MP) company, headquarters and service battalion, FSSG. This unit, however, is insufficient to provide all security support functions simultaneously. MPs are an economy of force unit that must be used wisely. Support is based on the concept of operations and a clear understanding of priorities as established by higher headquarters. In support of the MAGTF, the MPs have a fourfold mission:

- Battlefield circulation control.
- Area security.

- Enemy prisoner of war (EPW) management.
- Law and order.

(1) Battlefield Circulation Control. The main combat mission of MPs is battlefield circulation control. Battlefield circulation control ensures combat personnel, equipment, and supplies move smoothly, quickly and with little interference on main supply routes (MSRs). MPs control circulation to meet changes in tactical situations and route conditions. In combat, the need for such control is imperative. Enemy forces interdicting the MSRs disrupt movement and create the need for extensive rerouting. Shocked and disoriented Marines must be controlled and directed to their units. Refugees and abandoned civilian vehicles may clog main roads, slowing movement of combat forces. MPs reconnoiter primary and alternate routes, enforce MSR regulations, control refugees and stragglers, and disseminate information, and support river-crossing operations.

(2) Area Security. The MPs' area security mission, which includes rear area security, is often performed simultaneously with the battlefield circulation control mission. This mission tasks MPs in helping to protect rear area units and facilities against spies, saboteurs, and enemy forces. MPs identify and patrol potential landing zones, drop zones, and high speed avenues of approach to detect enemy activities early. MPs, in providing surveillance of MSRs and other areas, act as an early warning system. They destroy small enemy forces before they can close on their objectives. Enemy forces too large to be defeated by MPs are quickly identified, reported, and delayed and disrupted until rear area security forces arrive or until the MAGTF commander can redeploy his forces. MPs protect MSR critical points and provide security for designated VIPs. In critical situations, MPs may provide limited convoy escort. MPs perform area damage control operations by spotting and sealing off contaminated and damage areas.

(a) CSSE Rear Area Security. Normally, the CSSE commander will establish a point defense for each CSSA. However, the key

by helicopter or air delivery from rear areas. These techniques also bypass potentially clogged MSRs but are vulnerable to poor weather and enemy air defenses.

f. Maintenance. All units intensify maintenance efforts when preparing for river crossing operations. The objective is to have all equipment operational when the operation begins. Units making the crossing must have maintenance contact teams at crossing sites to perform emergency repairs and prevent bottlenecks.

g. Transportation. The key to effective transportation during river crossing operations is to maintain effective control of traffic on the MSRs. Equally important is optimal employment of limited trucks and MHE. The idea is to move equipment and supplies forward in advance of the crossing operation. This reduces road traffic during the crossing. It also places supplies closer to the consumer.

h. General Engineering. The initial engineer effort in support of river crossing operations is engineer reconnaissance. Plans and decisions can then be made as to alternatives and phasing of effort. Ideally, crossings should be made using existing or repaired bridging. Alternatively, standard bridging can be employed as rafts, ferries, and floating or fixed bridges. Least desirable is the construction of nonstandard bridging although this must be considered as an alternative to free up standard bridging assets for high priority/subsequent crossings. Priority shifts to repair of and improvements to the road network as the MAGTF advances after completing the crossing.

i. Health Service. Organic medical personnel make the river crossing with their units. CSS medical elements cross as soon as possible. The goal is to provide medical treatment in the bridgehead area. This reduces evacuation of casualties across the river who have not received resuscitative care.

14009. Mechanized Operations

a. Overview. Occasionally, the tactical situation dictates the use of special task organizations, such as a mechanized force. Refer to FMFM 6-11, *Mechanized Operations*. These task organizations lack a substantial organic CSS capability. They require special planning and coordination to make sure they receive effective CSS. The CSSE must be flexible enough to accommodate the special requirements of such units. Most often, a CSSD provides support tailored specifically to the mission and tasks of a mechanized force.

b. Environment. When the mission and area of operations favor the use of tanks, the GCE commander can task-organize a mechanized force. Mechanized forces require air superiority and reinforcement from other combat support and combat service support units. Mechanized operations apply the principles of war and the principles of CSS with an emphasis on responsiveness.

c. CSS Operations. A CSSD is task-organized from a number of CSS sources to support mechanized operations. Its primary tasks are to rearm, refuel, and provide a limited repair capability for the supported mechanized force while on the move. A CSSD establishes RRP in forward areas near the supported force. It does not establish permanent facilities.

14010. Cold Weather Operations

a. Overview. The difficulty in accomplishing CSS missions in cold weather is increased greatly by the severity of the environmental conditions. Training to familiarize units and individuals with special clothing, equipment, and survival skills is essential. Leadership and training are the key factors in the success or failure of CSS in cold weather.

b. Environment. The cold weather environment is characterized by compartmentalized mountainous

emphasis must be on repairing equipment as far forward as possible. Crews and maintenance contact teams must quickly and accurately identify problems. They must be able to determine the parts and level of effort to repair each item. Early, accurate troubleshooting is frequently the key to repair of inoperative equipment on a timely basis.

g. Transportation. Rugged terrain, steep gradients, poor roads, and limited-capacity bridges complicate movement in the mountains. Traffic control is essential to prevent congestion and delays. Most roads cannot handle heavy military traffic without extensive improvements and maintenance. Human portage is slow, difficult, and inefficient but may be necessary in some situations. Inefficient, multiple handling of supplies may be unavoidable. Weather permitting, helicopters may be the most efficient and effective means of transportation.

h. General Engineering. Engineer terrain analysis for routes, trafficability, and availability of local materials is of special importance in mountain operations. Water is often scarce or inaccessible in many mountain areas. Water purification and distribution can be critical to tactical operations. Other engineer tasks in the mountains include improvement and maintenance of MSRs, construction of CSS facilities, and construction of helicopter landing sites.

i. Health Service. Health service requirements are similar to those for other environments. However, extended distances and inaccessible terrain complicate support. Surface evacuation is slow and manpower intensive. Helicopters are the transportation of choice for casualty evacuation. Weather extremes can hinder both surface and air evacuation. At the same time, these extremes expose the casualty to further injury or illness. Health service support planning should specifically include provisions to treat illness associated with high altitudes.

14008. River Crossing Operations

a. Overview. There are many parallels between amphibious operations and river crossing operations. Both require careful planning in advance. Both have an obstacle, *water*, between the assault forces and their combat service support. Units can use many of the same command and control techniques for both types of operation.

b. Environment. Units can conduct river crossing operations in virtually every type of terrain and climatic condition. The terrain and weather can be major obstacles. However, the principles and techniques for planning and executing river crossing operations are the same regardless of terrain and weather.

c. CSS Operations. The CSSE commander must echelon his forces forward during river crossing operations. He must anticipate the loss of supplies, equipment, and personnel. He must expect delays at crossing sites due to enemy interference and competing priorities among many units. MSRs will have heavy traffic. Bottlenecks and congestion can hinder resupply of supported units.

d. Command and Control. Command and control during river crossing operations closely parallel command and control during amphibious operations. Forward CSSDs must have the communications resources to perform their missions without interruption even when they are displacing. Radio is the primary means of communication.

e. Supply. CSS units must move critical supplies across the river in quantity as soon as possible. One technique is to position large quantities near selected crossing sites in advance of the operation. Once assault elements have cleared the far bank, movement of the supplies begins. Advanced staging avoids having to bring supplies forward later on clogged MSRs. An alternative to forward staging is to have CSSDs cross the river behind assault elements. The CSSE then delivers critical supplies

i. Health Service. Health service operations in the desert are essentially the same as in temperate climates. Increased dispersion and distances make casualty evacuation difficult. Helicopters are the preferred method of evacuation. The incidence of heat injuries and disease is higher in the desert. Fevers, diarrhea, and vomiting cause loss of water and salt. This complicates prevention and treatment of disease. Desert operations require medical units to carry greater quantities of intravenous fluids.

14007. Mountain Operations

a. Overview. Mountains have rugged, compartmented terrain with steep slopes and few lines of communications. Roads often cannot support heavy vehicle traffic. Weather in the mountains changes with the seasons, ranging from extreme heat to extreme cold. Even more important than these extremes are the drastic weather changes that can occur over a short period. Mountains can also present problems for radio communications. Units may have to rely on air delivery, pack animals, or human portage for resupply. Suitable locations for CSS facilities are small and scattered. Supply lines are usually long. Commanders must prioritize cargo, being sure that they move only the most essential supplies and equipment.

b. Environment. Extreme temperature variations, high winds, heavy rain or snow, and fog are common in the mountains. More important than the rugged terrain and weather, however, are the effects of altitude on human performance. Physical conditioning and acclimatization are essential to maintain the unit's operational effectiveness. Equally important is the troops' mental adjustment. The effects of weather extremes on equipment are the same in the mountains as in other types of terrain. A unique characteristic of operations in mountains is the lower atmospheric pressure. There is less air to support engine combustion and cooling. Properly adjusted engines run better and use less fuel. However, there is a corresponding loss of power, capacity, maximum speed, and acceleration.

c. CSS Operations. CSS units operating in the mountains have the same basic responsibilities as

they do in other environments. However, they must make adjustments for terrain, weather, and altitude. There are very few locations suitable for establishment of CSSAs. Frequently, the CSSE commander must place his elements at several small sites. This makes command and control as well as local security difficult. Small sites have limited storage capacity, requiring more frequent resupply. Multiple sites also require extra manpower and MHE. Most CSS capabilities are greater than normal distances from supported units. Performing CSS functions as far forward as possible reduces road movement and improves response times. Engineer and transportation capabilities are small in comparison to the anticipated workload.

d. Command and Control. Long lines of communications, unit dispersion, weather and terrain extremes, and poor communications are characteristics of operations in the mountains. These factors hinder both tactical and CSS operations. FM radio is the primary means of communications. However, line-of-sight problems in the mountains may require retransmission sites. Wire is suitable within installations but not practical between widely dispersed sites. Multichannel radio works where there is line-of-sight. However, there are likely to be more installations than available equipment.

e. Supply. Unit distribution is the norm in mountain operations. The commander normally splits his battalion trains into combat and field trains. The CSS unit delivers the supplies as far forward as possible, anticipating that the unit must make internal distribution using human portage. Artillery and tank units are normally on supply point distribution. However, they are near the MSR in mountain operations. Therefore, the CSS unit often delivers rations, fuel, and ammunition direct rather than handle these commodities several times. To help this effort, the operational commander may assign some tank and artillery unit vehicles to the CSS unit.

f. Maintenance. Maintenance in mountain operations is essentially the same as in other operations. Evacuation is difficult and time-consuming. The

- Troops require more water, placing a greater burden on water purification equipment and on transportation.
- Dust and sand damage the mechanisms of all weapons and equipment.
- Vehicles require more oil and lubricants for preventive maintenance.
- Batteries do not hold their charge in intense heat.
- Blowing sand damages optical equipment.

c. CSS Operations. CSS units operating in the desert have the same basic responsibilities as they do in other environments. However, they must make adjustments due to terrain, weather, and vegetation. Most CSS units are greater than normal distances from the supported units. Time and distance factors for other types of terrain are not accurate in the desert. The absence of roads, navigation problems, CSS installation vulnerability, and dispersion of supported units create unique problems for the CSSE commander as well as for ACE MALS/MWSS commanders..

d. Command and Control. Radio is the primary means of communications in the desert, except in rear area where units often are able to install and maintain wire. In the desert, there are often *dead spots* caused by mineral deposits below the surface. The effectiveness of VHF radio communications may be less than 50 percent during the hottest periods of the day. CSS units may have to rely on both air and ground relay stations to maintain communications.

e. Supply. Unit distribution is the norm for infantry units in desert operations. Other units rely on supply point distribution. Forces operating in the desert are normally motorized or mechanized. The CSSE task-organizes CSSDs which advance in trace of the maneuver units. Combat units organize battalion trains and have only essential CSS personnel and equipment forward. The preponderance of the unit's organic CSS capability is in its field train. For aviation-peculiar supply support, the ACE relies on one or more MALS/MALS element for support. These units/elements

will be located as close to aircraft bed down sites as possible.

f. Maintenance. CSS maintenance elements operate essentially the same in the desert as they do in other environments. The high temperatures and dust increase maintenance requirements, particularly preventive maintenance. On-site maintenance and repair are essential because evacuation is difficult. Desert operations require forward positioning of certain critical repair parts. These include—

- Tires for wheeled vehicles.
- Water pumps, gaskets, fan belts, water hoses, and clamps.
- All ignition system parts.
- Wheel and sprocket nuts, wedge bolts.
- Spare caps and gaskets for all liquid containers.
- Speedometers and cables (critical for navigation).
- Replacement filter elements.

g. Transportation. Trafficability in the desert varies. Mountain and rocky plateau deserts present problems different from those of sandy deserts. Roads are few and poor. Tracked vehicles are more mobile in the desert than wheeled vehicles. Even so, lava beds, salt marsh, and eroded canyons can prevent movement. In some instances, the distance between two points by vehicle may be ten times the distance on foot. When coupled with higher consumption rates, terrain can dramatically increase transportation requirements.

h. General Engineering. Engineer operations in the desert are similar to those in temperate climates. As a rule, there are fewer natural terrain obstacles. The primary task for engineers in the desert will be finding and developing water sources. Other frequent tasks include—

- Map making.
- Construction of obstacles.
- Construction of CSS facilities and road networks.
- Construction of airfields and helicopter landing pads.

f. Maintenance. CSS maintenance elements operate essentially the same in jungle operations as in other operations. The high humidity and temperatures increase maintenance requirements, particularly for preventive maintenance. On-site maintenance and repair of equipment are essential because evacuation is often difficult or even impossible. Jungle operations often require positioning more repair parts with forward CSS units. This permits immediate direct exchange. While this may not be economical, it may be essential to maintain responsiveness when lines of communications are longer than normal.

g. Transportation. Surface transportation is usually poor and particularly vulnerable to ambush in jungle areas. This requires frequent patrols and convoy escorts by all elements of the MAGTF. What few roads exist cannot handle heavy military traffic without extensive improvements and upkeep. Human portage is one method of moving supplies and equipment in jungle operations. This method is slow, difficult, and inefficient. Yet, in certain extreme situations, it may be the only feasible method. Assault amphibious vehicles are also a prime option for the logistician. Wheeled vehicles can use only the roads and wider trails. Even these may become impassable during heavy rains. Inefficient, multiple handling of supplies may be unavoidable. Sometimes, however, units must transfer supplies from wheeled to tracked vehicles at intermediate points. In very rugged terrain, units may have to transfer supplies a second time from tracked vehicles to pack animals or porters. Use of aircraft may prove more efficient and effective in the long term. Another alternative is inland waterways. Boats can transport large quantities of supplies to inland transfer points.

h. General Engineering. The primary engineer task in jungle operations is the improvement of the road network. Normally, there are few existing roads which can withstand heavy military traffic without an extensive construction and maintenance effort. Clearing vegetation in and around CSS installations is a constant requirement. Lines of communications are long. This requires continuous road clearing efforts to reduce mines and other

obstacles, and to clear potential ambush sites. Erecting and maintaining bridges across streams and gullies are major construction efforts.

i. Health Service. Extended distances and inaccessible terrain complicate health service support in jungle areas. Heat, humidity, and insect-borne diseases occur with a relatively high incidence. Commanders and individuals must place increased emphasis on preventive medicine and sanitation measures. Evacuation of the wounded presents many problems. Speedy evacuation becomes vital to reduce the likelihood of infection. Overland evacuation is extremely difficult in the jungle. Where possible, helicopters are preferred to surface transportation. Helicopters reduce the time between injury and treatment, increasing the chances of survival. A helicopter with a cable hoist can evacuate casualties from areas of thick jungle vegetation where no landing zone is available.

14006. Desert Operations

a. Overview. Desert operations present unique problems for all MAGTF elements. Open terrain and a predominantly clear atmosphere offer excellent long-range visibility. Dust from helicopters is visible up to 25-30 kilometers. Dust from a column of vehicles is visible at 5 or more kilometers. Terrain masking provides the only natural cover in the desert. Camouflage is helpful but is rarely totally effective due to lack of natural vegetation. The desert provides nothing to support a force. It is a tactician's dream but a logistician's nightmare. There are few natural assets, not even water. Environmental effects on equipment are severe. Distances between units are long. CSS units are primary targets because of their importance to the sustainability of combat operations. Consumption of petroleum and ammunition is often greater than in temperate climates. Units must haul more, haul it farther, and haul it over difficult terrain.

b. Environment. Heat and aridity are the biggest environmental problems for men and equipment because —

c. CSS Operations. Forward deployed MEUs rely primarily on seabasing for CSS. (See par. 13018c.) Potential missions, geographic considerations, and local SOPs govern logistic/CSS planning for a forward deployed MEU. Among its potential missions, noncombatant evacuation and humanitarian relief operations pose some unique challenges for a MEU.

d. Supply. The MSSG is the single source of non-aviation supply support for the MEU. The LPH/LHA is the source of supply for aviation-peculiar support. Additional support is normally available from support bases during scheduled in-port periods. The MEU also may place liaison teams at ports in its area of operations. These teams coordinate the flow of support to the MEU.

e. Maintenance. Lengthy periods at sea present special maintenance difficulties for all MAGTF elements. Forward deployed MEUs must rely on detailed pre-deployment technical inspections of equipment. Additionally, the MEU should coordinate maintenance assistance visits during scheduled in-port periods.

- Troops require more water, placing a greater burden on water purification equipment and on transportation.
- Weapons rust more quickly.
- Canvas items rot and rubber deteriorates faster.
- Battery life is shorter than normal.
- Electrical connections corrode more quickly.
- Lenses and dials become fogged by internal moisture.

c. CSS Operations. CSS units operating in the jungle have the same basic responsibilities as they do in other environments. However, they must make certain adjustments due to terrain, weather, and vegetation. Most CSS assets are in CSSAs located greater than normal distances from the supported units. Performing CSS functions as far forward as possible reduces road movement while improving response times. Engineer and transportation capabilities are meager in comparison to the anticipated workload. The frequent necessity for multiple handling of supplies requires extra manpower and MHE.

d. Command and Control. The longer distances of jungle areas complicate rapid, reliable communications among CSS units and between supported and supporting elements. High frequency radio is the most common method of communication in the jungle. Satellite communication channels, if available, are preferred. The CSSE commander must take all possible measures to reduce the number of CSS installations. He should plan for decentralized operations. He does so by relying on contact teams, helicopters, and good communications to offset the difficulties of terrain and weather.

e. Supply. Unit distribution is the norm in jungle operations. Necessarily, resupply is accomplished often by air delivery and occurs daily in predetermined quantities. This allows units to minimize supply stockpiles. Organizing battalion trains for jungle operations is relatively simple. Only essential CSS assets are forward with the unit's combat train. Most organic CSS assets remain with the field train. Field trains are further to the rear than normal. (See par. 7006.)

14005. Jungle Operations

a. Overview. Jungle operations present unique problems for all MAGTF elements. Security, trafficability, and communications are major problems. Ambushes and infiltration typify operations in a jungle environment. Infiltrators threaten both installations and lines of communications. Jungle areas often lack an all-weather transportation network. Units may have to rely on air delivery, pack animals, or human porters for resupply operations. Typically, combat units operate at the end of longer than normal lines of communications. Commanders must carefully prioritize cargo, being sure that they move only the most essential supplies and equipment.

b. Environment. Heat and humidity are the biggest environmental problems for men and equipment because:

and movement phases, maintenance planning focuses on the readiness of FIE equipment and supplies. Availability of an aviation logistics support ship (TAVB) significantly affects CSS planning and requirements for aviation units in the objective area. The IMA embarked aboard the TAVB provides limited aviation maintenance support while en route to and within the objective area.

g. Transportation. MPF operations involve marshalling and movement to POEs and subsequent sea and air movements to the AOA. MPF operations are transportation intensive, requiring detailed planning for control and coordination of the movement plan.

h. General Engineering. Planning must maximize the capabilities of existing facilities. The primary engineering task in MPF operations is the improvement of beach/port/airfield facilities in the arrival and assembly area (AAA).

i. Health Service. The MAGTF relies primarily on organic health service capabilities during the marshalling and movement phases. In the AAA, health services agencies should use host nation or inter-Service support whenever possible. If the expected intensity or duration of operations dictates, planning should include the employment of the hospital ship.

14003. Regional Prepositioning Force Operations

a. Overview. The Norway prepositioning program is a separate program. The purpose of this unique program is to improve the responsiveness of a MAGTF committed to securing NATO's northern flank. The Norway prepositioning program consists of selected, additive equipment and 30 days of nonaviation-peculiar supplies. Regionally prepositioned supplies and equipment consist of low maintenance, high consumption ground munitions and subsistence items. They also include selected principal end items of aviation ground support equipment and heavy motor transport and engineer

equipment. Some construction and barrier materials, medical supplies, and repair parts are also in the stocks.

b. Environment. The Norwegian climate dictates the MAGTF have the capability of conducting cold weather operations. (See par. 14010.)

c. CSS Operations. For the CSSE, regional prepositioning operations are transportation and maintenance intensive. Like MPF operations, detailed planning for control and coordination of movement and maintenance is essential.

14004. Forward Deployment

a. Overview. This publication defines forward deployment as *A basic undertaking which entails stationing of alert forces with their basic stocks for extended periods of time at either land-based overseas facilities or, in maritime operations, aboard ships at sea as a means of enhancing national contingency response capabilities.* Forward deployment missions are standing missions for the Marine Corps. Forward deployed MAGTFs; e.g., MEUs, provide an element of the global naval presence in peacetime and a means for crisis control during times of tension. The MEU is the forward deployed, afloat element of a larger MAGTF which can be deployed from CONUS, and is normally seabased. (See par. 13014.) Forward deployment is unique in many ways. Routine forward deployments of MEUs are normally 6 months in duration from port to port. A primary characteristic of these missions is the combined contingency and training responsibilities assigned to the MEUs. Therefore, a primary objective of log/CSS planning is to sustain the MEU while embarked and during limited contingency and/or training operations ashore.

b. Environment. Shipping constraints frequently limit the personnel, supplies, and equipment of a forward deployed MEU. This requires detailed CSS planning to meet the requirements, priorities, and allocations established for the forward deployed MEU.

Chapter 14

Other Operations

14001. General

In addition to amphibious operations, MAGTFs must be ready to conduct a wide spectrum of military operations. They must be able to operate under various environmental conditions and command arrangements; e.g., independent, joint, and combined. This chapter highlights the major considerations peculiar to these types of operations.

14002. Maritime Prepositioning Force Operations

a. Overview. An MPF operation is a strategic deployment option. It will likely be part of a larger joint or combined operation. MPF operations establish a MAGTF ashore rapidly, configured to conduct subsequent combat operations. There are two types of MPF operations: independent and reinforcing. Reinforcing an amphibious operation includes reinforcement of a MEU. MPF operations have four phases: planning, marshalling, movement, and arrival/assembly. Subsequent operations, and movement to those operations, are not part of the MPF operation.

b. Environment. The most important requirement for MPF operations is a secure area. There must be adequate strategic airlift and off-load forces. Equally important are an arrival airfield, a port/beach, and a road network between the port/beach and the airfield.

c. CSS Operations. MPF operations are logistic operations. They require the development of

unique plans for deployment and arrival/assembly. An MPF planning goal is to maximize the use of existing logistic systems and infrastructure to reduce deployment and other support requirements.

d. Command and Control. The fleet commander designates/activates forces for MPF operations. The MPF comprises a command element, a MAGTF, an MPS squadron (MPSRON), and a Navy Support Element (NSE). During reinforcing MPF operations, the doctrinal command relationships for amphibious operations apply. During independent MPF operations, however, the NSE functions as a separate entity under the OPCON of the Commander, Maritime Prepositioning Force (CMPF).

(1) The CMPF is a Navy officer appointed in the initiating directive for MPF operations. His position is like that of the CATF for amphibious operations. During reinforcing MPF operations, the CATF is the CMPF.

(2) The senior MAGTF commander assumes the duties of CLF. During reinforcing MPF operations, the MAGTF will be part of the LF, as specified in the initiating directive.

e. Nonaviation-Peculiar Supply Support. Each MPSRON carries 30 days of supply. Any supplies not prepositioned must be in the fly-in echelon (FIE).

f. Maintenance. Maintenance activities for MPF operations must consider the sequential phases of the operation. During the marshalling

c. Seabasing. Seabasing involves the deliberate, managed provision of support to LF/MAGTF units ashore from ships off shore. As a general rule for amphibious operations, seabasing is an option appropriate to operations of short duration and scope (e.g., a demonstration, raid, withdrawal, or noncombatant evacuation operation) in which the concept of operations specifically excludes phasing command and control ashore. It does not involve selective unloading per se, but emphasizes the provision of selected sustainment capabilities from ships afloat to LF/MAGTF units ashore, normally on a support team basis.

(1) Seabasing is 1. In amphibious operations, seabasing is the use of assigned shipping as a base of operations for the direct provision of combat support and combat service support to the landing force ashore. Seabasing emphasizes providing selective support from ships to the landing force ashore; this support is separate and distinct from the initial and general unloading periods. 2. In routine maritime forward deployment operations, seabasing involves area operations and the afloat stationing of alert forces for rapid response at the direction of the National Command Authorities.

(2) Seabasing is a constrained technique normally considered and implemented under only a few circumstances. When employing the seabasing concept in amphibious operations, the CSSE commander keeps all but his throughput capabilities afloat until the units ashore call for support. Supplies and support capabilities remain afloat. If the CSSE commander lands a task-organized LFSP with more than the essential throughput and sustainment capabilities, he is not seabasing. Maintenance and other CSS provided by the LFSP and/or HST focuses on the expedient seaward evacuation of damaged equipment vice field repair. Casualties return to the ships for treatment. Water production remains afloat.

(3) Seabasing can be applied on a selective basis as well. In such cases, which might be dictated either by the nature or duration of the operation or by the operational requirement for certain economies, the CSSE commander may elect to retain certain specified functional capabilities afloat while providing other functional support capabilities on a general/selective unloading basis. The key factor is that command and control of the LF and the CSSE are not passed ashore.

(4) Seabasing is a useful technique. However, the commander must carefully consider its advantages against its disadvantages before he selects the seabasing option. Factors to consider when deciding to use seabasing are too numerous to list. Weather or distances can prevent or delay support. Enemy action can disrupt or delay support. Availability of shipboard facilities may prevent certain types of repairs. Evacuating large inoperable items of equipment is difficult at best and, occasionally, may be impossible to accomplish. Such situationally dependent factors, however, must be considered.

(a) **Advantages.** The principal advantage of seabasing is economy. Establishing facilities ashore requires expenditure of considerable time and resources. When the force will be ashore for only a brief time, it may not warrant this expenditure.

(b) **Disadvantages.** The major disadvantage to seabasing is that the CSSE commander and his command and control elements remain afloat. This may degrade the responsiveness of the CSSE. It is difficult to manage CSS units and capabilities which are on a number of different ships. Communications, for example, are invariably difficult.

(1) HST Control Net. The HST communicates with the TACLOG of the helicopterborne force on the HST control net. The HST uses this net to forward CSS requests to the TACLOG. Stations on this net include all HSTs, the supported unit TACLOG, the LF TACLOG, and the LFSP. The LF TACLOG and the LFSP guard this net to coordinate CSS at the landing force level.

(2) Communications With the Supported Unit. The HST establishes wire communications with the supported unit. The HST also guards the tactical net of the supported unit. This net permits the supported unit to make requests directly to the HST or the TACLOG.

13014. Unloading Operations

Generally, the ship-to-shore movement has two phases. They are the initial unloading period and the general unloading period. Selective unloading characterizes the first period and general unloading the second. Seabasing, another option for supporting operations ashore, is a specialized form of logistic support in that it does not involve either unloading or a ship-to-shore movement in the traditional sense.

a. Initial Unloading Period

(1) Definitions

(a) Initial Unloading Period. In amphibious operations, that part of the ship-to-shore movement in which unloading is primarily tactical in character and must be instantly responsive to landing force requirements. All elements intended to land during this period are serialized. (Joint Pub 1-02)

(b) Selective Unloading. In an amphibious operation, the controlled unloading from assault shipping, and movement ashore, of specific items of cargo at the request of the landing force commander. (Joint Pub 1-02)

(2) The initial unloading period involves the provision of CSS from afloat sources on

a selective basis. Elements of the LFSP begin landing with assault units and establish supply points ashore, based on established operating and safety levels of supply. As the assault progresses, the CSSE provides support from both the beach support area and afloat. The shore party group/team supports the waterborne assault units. HSTs support helicopterborne assault units. As the operation proceeds, the CSSE develops inland support capabilities.

(3) Selective unloading provides the CLF a balance between economy and responsiveness in supporting assault forces during the assault phase. It ensures that there is enough CSS capability, with attendant CSS command and control, ashore to sustain the combat elements if ship-to-shore throughput stops for any reason while conserving resources. (The term seabasing is often used incorrectly to describe selective unloading. See subpar. 13018c.)

b. General Unloading Period

(1) In amphibious operations, that part of the ship-to-shore movement in which unloading is primarily logistic in character, and emphasizes speed and volume of unloading operations. It encompasses the unloading of units and cargo from the ships as rapidly as facilities on the beach permit. It proceeds without regard to class, type, or priority of cargo, as permitted by cargo handling facilities ashore. (Joint Pub 1-02)

(2) General unloading begins only after enough troops and supplies have landed to sustain the momentum of the assault. Areas ashore must be adequate to handle the volume of arriving supplies. When these conditions exist, the CLF recommends to the CATF that general unloading begin. When CATF gives the order to begin general unloading, the control organizations stop operations but remain substantially intact, monitoring the status of unloading operations. They must be ready to resume selective unloading, if required. Transports unload as rapidly as CSS facilities and landing craft permit without regard to type of cargo.

b. Shore Party Communications

(1) **Shore Party Team.** The shore party team supporting a BLT establishes communications with the BLT command group, the BLT TACLOG, and its parent shore party group. It also establishes local communications for internal control. The shore party team lands in three increments. Each increment contributes to the development of the team's communications system.

(a) **Liaison Party.** The assault elements of the BLT include the battalion command group. A liaison party from the shore party team lands with this group. Communications personnel with the liaison party lay wire from the beach to the battalion command post. Later, when the shore party team lands, it uses this wire to communicate with the BLT. The liaison party also guards the shore party control net. These are the primary means by which the BLT communicates with the shore party team and the TACLOG.

(b) **Advance Party.** The advance party of the shore party team lands early to plan the organization of the beach. Communications personnel with this group bring equipment to begin installation of shore party team communications. This includes connection to the line laid by the liaison team. The team also establishes a guard on the shore party control net. This net allows the team to coordinate the flow of supplies and personnel onto the beaches. There is a separate shore party control net for each colored beach. Stations on the net include the shore party team, the TACLOG, and the liaison team. The LF TACLOG and the LFSP commander can guard any or all control nets.

(c) **Main Body.** When the situation permits, remaining shore party elements land. The equipment to complete the communications system lands with them. Radio communications expand to include the shore party command net. The LFSP commander uses this net to control all LFSP elements. This net can absorb any overload on the shore party control nets. Stations on this net include the

LFSP, its subordinate elements, the TACLOG of waterborne units, and the LF TACLOG. The shore party team also monitors the tactical net of the supported unit to anticipate emergency support requests.

(2) **Shore Party Group.** When the tactical situation permits, the shore party group commander lands. He organizes the numbered beaches into a single colored beach or a beach support area. He establishes his group command post at the site of a subordinate team, using its communications equipment to control the entire group.

(a) **Radio.** The shore party group guards the RLT command net. This net becomes the primary link to request combat service support. It provides the channel for the regiment and its battalions to forward requests directly to the appropriate shore party. The TACLOG also guards this net.

(b) **Wire.** If possible, the group installs telephone and teletype communications with the supported regiment. It either lays wire or uses the division wire-multichannel radio system. The regiment can relay support requests to the TACLOG over this communications system.

(3) **Landing Force Support Party.** When the LFSP headquarters lands, its CP superimposes itself on one of the shore party groups. It uses the communications channels previously established by that group. Similarly, the alternate LFSP CP is with the other shore party group. The LFSP commander augments communications at the CPs, establishing stations on the following nets guarded by the TAGLOGs:

- Shore party control net(s) serving other colored beach (or beach support areas).
- Landing force command net.
- HST control net.
- LF/MAGTF CSS net.

c. **HST Communications.** The HST communicates directly with the TACLOG of the helicopterborne force. It must also communicate with the helicopters, the supported unit, and its subordinates in the HLZ. HST communications include:

of collocating a GCE TACLOG cell with the primary HDC to speak for the GCE commander. The GCE TACLOG is formed from GCE G-3/G-4 headquarters elements. The G-3 initially directs the GCE TACLOG operations. Transitioning of TACLOG responsibility to the G-4 is based on criteria as previously stated. GCE/division TACLOG operations cease when directed by CLF based on the recommendation of the GCE commander. This normally takes place when all equipment and supplies have been moved ashore.

(3) Surfaceborne Unit TACLOGs. Surfaceborne unit TACLOGs are established by each ground commander who has responsibility to conduct a surface assault over a colored beach. Normally these TACLOGs are established at the RLT level. Subordinate BLTs will have representatives at the RLT TACLOG to help resolve issues that affect their units. The responsibility to direct the regimental TACLOG and its transition from the G-3 to the G-4 is the same as for other TACLOGs. TACLOG operations at this level are normally terminated when all scheduled, on-call, and nonscheduled belonging to the unit are ashore. These TACLOGs will coordinate between the surfaceborne tactical commander, LFSP, and the PCO of the Navy control organization.

(4) Helicopterborne TACLOGs. A separate TACLOG is established by the GCE commander when helicopterborne forces consist of a battalion size force or larger. These TACLOGs are structured the same as surface TACLOGs. They serve as the principal advisors to helicopter control agencies (helicopter direction center [HDC]), and the debarkation control agency (helicopter logistics support center [HLSC]) during the ship-to-shore movement, and are normally located in the vicinity of the controlling HDC. If the helicopterborne force is an RLT or larger size unit, or if the assault is conducted from widely dispersed shipping, the GCE commander may direct the establishment of more than one helicopterborne TACLOG to parallel the Navy control organization. This may include the establishment of a BLT TACLOG. If only an RLT TACLOG is established, it will

include representatives of subordinate BLTs. Requirements for close coordination between the Navy control organization and the corresponding TACLOG must receive special emphasis in the helicopterborne ship-to-shore movement. This emphasis is necessary because of the smaller load capabilities of helicopters compared to surface means, and the increased probability of change in the planned employment of helicopters over that normally expected in the employment of surface means.

13013. Ship-to-Shore Movement Communications

The control of all landing means during an amphibious assault is the responsibility of the Navy control organization. TACLOGs aboard various control ships assist. Navy communications systems include radio, visual, sound, and messenger. In some instances, they use underwater wire from the control ship to the beach. For further information on communications of the Navy control organization and the TACLOG, refer to NWP 4, (C) *Basic Operational Communications Doctrine* (U). In addition to Navy communications, the LF can use its own tactical radio nets to control ship-to-shore movement. These nets may include RLT/BLT tactical or command nets guarded by shore party teams, HST, or the TACLOG.

a. TACLOG Communications

(1) There are no communications dedicated to the TACLOG. TACLOGs rely on communications established for other purposes. They use either shore party nets for each beach over which elements are landing or they use HST nets. When shore party or HST nets are unavailable, TACLOGs use RLT/BLT nets to communicate with the supported commander.

(2) The supported operational commander provides the communications equipment and personnel for the TACLOG. The landing support unit and the ship may also provide some capability. However, responsibility for providing equipment and personnel for the TACLOG rests with the commander organizing the TACLOG.



(2) Ground Combat Element/Division TACLOG. The GCE TACLOG is collocated with the Navy control element, below the CATF level, that is responsible for execution of the surface and the helicopterborne ship-to-shore movement; this is normally the CCO. In situations where the CCO's single task is the surface ship-to-shore movement, the GCE TACLOG must assume the additional burden

for units and supplies. These plans and the Navy landing plan are developed to support the LF's concept of operations ashore. The landing plan and plan for landing supplies schedule all landing force personnel, equipment, and supplies into scheduled waves, on-call waves, floating dumps, prepositioned emergency supplies, and nonscheduled waves. *It is the collective responsibility of the Navy control organizations, TACLOG, LFSP, and HST to:*

- Know, at all times, what elements are ashore, and the status of any requests made for landing of additional troops, supplies, or equipment.
- Orchestrate and regulate the movement of scheduled waves to ensure that personnel, equipment, and supplies in those waves arrive at the designated location, at the prescribed time, and in condition to accomplish the assigned mission or purpose.
- Ensure that floating dumps and prepositioned emergency supplies are postured and responsive to the needs of the LF, and when required, move rapidly to the designated location.
- Ensure that on-call waves are prepared to move ashore rapidly to the designated location when requested.
- Orchestrate preparations for nonscheduled waves to move ashore.

e. Focus. TACLOG operations must be responsive to the LF requirements. Initial unloading is selective, and is intended to rapidly build up combat power and establish preplanned levels of various classes of supplies ashore. Tactical considerations within the TACLOG organizations have primacy until such time as the debarkation of the nonscheduled waves commences. At that time, the focus of the TACLOG begins to transition from a tactical to logistical orientation. When general unloading begins, tactical considerations of the TACLOG are reduced to responding to specific landing force requests as necessary. The log/CSS functions for completion of the general offload assume primacy.

f. Taskings. For a detailed discussion of TACLOG tasks refer to FMFM 4-3, *Landing Support Operations*. The lowest possible level will make decisions,

but each TACLOG must be prepared and capable of processing requests and providing appropriate recommendations to the Navy control organization.

g. Structure. The precepts that govern amphibious operations dictate the TACLOG structure not be rigid. The TACLOG in a MEF size MAGTF contains TACLOGs that represent the MAGTF (MEF), Marine division, surfaceborne RLT, and helicopterborne RLT. BLTs may establish a TACLOG under the special circumstances previously noted. The requirement to keep CLF apprised of the status of the ship-to-shore movement, and to provide CLF with a mechanism to influence that movement, must be balanced against the requirement to decentralize decisions and allow subordinate LF and Navy commanders to execute decisions at the lowest possible level. The MAGTF TACLOG is the senior LF TACLOG. It exercises ONLY coordinating authority (see Joint Pub 1-02) over subordinate TACLOGs. It does not possess operational control. (See fig. 13-3.) The LF commander whose unit is supported by the specific Navy control organization element (CCO, PCO, HDC) is tasked with the responsibility to establish and exercise operational control of the appropriate TACLOG.

h. Organization. The organization of TACLOGs will vary because they are organized to meet the requirements of specific units and operations. The basic organization is prescribed by CLF as indicated in the MAGTF operations order. The following factors are considered when organizing a TACLOG:

(1) Personnel assignments to the TACLOG must include both tactical and logistical/CSS personnel who are thoroughly familiar with LF plans and with the Navy control procedures and movement capabilities. Representatives should include:

- G-3/S-3 representative.
- G-4/S-4 representative.
- MAGTF/unit embarkation officer.
 - CSSE representative.
 - Communications personnel.
 - Administrative/messenger personnel.
 - Representatives/liaison personnel from other units.

presents some special problems for discharge and control. The NAVCHAPGRU supervises the planning for and unloading of MSC or MSC-chartered shipping. Additional information is available in Joint Pub 3-02.2, *Joint Doctrine for Amphibious Embarkation*; NWP 22-3, *Ship-to-Shore Movement*; and OH 7-6, *Maritime Prepositioning Force (MPF) Operations*.

c. Sea-Air-Land (SEAL) Teams. The SEAL team provides the hydrographic section of the beach party. They may have assignments with the advance force early in the operation. Consequently, they report to the beach party commander shortly after H-hour on D-day. After completing pre-H-hour assignments, SEAL teams continue to clear obstacles from the beach under the direction of the beach party commander.

13012. Tactical-Logistical Group

The ship-to-shore movement is a complex evolution whose purpose is to rapidly transfer sufficient landing force combat capability from afloat to ashore to accomplish a specified mission. To conduct the ship-to-shore movement and fight the tactical battle, the Navy and LF are organized into elements that fight the battle and elements that regulate the ship-to-shore movement. The various components, be they ship-to-shore or fighting units, must be linked together at all levels within the ATF. This linkage provides fighting elements with mechanisms to move ashore and for sustained logistic support without the burden of focusing on those concerns. LF organization provides for three temporary organizations to facilitate the ship-to-shore movement and ensure CSS to fighting units. These temporary organizations are:

- Tactical-Logistical Group.
- Landing Force Support Party.
- Helicopter Support Teams.

a. General. The TACLOG is a temporary agency, composed of landing force personnel, that advises the Navy control organization of LF requirements during ship-to-shore movement. TACLOGs assist the Navy control organization in expediting the landing of personnel, equipment,

and supplies in accordance with the LF landing plan. The TACLOG provides the link between the LFSP, HST, and advises the LFOC and the Navy control organization. TACLOGs also serve as the primary source of information to CLF regarding the status of LF units during ship-to-shore movement. As indicated by the name, *TACLOG is concerned with both tactical and logistics/CSS*. TACLOG elements are collocated with the CATF staff, central control officer, primary control officers, and the primary helicopter direction center. TACLOGs are not normally located below the RLT level nor on secondary control ships. A TACLOG is *not* part of the Navy ship-to-shore control organization; it is the LF's liaison to the Navy control organization. To accomplish the necessary close coordination with the Navy, TACLOGs of each echelon of the LF are embarked on the same ship with the Navy control officer exercising control over the ship-to-shore movement of that echelon.

b. Requirement. Joint Pub 03-02 requires establishment of a parallel chain of command between the Navy and the LF to conduct an amphibious operation. A parallel chain of command enables resolution of command and control issues at the lowest possible echelon. Navy ship-to-shore control agencies are designated to accommodate the operational requirements of regiment and higher operational levels of command. Landing force TACLOGs are established at each level where a Navy ship-to-shore control agency is established. Battalion landing teams (BLTs) establish TACLOGs only when conducting operations with a secondary control officer in isolated situations.

c. Relationship With the Navy and Other LF Ship-to-Shore Organizations. The LFSP accompanies the LF surfaceborne combat elements during ship-to-shore movement. It facilitates the flow of combat power across the beach, and provides direct CSS to surfaceborne units. Requests from combat units for on-call waves, adjustments to scheduled waves, and requests for emergency resupply are passed through the LFSP. The HST performs the same functions for the helicopterborne units as the LFSP does for the surfaceborne units.

d. Responsibilities. The landing plan and plan for landing supplies prescribe the landing sequence

area, such as air defense units, or CLF may deploy units to counter threats in the BSA in the same manner as to stop an attack in any other area. Units that operate in the BSA or LZSA may be employed by the LFSP commander in emergency situations, specifically area defense. If U.S. Army, or allied units, are included in the LF, task-organized representatives of these organizations will be included as attachments to the LFSP. The major LFSP special attachment comes from the LF naval construction regiment (NCR). The NCR is a LF (not Navy) controlled unit that is an integral component of the LF to accomplish construction tasks beyond the limited capabilities of Marine Corps engineer units who are focused on combat and combat support tasks. The NCR, also called *Sea Bees* focus on construction or repair of facilities (primarily air and CSS) for LF use and development of transportation networks. NCR units are included in the LFSP for early initiation of construction tasks and to perform construction tasks associated with FARP operations.

f. Ships' Platoons. When a ship carries equipment and supplies that belong only to units embarked on that ship, the ship's platoon is sourced from ship's embarked troops at the direction of the commanding officer of troops. If replacement draft personnel are available, they may be assigned to the LFSP for use as ships' platoons on those ships, primarily AFOE, that carry supplies and equipment not organic to embarked units. Ships' platoon personnel will be available for reassignment to shore party group labor pools on completion of their ship's offload. Replacement draft personnel may be assigned to unload follow-up shipping, utilized to assist in BSAs, or released as replacements for tactical units. Personnel from embarkation teams revert to their parent unit when the ship offload is complete. If possible, ship's platoons should retain the same personnel for backload operations.

13010. Naval Beach Group

The NBG is a permanently organized naval command, within an amphibious force, comprised of a commander, his staff, a beachmaster unit, an amphibious construction battalion, and an assault

craft unit, designed to provide an administrative group from which required naval tactical components may be made available to the attack force commander and to the amphibious landing force commander to support the landing of one division (reinforced). (Joint Pub 1-02)

a. Organization. The NBG is an administrative organization. The group provides —

- Beach party.
- Pontoon causeway teams.
- Self-propelled pontoon barges.
- Elements for lighterage or transfer line operations.
- Warping tug teams for tending causeways and salvage.
- Ship-to-shore bulk fuel elements.
- Underwater wire communications from the PCS to the beach.

b. Concept of Employment. The NBG task-organizes beach party teams/groups for specific tasks. The NBG can make limited beach improvements to help the landing and the evacuation of casualties and EPWs. For additional information on the NBG, refer to NWP 22-5, *The Naval Beach Group*, and Joint Pub 3-02.

13011. Other Landing Support Assets

For certain support functions, other Navy assets may assist in landing support.

a. Medical Regulating Center (MRC). The MRC maintains up-to-date status on all medical capabilities within the AOA. It coordinates the efforts of the medical regulating section which maintains an up-to-date listing of the medical capabilities of ships in the objective area and advises the HDC and/or PCO on the status of casualty CRTS. For further information, refer to FMFM 4-5.

b. Navy Cargo Handling and Port Group (NAVCHAPGRU). The use of MSC or MSC-chartered shipping in amphibious operations

(1) Personnel for the LFSP headquarters are drawn from the CSSE, ACE, and NBG. These personnel provide to the LFSP required skills and expertise that would not normally be employed by their parent organizations in the initial stages of the assault. Another benefit of these assignments is when the LFSP is dissolved, and the various functions transition to the parent organizations. The individuals who performed the tasks for the LFSP will perform them for their units.

(2) In the initial stages of ship-to-shore movement, the LFSP headquarters will not be ashore. LFSP operations are decentralized to the shore and beach party teams on numbered-colored beaches. Operational control of all LFSP personnel on a numbered-colored beach resides with the shore party team commander. When the shore party and beach party groups are established ashore on a colored beach, they assume operational control of their respective teams operating within the numbered-colored beach. Operational control of all LFSP personnel on each colored beach resides with the shore party group commander.

(3) Control of the shore party and beach party groups will transition to the shore party and beach party respectively when these elements establish their headquarters ashore. Concurrent with this transition, the LFSP commander will establish the LFSP headquarters ashore and assume operational control of the shore party, beach party, and all other LFSP units ashore. The shore and beach party commanders retain operational control of their respective units. LFSP headquarters personnel and equipment that accompany the LFSP commander ashore should be minimal as the LFSP commander will employ the assets of the shore and beach party headquarters to coordinate their activities with CLF and CATF. These headquarters become part of the LFSP command and control mechanism and preclude the requirement for duplication of effort.

(4) The size and capability of the shore and beach party expands as the magnitude of LFSP responsibility and activity expands. For example,

when helicopterborne unit HST operations cease, the LFSP assumes responsibility for sustainment of the helicopterborne unit and operation of the associated helicopter landing zone support area. Those LFSP units previously attached to the helicopterborne unit HST will return to operational control of the LFSP. The size of the LFSP command element will increase in proportion to the activity level, but will be small relative to the growth of the shore and beach party. This is because the majority of LFSP command and control tasks are performed by the shore and beach party headquarters.

c. Shore Party. The Shore Party is a task organization formed and equipped from LF units. It facilitates landing and movement of waterborne troops, equipment, and supplies, and evacuation of selected casualties and EPWs. The shore party nucleus is formed from the Landing Support Battalion, FSSG augmented by personnel and equipment from the GCE, ACE, and other CSSE units. The shore party consists of the following elements:

- Shore Party Headquarters.
- Shore Party Groups.
- Helicopter Support Elements(s).

For further information on the shore party, see FMFM 4-3, *Landing Support Operations*.

d. Beach Party. The beach party is the Navy component of the LFSP and is under the operational control of the LFSP commander. It is made up of Navy elements primarily from the NBG. The beach party consists of the following elements.

- Beach Party Headquarters
- Beach Party Group(s)

For further information on the beach party, see NWP 22-5/FMFM 4-3 *The Naval Beach Group*.

e. Special Attachments to LFSP. Special attachments are made to the LFSP to assist its performance of assigned tasks. Certain units may be attached to the LFSP specifically for defense of the

(4) ATF employment of landing craft air cushion (LCAC) requires the LFSP to plan for operations in the LCAC craft landing zone (CLZ). A task-organized unit that includes both LF and Navy personnel and equipment, is formed when a planned CLZ is significantly separated from other CSS installations.

b. LFSP Headquarters. The LFSP commander and staff control and supervise landing support operations within the landing area, as set forth in the LF OPORD. This headquarters ensures the effectiveness of landing support through close coordination, timely reinforcement, and consolidation of activities of component shore and beach party elements. The LFSP concept is to centralize

under one organization, for unity of effort in the initial stages of ship-to-shore movement, the responsibility for combat support and CSS normally provided by the CSSE, ACE, and Navy. Due to the nature of ship-to-shore movement, the LFSP command structure matures from a very small cell in the early stages when beach and HLZ operations are decentralized, to a robust organization as LFSP operations become more centralized. As more functions and capabilities move ashore, the LFSP headquarters grows accordingly until the CSSE, ACE, and NBG are established ashore and assume responsibility for their appropriate tasks. Figure 13-2 illustrates the command relationships within the LFSP, and shows how LFSP headquarters responsibility expands as operations are centralized.

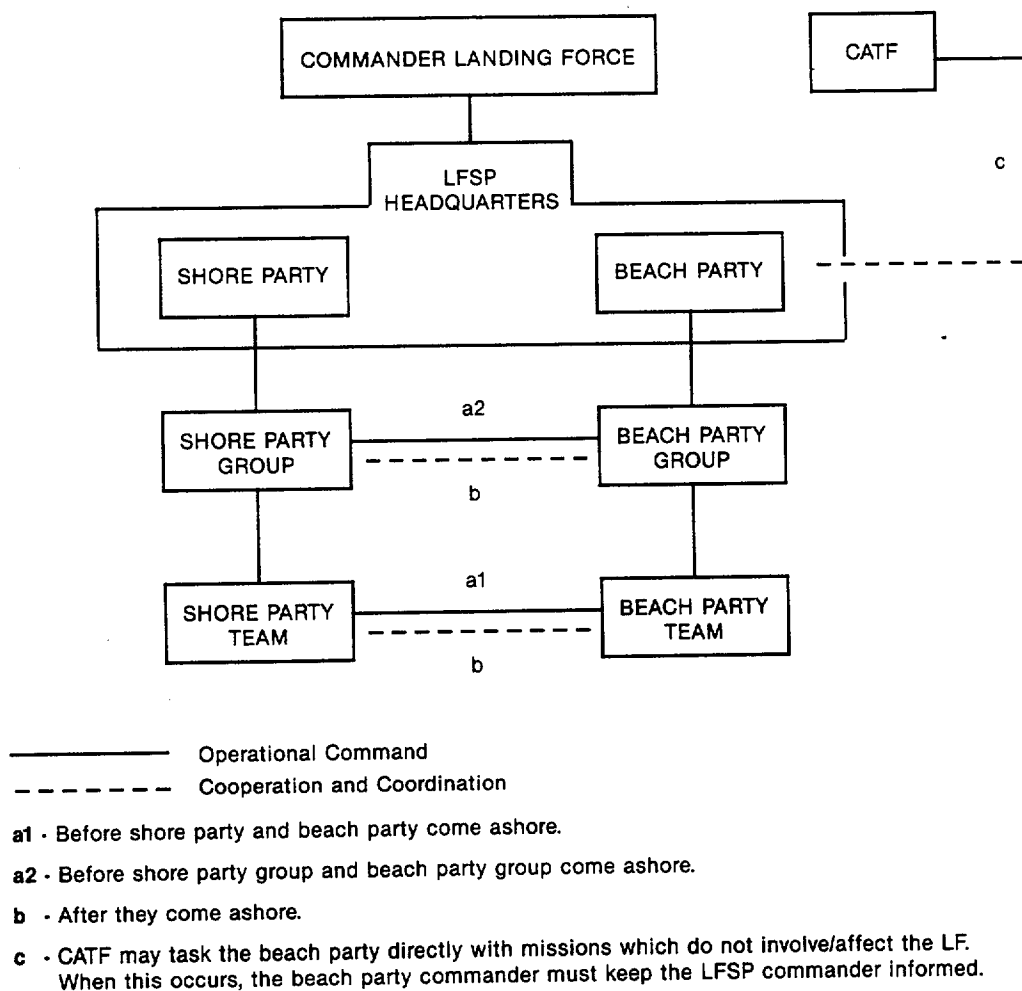


Figure 13-2. Surface Assault Command Relationship.

13009. Landing Force Support Party Organization

a. General. Establishment of the LFSP is the responsibility of the CSSE commander, however to ensure unity of effort, the LFSP operates as a subordinate element of the LF under the immediate direction of CLF. The organization and mission of the LF dictate the specific structure of the LFSP. Elements of the LFSP include units or detachments from the GCE, ACE, CSSE, and the Navy, as required.

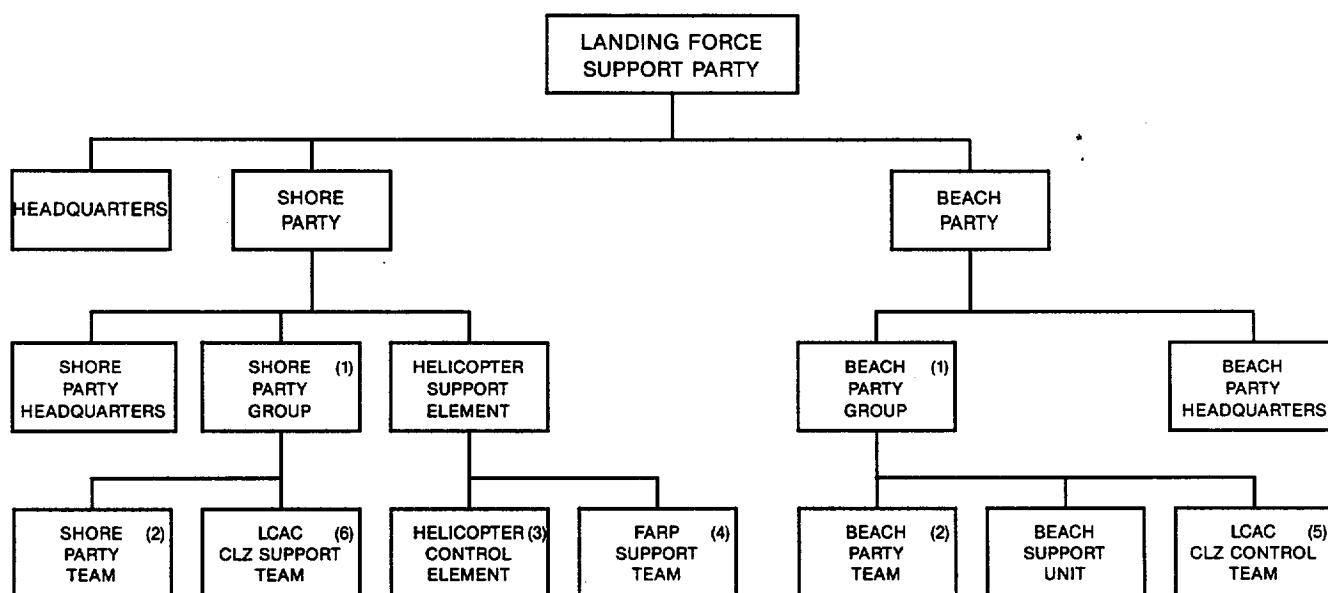
(1) The LFSP is task-organized to accommodate the number of landing beaches and/or HLZs the LF will employ, the size of the units that will use the beaches and/or HLZs, and the assigned mission. Normally the shore party element of the LFSP will contain within its structure an HSE as simultaneous landing of surface and helicopterborne assault forces is envisioned. The general organization, principles of planning, and techniques for controlling the

operation are the same for either surface or helicopterborne operations with the only exception being the surface assault element contains a Navy beach party organization and the LFSP provides a helicopter control element to helicopterborne units' HSTs.

(2) The nucleus of the LFSP is formed from the FSSG with augmentation from other LF units, the NBG, and related naval service support organizations. The strength and composition of the LFSP is determined during initial planning for the amphibious operation.

(3) Specific organizations of LFSPs may vary widely, but for general planning purposes a basic LFSP structure is depicted in figure 13-1. The LFSP consists of the following elements:

- LFSP Headquarters
- Shore Party
- Beach Party



- NOTES:
1. One per colored beach.
 2. One per numbered-colored beach.
 3. One per helicopterborne unit HST.
 4. One team per forward arming and refueling point.
 5. One team per craft landing zone.
 6. One team per craft landing zone control team.

Figure 13-1. Basic Organization of Landing Force Support Party.

of keeping them apprised of landing force requirements and priorities, as well as advising on transportation methods and phasing of serials. While the exact structure of the landing force control organization may vary, the general composition remains the same.

a. Combat Operations Centers. During the initial phases of the amphibious operation, the combat operations centers of the various LF elements afloat are the focal points for monitoring and directing operations ashore.

(1) Landing Force Operations Center (LFOC).

The LFOC is the CLF's command post afloat. From the LFOC, he monitors the progress of the ship-to-shore movement and operations ashore, controls his assault units, and communicates with his subordinate commanders. Normally, it is located in the vicinity of the CATF's combat information center. The LFOC maintains communications with the LFSP elements, both ashore and afloat, and with the LF TACLOG, which functions as his liaison with the Navy control organization, through the CCO.

(2) Subordinate Level Operations Centers.

The assault elements of the LF will operate their own operations centers to control their units ashore. Where the subordinate unit is the senior LF element crossing a colored beach, or an isolated numbered beach where the Navy has established a PCO, the subordinate unit operations center will establish the same control/communications relationships as the LFOC.

b. Landing Force Support Party. The ship-to-shore movement is a complex evolution which generates intensive activity under combat conditions. The LFSP is a temporary LF organization composed of Navy and LF elements tasked to provide initial combat and CSS to the LF during the ship-to-shore movement. Its mission is to support the landing and movement of troops, equipment, and supplies across the beaches and into HLZs. To ensure success in an amphibious operation, the LF must establish itself ashore rapidly and effectively. The LFSP is specifically task-organized

to facilitate a rapid buildup of combat power ashore by ensuring an organized and uniform flow of personnel, equipment, and supplies over the beach in support of the LF scheme of maneuver. Simply stated, the LFSP facilitates the smooth execution of the landing plan. Elements which constitute the LFSP are drawn from the naval beach group and other Navy organizations as directed by CATF to perform special tasks, as well as the CSSE, ACE, and GCE of the LF. When activated by CLF, the LFSP stands as a separate element of the LF/MAGTF, independent of the CSSE, ACE, or GCE, and remains in this status to provide combat and CSS to the LF until, at the direction of CLF, it is relieved by the CSSE.

c. Tactical-Logistical Group. TACLOG is a temporary task organization constituted from within the LF. Its mission is to provide liaison between the landing force control organization and the Navy control organization.

(1) Landing Force TACLOG. At the LF level, the TACLOG is composed of representatives from the LF/MAGTF G-3/S-3 and G-4/S-4. The TACLOG's mission is to advise the Navy control organization of tactical requirements ashore and to assist in identifying resources to support the requirements. This requires the TACLOG to keep abreast of which serials have landed, monitor the command, tactical, and logistical nets to anticipate requirements ashore for serials, advise the CCO on the priority of landing additional serials, and, when appropriate, recommending modes of transportation for serials.

(2) Subordinate Level TACLOGs. TACLOGs subordinate to the LF TACLOG are established by each subordinate commander in the landing force corresponding to the Navy control organization, down to the PCO level. A TACLOG may also be established aboard the helicopter transport group commander's ship to provide liaison for the helicopterborne force in the absence of another level TACLOG. In addition to performing the liaison and coordination duties between the Navy control organization and the LF, subordinate level TACLOGs coordinate with the LF TACLOG.

b. Navy Control Organization for the Helicopterborne Movement. The CATF controls helicopters during the ship-to-shore movement through the tactical air officer (TAO). Control agencies include the tactical air control center (TACC), tactical air direction centers (TADC), and the HDCs. These agencies control helicopters to meet both tactical and logistic requirements. They also coordinate the movement of helicopters with movement of other aircraft and with fire support in the objective area. The helicopter control system must be flexible and responsive to the requirements of the tactical situation. (See FMFM 3-3, *Helicopterborne Operations*; FMFM 5-3, *Assault Support*; FMFM 5-4, *Offensive Air Support*; and NWP 22-3/FMFM 1-8, *Ship-to-Shore Movement*.)

(1) Tactical Air Control Center Afloat. The TACC afloat is on the ATF flagship. It controls and coordinates all air operations within the amphibious objective area. The TAO directs the air effort from the TACC.

(2) Helicopter Coordination Section. The helicopter coordination section in the TACC is the central agency for helicopter employment. It is the central coordinating agency whether there is one or more than one HDC. This is necessary because helicopters may have to move troops, supplies, or equipment which have landed previously.

(3) Helicopter Direction Center. There is an HDC on the flagship of each helicopter transport group/unit. The HDC exercises directional control of helicopter movements in accordance with the operation order. The helicopter director, located in the HDC, is responsible to the TACC. His tasks include—

- Controlling helicopters from the wave rendezvous point to the initial point (IP).
- Controlling helicopters from take-off at the HLZ to the breakup point.
- Controlling helicopter movements between platforms.
- Controlling escort aircraft when directed by the TACC.

- Recording availability status and location of helicopters, whether airborne or landed.
- Fulfilling requests for helicopter employment within limits of authority granted by CATF and/or CLF orders, or TACC direction.
- Advising the TACC on helicopter movements which require coordination with supporting arms.

(4) Helicopter Logistics Support Center (HLSC). The HLSC is under the operational control of the helicopter transport group/unit commander. It is normally aboard the helicopter transport group flagship near the HDC and the TACLOG. The HLSC coordinates the debarkation of serials according to the landing plan. The HLSC also coordinates deviations from the landing plan, including the debarkation of on-call waves and nonscheduled units. It instructs ships of the helicopter transport group to prepare serials for debarkation. It uses the helicopter logistics command net to direct landing of serials based on the priorities of the operational commander ashore. The HLSC maintains liaison with the TACLOG and the TACC.

(5) Assault Support Coordinator (Airborne) (ASC(A)). The ASC(A) operates under the control of the helicopter director in the HDC. The ASC(A) communicates with the helicopter transport commander at prearranged checkpoints. He transmits information on the weather and the enemy situation along the approach route and in the HLZ. The transport commander reports arrival at the IP to the ASC(A). He receives a final brief on the situation at the helicopter landing sites and confirms helicopter landing site marking procedures. For further information, refer to FMFM 5-35.

13008. Landing Force Control Organization

The landing force control organization interfaces with the Navy control organization for the purpose

- **Waterborne.** The combat power of the LF moves ashore by landing craft, landing ships, and amphibious vehicles. The CSS task organization which supports the waterborne ship-to-shore movement is the shore party group/team.
- **Helicopterborne.** The combat power of the LF moves ashore by helicopters. The CSS task organization which supports the helicopterborne ship-to-shore movement is the HST.
- **Surface and Air.** A coordinated combination of waterborne and helicopterborne ship-to-shore movements.

b. Flexibility of Movement Control. The landing plan and the plan for landing supplies prescribe the sequence in which troop units and supplies land during the ship-to-shore movement. The commander must be able to make rapid changes to these plans in order to adjust to the tactical situation ashore. He must have the flexibility to change the landing sequence while, at the same time, maintaining effective movement control. Flexibility and control are essential to tactical and logistical success.

c. Landing Categories. There are five landing categories. These categories establish the relative priority for landing and help to control the ship-to-shore movement. The five landing categories are:

- Scheduled Waves
- On-Call Waves
- Nonscheduled Units
- Prepositioned Emergency Supplies
- Remaining Landing Force Supplies

13007. Navy Control Organization

The CATF is responsible for control of the ship-to-shore movement of both waterborne and helicopterborne assault forces. The Navy control organization is the CATF's executive agency. It directs landing craft, amphibious vehicles, landing ships and helicopters during both waterborne and helicopterborne

ship-to-shore movements. The structure of the Navy control organization may vary. The scope of the operation and number and type of beaches and HLZs dictate its structure. The TACLOG is the CLF's agency for advising and assisting the Navy control organization regarding LF requirements during the ship-to-shore movement.

a. Navy Control Organization for Waterborne Movement

(1) Central Control Officer (CCO). The CCO directs the movement of all scheduled waves. He is normally aboard the ATF flagship. After scheduled waves have landed, the CCO continues to coordinate movement to and from the beach until unloading is complete. The central control ship (CCS) is normally some distance seaward of the line of departure (LOD).

(2) Assistant Central Control Officer (ACCO). CATF appoints an ACCO when two or more divisions land simultaneously. He may also do so in smaller scale operations when there are large distances between forces. The ACCO is usually aboard the flagship of the transport group commander. He assumes overall control only if the CCO or the CCS become casualties.

(3) Primary Control Officer (PCO). CATF appoints a PCO for each transport organization which lands a regimental landing team across a colored beach or a geographically separated beach. He is aboard the PCS from which he directs movement to and from a colored beach. The PCS is usually near the LOD.

(4) Secondary Control Officer (SCO). The SCO is aboard the secondary control ship (SCS). The location of the SCS usually marks the flank of boat lanes at the LOD. The SCO assists the PCO, taking over if the PCO becomes a casualty.

(5) Approach Lane Control Officers. Approach lane control officers are in marker ships at the seaward end of the approach lanes. They control the movement of the waves between the approach lane marker ships and the LOD.

CLASSIFICATION

Co B (-) (Rein), 3d Ldg Spt Bn
Det, 3d Med Bn
Det, 3d Den Bn

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(page number)

CLASSIFICATION

CLASSIFICATION

CSSD-32

LtCol CHARGER

Det, H&S Bn, 3d FSSG
Det, 3d Sup Bn
Det, 3d Maint Bn
1st Plat (Rein), Co A, 9th MT Bn
Co C (-) (Rein), 9th Engr Spt Bn
1st Bulk Fuel Co (-), 9th Engr Spt Bn
1st Plat (Rein), Co C, 3d Ldg Spt Bn
Det, 3d Med Bn
Det, 3d Den Bn

CSSD-34

LtCol RELIABLE

Det, H&S Bn, 3d FSSG
Det, 3d Sup Bn
Det, 3d Maint Bn
2d Plat (Rein), Co A, 9th MT Bn
1st Plat (Rein), Co C, 9th Engr Spt Bn
1st Plat, 1st Bulk Fuel Co, 9th Engr Spt Bn
2d Plat (Rein), Co C, 3d Ldg Spt Bn
Det, 3d Med Bn
Det, 3d Den Bn

CSSD-36

LtCol HUSTLER

Det, H&S Bn, FSSG
Det, 3d Sup Bn
Det, 3d Maint Bn
1st Plat (Rein), Co B, 9th Mt Bn
3d Plat (Rein), Co A, 9th Engr Spt Bn
Det, 2d Bulk Fuel Co, 9th Engr Spt Bn
1st Plat (Rein), Co B, 3d Ldg Spt Bn
Det, 3d Med Bn
Det, 3d Den Bn

CSSD-38

LtCol HOTSHOT

Det, H&S Bn, 3d FSSG
Det, 3d Sup Bn
Det, 3d Maint Bn
2d Plat (Rein), Co B, 9th MT Bn
3d Plat (Rein), Co B, 9th Engr Spt Bn
Det, 2d Bulk Fuel Co, 9th Engr Spt Bn

(page number)

CLASSIFICATION

Annex A to the CSSE Operation Order

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SEOUL, KOREA
210900I Jan 1999
Message reference number

Annex A (Task Organization) to Operation Order 1-99

Ref: (a) Map, Series L752, Sheet 3121 II (SEOUL)

(All attachments effective 150600I Feb 90)

Headquarters & Service Battalion

LtCol SMART

3d Sup Bn (-)

Col SASSY

3d Maint Bn (-)

LtCol MIMMS

9th MT Bn (-) (Rein)

LtCol REDBALL

Truck Co, Hq Bn, 3d MarDiv
3d Plat, Co C, 3d LAV Bn

9th Engr Spt Bn (-)

LtCol DOZER

3d Ldg Spt Bn (-)

LtCol BEACH

3d Med Bn (-)

Capt ORTHOPEDIC

3d Den Bn (-)

Capt BICUSPID

(page number)

CLASSIFICATION

CLASSIFICATION

c. (U) Command Posts

- (1) () Annex C (Operations).
- (2) () Subordinate units report command post locations when established.

ACKNOWLEDGE RECEIPT

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Brigadier General, U.S. Marine Corps
Commanding

OFFICIAL:

U. R. WRIGHT
Colonel, USMC
G-3

ANNEXES:

- A – Task Organization
- B – Intelligence
- C – Operations
- D – Logistics/Combat Service Support
- E – Personnel
- F – Public Affairs
- G – Civil Affairs
- H – Environmental Services
- J – Command Relationships
- K – Communications-Electronics
- L – Operations Security
- M – Air Operations
- R – Amphibious Operations
- X – Execution Checklist
- Z – Distribution

DISTRIBUTION: Annex Z (Distribution)

(page number)

CLASSIFICATION

CLASSIFICATION

(11)() CSSD-36

- (a) () Direct support of 3d MarDiv.
- (b) () Provide full-time liaison team to 3d MarDiv to help coordinate CSS planning for Division operations.
- (c) () See Annex C (Operations).

(12)() CSSD-38

- (a) () Reinforce CSSD-36.
- (b) () On order, direct support of 9th Marines.
- (c) () See Annex C (Operations).

c. () Coordinating Instructions

- (1) (U) Annex C (Operations)
- (2) (U) EEIs. Annex B (Intelligence)
- (3) (U) Submit nonroutine requests for aviation support via the supported unit headquarters. Submit routine requests for aviation support via this headquarters.

4. (U) ADMINISTRATION AND LOGISTICS

Annex D (Logistics/CSS).

5. (U) COMMAND AND SIGNAL

- a. () Command Relationships. Annex J (Command Relationships).
- b. () Signal. Annex K (Communications-Electronics).

(page number)

CLASSIFICATION

CLASSIFICATION

(6) () 3d Landing Spt Bn (-)

- (a) () General support of III MEF.
- (b) () Provide detachments to CSSDs as directed by this headquarters.
- (c) () See Appendix 14 (Transportation) to Annex C (Operations).

(7) () 3d Med Bn (-)

- (a) () General support of III MEF.
- (b) () Provide detachments to CSSDs as directed by this headquarters.
- (c) () See Appendix 16 (Health Services) to Annex C (Operations).

(8) () 3d Dent Bn (-)

- (a) () General support of III MEF.
- (b) () Provide detachments to CSSDs as directed by this headquarters.
- (c) () See Appendix 16 (Health Services) to Annex C (Operations).

(9) () CSSD-32

- (a) () Direct support of 1st MAW (-) at _____.
- (b) () Provide full-time liaison team to 1st MAW to help coordinate CSS planning for MAW operations.
- (c) () See Annex C (Operations).

(10) () CSSD-34

- (a) () Direct support of MAG-12 at _____.
- (b) () Support other III MEF units at or on an as-required basis.
- (c) () See Annex C (Operations).

(page number)

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2. () MISSION

3d FSSG provide general support to III MEF. Provide CSSDs to support 1st MAW operations at fixed-wing airfields. Provide CSSDs in direct support of 3d MarDiv operations.

3. (U) EXECUTION

a. (U) Concept of Operations. Annex C (Operations)

b. (U) Tasks

(1) () H&S BN

(2) () 3d Sup Bn (-)

(a) () General support of III MEF.

(b) () Provide detachments to CSSDs as directed by this headquarters.

(c) () See Appendix 12 (Supply) to Annex C (Operations).

(3) () 3d Maint Bn (-)

(a) () General support of III MEF.

(b) () Provide detachments to CSSDs as directed by this headquarters.

(c) () See Appendix 13 (Maintenance) to Annex C (Operations).

(4) () 9th MT Bn (-)

(a) () General support of III MEF.

(b) () Provide detachments to CSSDs as directed by this headquarters.

(c) () See Appendix 14 (Transportation) to Annex C (Operations).

(5) () 9th Engr Spt Bn (-)

(a) () General support of III MEF.

(b) () Provide detachments to CSSDs as directed by this headquarters.

(c) () See Appendix 15 (Engineer) to Annex C (Operations).

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Appendix C

Combat Service Support Element Operation Order

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SEOUL, KOREA
210900I JAN 1999
Message Reference Number

OPERATION ORDER 1-99

Ref: (a) Map, Series L752, Sheet 3121 (SEOUL)

Time Zone: India

Task Organization. Annex A (Task Organization)

1. (U) SITUATION

a. () Enemy Forces. Annex B (Intelligence)

b. (U) Friendly Forces

(1) () 3d MarDiv with two regiments abreast attacks in zone to seize, occupy, and defend MEF objectives 3 and 4. On order, continue the attack to seize MEF objectives 5 and 6.

(2) () 1st MAW, operating from two fixed-wing and two rotary wing airfields, supports operations of III MEF in zone.

c. (U) Attachments and Detachments. (Eff 29080I Jan 1990)

Truck Co, Hq Bn, 3d MarDiv
1stPlat, Co C, 3d LAV Bn

(page number)

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4. (U) SUPPORT

- a. () In accordance with reference (b).
- b. () See Appendix 1 (External Support).

5. (U) COMMAND AND SIGNAL

- a. () Command Relationships. See Annex J (Command Relationships).
- b. () Signal. See Annex K (Communications-Electronics).
- c. () Command Posts. (Specify/report locations of all CSS command posts and facilities, when established. See also the corresponding paragraph 5c to the Annex D of the ACE Operation Order.)

ACKNOWLEDGE RECEIPT

I. M. A. WINNER
Lieutenant General, U. S. Marine Corps
Commanding

OFFICIAL:

A. J. SQUARED AWAY
Colonel, USMC
G-4

APPENDIXES:

- 1—External Support
- 2—Supply
- 3—Maintenance
- 4—Transportation
- 5—General Engineering
- 6—Health Services
- 7—Services
- 8—Other (as required)

(page number)

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B-3

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3. (U) EXECUTION

- a. () Concept of Logistic/Combat Service Support. (Provide a synopsis of the support envisioned for the operation to include an overview of the items to be discussed in detail in the following subparagraphs and refer to Annex D of the ACE OPOD [see Annex D, Logistics/Combat Service Support to ACE Operation Order 2-9____].)
- (1) () Locations. (Identify the type and general location of each CSS facility to be established for the operation. Include BSA, LZSA's, FCSSA, and CSSA's.)
- (2) () Phases. (If the operation is to be conducted in phases, identify each phase in chronological order, and outline the facilities to be established in each.)
- (3) () Inter-Service Support. (Identify the source, location, and type of support to be provided by other U.S. forces. Specify what MAGTF element(s) is(are) authorized to deal with these sources. Reference Appendix 1 [External Support] for details.)
- (4) () Host Nation Support. (Identify the source, location, and type of support to be provided by allied forces. Specify what MAGTF element(s) is(are) authorized to deal with these sources. Reference Appendix 1 [External Support] for details.)
- b. () Supply. See Appendix 2 (Supply). See also the corresponding appendix to Annex D of the ACE Operation Order.
- c. () Maintenance. See Appendix 3 (Maintenance). See also the corresponding appendix to Annex D of the ACE Operation Order.
- d. () Transportation. See Appendix 4 (Transportation). See also the corresponding appendix to Annex D of the ACE Operation Order.
- e. () General Engineering. See Appendix 5 (General Engineering). See also the corresponding appendix to Annex D of the ACE Operation Order.
- f. () Health Services. See Appendix 6 (Health Services). See also the corresponding appendix to Annex D of the ACE Operation Order.
- g. () Services. See Appendix 7 (Services). See also the corresponding appendix to Annex D of the ACE Operation Order.
- h. () Coordinating Instructions

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Appendix B

Logistic/Combat Service Support Annex

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Date/time group
Message reference number

ANNEX D (Logistics/Combat Service Support) to Operations Order 2-9__

Ref: (a) Map, Series, Sheet II (KARUP)
(b) II MEFO P4000.4B, Logistic SOP

Time Zone: Alfa

Task Organization. See Annex A (Task Organization).

1. (U) SITUATION
- a. () Enemy Forces. See Annex B (Intelligence).

b. () Friendly Forces. (List other U.S. and allied forces.)

(1) ()

(2) ()

c. () Attachments and Detachments. (List other U.S. and allied CSS units attached to the MAGTF and USMC CSS units detached to other forces, if any.)
2. (U) MISSION
- (Assign formal missions to the CSSE of the MAGTF and to other U.S. and allied CSS units which are attached to the MAGTF but not assigned to the CSSE.)

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5. (U) CONCLUSIONS

- a. () (State which course of action, if any, can best be supported from a logistic/CSS standpoint.)
- b. () (State whether any/all of the remaining courses of action can be supported from a logistic/CSS standpoint, citing the disadvantages which render them less desirable.)
- c. () (Cite any significant logistic/CSS problems to be resolved and any limitations to be considered in each course of action.)
- d. () (State those measures necessary to resolve those logistic/CSS problems cited above.)

Signature
Name
Rank and Service
Title

CLASSIFICATION

b. (U) Own Forces

- (1) () Present Disposition of Major Combat/Combat Support Elements. (May be shown as a situation map or an overlay appended as an annex with reference to the ACE logistics/combat service support estimate by including the statement [see also ACE logistics/combat service support estimate].)
 - (2) () Courses of Action. (Statement of the tactical courses of action under consideration.)
- c. () Characteristics of the Area. (Those likely to affect the logistic/CSS situation such as weather, terrain, hydrography, communications routes, and local resources.)
 - d. () Current Logistic/CSS Status. (A brief description of the current logistic/CSS status, to include any planned or known changes prior to and during the period covered by the estimate.)
 - e. () Projected Logistic/CSS Situation. (Information regarding external logistics/CSS planned/available for the operation with reference to the ACE logistics/combat service support estimate by including the statement [see also ACE logistics/combat service support estimate].)

3. (U) ANALYSIS

(Under each of the following categories, analyze each course of action under consideration in light of all significant factors to determine problems which may arise, measures necessary to resolve those problems, and any limiting factors which may exist.)

a. (U) Course of Action #

- (1) () Supply
- (2) () Maintenance
- (3) () Transportation
- (4) () General Engineering
- (5) () Health Services
- (6) () Services

b. (U) Course of Action #4. (U) EVALUATION

(From a logistic/CSS standpoint and based on the foregoing analyses, summarize and compare the advantages and disadvantages of each course of action under consideration.)

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Appendix A

Logistic/Combat Service Support Estimate

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LOGISTIC/COMBAT SERVICE SUPPORT ESTIMATE

Ref: (a) (As appropriate to the preparation of the estimate.)

1. (U) MISSION

a. () Basic Mission. (That of the command as a whole.)

b. (U) Purpose(s) of this Estimate

(1) () (To determine which course of action is most desirable from a logistic/CSS standpoint.)

(2) () (To determine what measures must be taken by the commander to overcome logistic/CSS problems and/or limiting factors in supporting each course of action.)

2. (U) SITUATIONS AND CONSIDERATIONS

a. (U) Enemy Forces

(1) () Present Disposition of Major Elements. (Refer to the Intelligence Estimate.)

(2) () Major Capabilities. (Enemy capabilities likely to affect friendly logistic/CSS matters.)

(3) () Other Capabilities/Limitations. (Enemy capabilities/weaknesses likely to affect the logistics/CSS or tactical situation.)

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terrain, intersecting fjords, streams and rivers, alpine and rolling forested terrain, frozen ground, limited road networks, and sharp variations in weather. Success will favor the unit which is capable of off-road movement, is trained to live in the cold and snow, and is prepared to move and conduct resupply operations at night.

c. CSS Operations. CSS planners must develop a flexible plan that is adaptable to changing environmental conditions and continue to provide timely and essential support for the MAGTF. Decentralization of execution will characterize CSS operations in cold weather. Planning should be based on deploying CSSDs/ACE MALS/MWSS elements forward with essential supplies and services, employing helicopters and air delivery, and repairing equipment as far forward as possible.

d. Command and Control. Radio is the primary communications means in the cold weather environment. The effectiveness of VHF radio communications is extremely limited and will require retransmission sites. Mission-type orders will further reduce coordination problems and enhance responsiveness.

e. Supply. Extreme cold weather conditions will magnify normal supply problems. Unit distribution, as far forward as possible, must be the norm. Many supply items, notably medical supplies, will require heated storage. Repair parts are required in larger quantities than normal. Host nation support may be the only source for specialized items such as snow removal equipment for airfields and ports.

f. Maintenance. Maintenance of mechanical equipment in cold weather is exceptionally difficult in the field. Maintenance personnel will require heated shelters and protective clothing to perform the majority of their tasks. Special emphasis must be placed on timely, thorough performance of organizational maintenance by the owning unit.

g. Transportation. The cold, ice, and snow dictate special driving and maintenance techniques. Additional movement time must be allowed for existing roads and an even greater amount of time for cross country movements. Alternative means of transportation must be planned.

h. General Engineering. Engineer tasks will require more time and resources to complete. The cold weather will increase the volume and scope of engineer operations and may dictate augmentation by naval construction forces. Road maintenance and construction of CSS installations will assume higher priorities.

i. Health Service. Cold injuries will be the major potential factor in the combat readiness of the MAGTF. Medical personnel must be fully trained and prepared to deal with the many forms of cold injuries. Helicopters and over-snow vehicles are the primary means for transport of patients. Medical treatment facilities will require heat. Solid medications, not liquids, should be used to minimize the impact of freezing problems.

Annex B to the CSSE Operation Order

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231400I Jan 1999
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Annex B (Intelligence) to Operation Order 1-99

Ref: (a) 3d FSSG P3800.2C (Intelligence SOP)

1. () INTELLIGENCE MISSION AND CONCEPT OF INTELLIGENCE OPERATIONS

a. () Mission

b. () Concept of Operations

c. () Intelligence

2. () SITUATION

a. () Characteristics of Weather and Area of Operations

b. () Summary of Enemy Situation

c. () Estimate of Enemy Capabilities

3. () INTELLIGENCE ACTIVITIES

a. () Refer to Intelligence SOP

b. ()

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4. () ASSIGNMENT OF INTELLIGENCE TASKS

- a. () Orders to Subordinate and Attached Units
- b. () Requests to Higher and Adjacent Units
- c. () Coordinating Instructions

5. () MISCELLANEOUS INSTRUCTIONS

ACKNOWLEDGE RECEIPT

JOHN H. SMITH
Brigadier General, U.S. Marine Corps
Commanding

OFFICIAL: I. C. EVERYTHING
Major, USMC
G-2

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Annex C to the CSSE Operation Order

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241500I Jan 1999
Message reference number

Annex C (Task Organization) to Operation Order 1-99

Ref: (a) 3d FSSGO 1500.3C (Operations SOP)
(b) Map, Series L752, Sheet 3121 II (SEOUL)

Time Zone: India

1. () GENERAL

- a. () Purpose. The purpose of this annex is to provide detailed instructions for the conduct of CSS operations in support of III MEF in its zone.
- b. () Mission. See paragraph 2 of the basic order.
- c. () Area of Operations. See Appendix 11 (Operations Overlay).
- d. () Situation. See paragraph 1 of the basic order.

2. () CONCEPT OF OPERATIONS

3d FSSG (Rein) provides CSS to III MEF units in zone and those elements located outside the theater of operations. 3d FSSG is task-organized (Annex A) to provide the full spectrum of support dictated by the tactical situation and subject to the availability of CSS assets.

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Restructuring of subordinate elements will occur throughout the operation as required by the tactical situation. Missions will also be modified as required by the situation.

3. () CONDUCT OF OPERATIONS

- a. () Rear Area Security. See Appendix 1 (RAS).
- b. () Nuclear Operations. (State whether the employment of nuclear weapons is contemplated. If so, refer to Appendix 2 [Nuclear Operations]. If not, Appendix 2 is omitted.)
- c. () NBC Defense. See Appendix 3 (NBC Defense).
- d. () Electronic Warfare. See Appendix 4 (Electronic Warfare).
- e. () Psychological Operations. (Indicate whether psychological operations are anticipated. If so, refer to Appendix 5 [Psychological Operations]. If not, Appendix 5 is omitted.)
- f. () Unconventional Warfare. (Indicate whether unconventional warfare operations are anticipated. If so, refer to Appendix 6 [Unconventional Warfare]. If not, Appendix 6 is omitted.)
- g. () Search and Rescue. See Appendix 7 (Search and Rescue).
- h. () Deception. See Appendix 8 (Deception).
- i. () Rules of Engagement. See Appendix 9 (Rules of Engagement).
- j. () Reconnaissance. See Appendix 10 (Reconnaissance).
- k. () Operations Overlay. See Appendix 11 (Operations Overlay).
- l. () Supply Operations. See Appendix 12 (Supply).
- m. () Maintenance Operations. See Appendix 13 (Maintenance).
- n. () Transportation. See Appendix 14 (Transportation).
- o. () General Engineering. See Appendix 15 (General Engineering).

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- p. () Health Services. See Appendix 16 (Health Services).
- q. () Services. See Appendix 17 (Services).
- r. () Amphibious Operations. See Annex R (Amphibious Operations).
- s. () Fire Support. See Appendix 18 (Fire Support).
- t. () Other. (Add additional appendixes or subparagraphs to address other areas of concern. Topics may include rear area security, the counterattack plan, air defense, etc.)
- u. () Coordinating Instructions. (As required).

4. () OPERATIONAL CONSTRAINTS

(Use subparagraphs to identify and discuss any constraints to operations. This paragraph will alert all concerned to anticipated problems so that alternatives can be planned.)

5. () LIMITING FACTORS

(Use subparagraphs to identify any operational limiting factors. If there are, state their impact and indicate how the concept of operations would be modified if these factors could be overcome.)

6. () COMMAND AND SIGNAL

- a. () Command. (Provide command post locations and other appropriate information.)
- b. () Signal. Annex K (Communications-Electronics)

BY COMMAND OF BRIGADIER GENERAL SMITH

I.M. BOSS
Colonel, U.S. Marine Corps
Chief of Staff

(page number)

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APPENDIXES:

- 1 – Rear Area Security
- 2 – Nuclear Operations
- 3 – NBC Defense
- 4 – Electronic Warfare
- 5 – Psychological Operations
- 6 – Unconventional Warfare
- 7 – Search and Rescue
- 8 – Deception
- 9 – Rules of Engagement
- 10 – Reconnaissance
- 11 – Operations Overlay
- 12 – Supply
- 13 – Maintenance
- 14 – Transportation
- 15 – General Engineering
- 16 – Health Services
- 17 – Services
- 18 – Fire Support
- 19 – Other (As required)

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Appendix D

Logistics/Combat Service Support-Related
NATO/Quadripartite Standardization Agreements

Certain provisions of this publication are the subject of international standardization agreements. This appendix contains a partial listing of applicable agreements. When amendment, revision, or cancellation of this publication is proposed which will modify the international agreement concerned, the preparing activity will take appropriate action, as provided for in MCO 5711.1 through international standardization channels to change the agreement or make other appropriate accommodation. STANAGs and QSTAGs are subject to frequent modification. The information concerning the STANAGs and QSTAGs listed in this appendix is current as of the manual's publication date. AAP-6, *NATO Glossary of Terms and Definitions*, provides an annual update of current STANAG status. All STANAGs listed are NATO UNCLASSIFIED (NU).

STANAGs

STANAG NUMBER	TITLE	EDITION/ DATE	AMEND/ DATE
2010 ENGR	Military Load Classification Markings Purpose: To standardize the method of marking the military load classification of bridges and rafts and the corresponding marking of vehicles.	5 801118	5 910730
2021 ENGR	Military Computation of Bridge, Ferry, Raft and Vehicle Classifications Purpose: To establish a standard method of computing the military classification of bridges, ferries and rafts (including their landing stages) and vehicles.	5 900918	
2023 M&T	Marking of Military Cargo for International Movement by All International Means of Transport Purpose: To standardize, for the use of NATO forces, marking of military cargo and handling and storage instructions for consignments of military cargo for international movement by all international means of transport, except where the movement is national in character and is handled exclusively by that nation's means of transport.	2 740729	4 830303

2025 M&T	Basic Military Road Traffic Regulations	5	
	Purpose: To standardize basic military road traffic regulations for NATO forces.	861001	
2026 M&T	NATO Travel Order	4	3
	Purpose: To standardize the format for the travel order used by NATO Forces.	750313	890831
2027 OP	Marking of Military Vehicles	3	7
	Purpose: To standardize the marking of military vehicles for the use of NATO forces.	751218	910425
2034 LOG	Land Forces Procedures for Allied Supply Transactions	4	6
	Purpose: To standardize the NATO land force procedures applicable to the request, issue, receipt, reimbursement and documentation for supplies provided in international supply transactions in peace and war.	821220	890904
2041 M&T	Operations Orders, Tables and Graphs for Road Movement	4	3
	Purpose: To standardize operation orders, tables and graphs for road movement.	800801	890831
2109 LOG	Postal Organization for the NATO Forces	4	
	Purpose: To achieve secure, speedy, efficient and interoperable postal and courier service in the NATO Forces.	901112	
2115 LOG	Fuel Consumption Unit	4	2
	Purpose: To standardize, for use of NATO forces when engaged in land operations, the basis of calculations to be used in determining a common unit of fuel consumption for military units or formations and expressing fuel stock levels and requirements.	870901	890921
2135 LOG	Procedures for Emergency Logistics Assistance	3	4
	Purpose: A. Establish procedures for effecting emergency logistic assistance in a period of tension or in war, to the forces of NATO nations, international headquarters, or multinational formations. B. Establish procedures to be followed for the reimbursement for such logistic assistance. C. Establish procedures to augment and not to replace those in: STANAGs 1062, 2034, 3113 and 3430.	820212	861205

2154 M&T	Regulations for Military Motor Vehicle Movements by Road	5 871087	
	Purpose: To set out the basic regulations applying to military movements by road, except where they are contrary to national laws and/or regulations.		
2155 M&T	Road Movement Bid and Credit	2 820621	3 890203
	Purpose: To provide participating nations with standardized documents for road movement in a format suitable for automatic data processing (ADP) and/or manual handling, applicable in peace and in wartime in all NATO Forces.		
2156 M&T	Surface Transport Request and Surface Transport Reply	4 880331	1 891026
	Purpose: To standardize the data which forces must submit to the responsible agencies of another nation from which they request surface transport (Surface Transport Request) and the data which is transmitted to the forces of another nation to meet submitted surface transport requirements (Surface Transport Reply).		
2158 VF	Identification of Military Trains	4 860709	
	Purpose: To standardize the procedures for the identification of military trains used by the NATO forces moving within the territories of NATO nations of continental Europe.		
2159 M&T	Identification of Movement Control and Traffic Control Personnel and Agencies	4 750416	2 910429
	Purpose: To standardize, for the use of the NATO Forces, methods of identifying movement control and traffic control personnel and agencies.		
2165 M&T	Forecast Movement/Transport Requirements—Rail, Road and Inland Waterways	3 770308	5 900515
	Purpose: To standardize for NATO Forces a document common to several means of transport for the purpose of submitting forecast movement requirements, including movement requirements based on approved contingency plans, to their own national authorities and/or to the nations concerned in such movements.		
2166 M&T	Movements and Transport Documents Used for Movements by Ship	3 880331	1 890117
	Purpose: To standardize the essential movements and transport documents used for the movement of materials by ship to and from NATO nations so that loading and discharge can be carried out efficiently.		

2173 VF	Regulations for the Securing of Military Tracked and Wheeled Vehicles on Railway Wagons	3 831123	2 870123
	Purpose: To standardize within NATO Forces the regulations concerning the securing of military tracked and wheeled vehicles on railway wagons in frontier crossing exchange traffic between the railway networks concerned.		
2174 M&T	Military Routes and Route/Road Networks	3 780810	7 890831
	Purpose: To standardize the methods and procedures used on military routes and route/road networks by the NATO Forces.		
2175 VF	Classification and Designation of Flat Wagons Suitable for Transporting Military Equipment	3 861106	2 910724
	Purpose: To facilitate the preparation and execution of military transport by means of the classification and marking of wagons, the parallel classification of ordinary transport military equipment, and the unified sketchbook for exceptional transport military equipment.		
2176 M&T	Procedures for Military Road Movement Across National Frontiers	2 810427	2 910618
	Purpose: To standardize the regulations, procedures, and forms for military road movements and transport, which include commercial vehicles carrying military cargo and personnel across frontiers between the NATO nations.		
2257 IGEO	Railways	3 791218	2 861215
	Purpose: To standardize the presentation of the military geographic documentation (MGD) on railways for the use of NATO Forces, and to ensure that it can be readily used with the minimum of special training. Guidance is also given in Annex B of additional military geographic information (MGI) on this subject.		
2406 LOG	Land Force Logistic Doctrine	1 910301	
	Purpose: To register national acceptance of ALP-9.		
2832 VF	Restrictions for the Transport of Military Equipment by Rail on European Railways	2 801103	1 820831
	Purpose: To facilitate the movement of trains carrying military equipment on the railway network of Belgium, Denmark, France, Federal Republic of Germany, Italy, Luxemburg, and the Netherlands, by means of the use of special loading gauge for military equipment <i>Exceptional Transport</i> on flat railway wagons which exceed Passe-Partout International (PPI) gauges, setting gauges for the construction of military equipment to be transported by rail, and the establishment and updating of a unified sketchbook for the transport of equipment classified as <i>Exceptional</i> .		

2937 LOG	Survival, Emergency and Individual Combat Rations-Nutritional Values and Packaging	2 870511	1 890904
	Purpose: To standardize nutritional values and certain elements of the contents of combat rations (survival, emergency and individual combat rations) so as to facilitate the interchangeability of rations between nations.		
2961 LOG	Classes of Supply of NATO Land Forces	1 841211	5 891110
	Purpose: To facilitate the identification of supplies by providing explanatory tables to show the different systems of classifying supplies employed by the land forces of member nations		
3146 TN	Planning Procedures for Tactical Air Transport Operations	1 850327	3 881025
	Purpose: To standardize the planning procedures for tactical air transport operations to permit units to operate successfully together and to enable any units of any NATO nation to be air dropped or airlanded by the aircraft of any other NATO nation.		
3543 TN	Air Transport Cargo/Passenger Handling Systems—Request for Information	3 861021	3 900626
	Purpose: To authorize, and establish procedures for, the exchange of information concerning cargo and passenger handling capabilities for transport aircraft at airfields of participating nations.		

QSTAGs

<u>QSTAG NUMBER</u>	<u>TITLE</u>	<u>EDITION/ DATE</u>	<u>AMEND/ DATE</u>
165	Movements Principles, Policies, Duties Purpose: To standardize the movements principles, policies, and duties which are considered desirable in the details of agreement.	2 761213	1 780316
171	Procedures for Requesting Repair and Recovery of Land Military Technical Equipment Purpose: To outline the procedure for requesting repair and recovery of land military technical equipment.	2 830601	
181	Postal Organization for ABCA Armies Engaged in Joint Operations or Training (Same as STANAG 2109) Purpose: To achieve a speedy and efficient postal service for Armies engaged in joint operation or training and to include Marine, Naval, and Air Force forces operating as a part of or in support of ABCA Armies.	2 (PENDING)	
190	Movements and Transport Documents Used for Movements by Ship (Same as STANAG 2166) Purpose: To standardize the movements and transport documents, in connection with the movement by ships of men and materiel to and from their nations, through the adoption of the provisions of the provisions of STANAG 2166.	3 890906	
507	Military Routes and Route/Road Networks (Same as STANAG 2174) Purpose: To standardize the methods and procedures used in military routes and route/road networks by the Armies of the United States, United Kingdom and Australia and the Canadian Forces.	1 801212	
516	ABCA Armies Procedures for Supply Transactions (Same as STANAG 2034) Purpose: To standardize the ABCA land force procedures applicable to the request, issue, receipt, reimbursement and documentation for supplies provided in international supply transactions in peace and war.	1 851121	
520	Operation Orders, Tables and Graphs for Road Movement (Same as STANAG 2041) Purpose: To standardize operation orders, tables and graphs for road movement.	1 810825	

539	Regulations for Military Vehicle Movement by Road (Same as STANAG 2154)	1 801002	
	Purpose: To set out the basic regulations applying to military movement by road for the use of the ABCA Forces.		
540	Identification of Movement Control and Traffic Control Personnel and Agencies (Same as STANAG 2159)	1 800205	
	Purpose: To standardize, for the use of the ABCA Forces, methods of identifying movement control and traffic control personnel and agencies.		
562	Surface Transport Request and Reply to Surface Transport Request (Same as STANAG 2156)	2 910812	
	Purpose: To standardize: A. The data which forces must submit to the responsible agencies of another nation from which they request surface transport (Surface Transport Request). B. The data which is transmitted to the forces of another nation to meet submitted surface transport requirements (Surface Transport Reply).		
590	Marking of Military Cargo for International Movement by all International Means of Transportation (Same as STANAG 2023)	1 801211	1 830502
	Purpose: To standardize, for the use of the ABCA Forces: Marking of military cargo, and handling and storage instructions, for consignments of military cargo for international movement by all international means of transport, except where the move is national in character and is handled exclusively by that nation's means of transport.		
591	Basic Military Road Traffic Regulations (Same as STANAG 2025)	2 890216	
	Purpose: To standardize basic military road traffic regulations for ABCA Armies.		
592	Forecast Movement/Transport Requirements— Rail, Road and Inland Waterways (Same as STANAG 2165)	1 791221	2 860701
	Purpose: To standardize for ABCA Forces a document common to several means of transport for the purpose of submitting forecast movement requirements, including movement requirements based on approved contingency plans, to their own national authorities and/or to the nations concerned in such movements.		

627	Materials Handling in the Field (Same as STANAG 2827)	2 920710	
	Purpose: To provide for efficient and functional materials handling in the field by ABCA forces in both peace and wartime.		
628	Handling Aids (Same as STANAG 2830)	1 851002	
	Purpose: To ensure that handling aids used by the ABCA Forces are functionally interchangeable and to establish standard safety procedures.		
642	Codification of Equipment—Uniform System of Item Identification (Same as STANAG 3151)	2 (PENDING)	
	Purpose: To provide a uniform system of item identification for use by the Armed Forces of the ABCA countries.		
655	Handling of Deceased Personnel in an Area of Operations	2 (PENDING)	
	Purpose: To standardize procedures for ABCA forces for handling of all deceased personnel in an area of operations.		
657	Guide Specifications for ABCA Army Fuels, Lubricants, and Associated Products (Same as STANAG 2845)	1 830920	2 870813
	Purpose: To provide documents (guide specifications) which establish the minimum quality standard of fuels, lubricants and associated products used in ground service operations by ABCA Armies.		
660	Movement Control	1 840201	
	Purpose: To standardize movement and transport concepts that support ABCA operational concepts.		
680	Codification of Equipment—Uniform System of Supply Classification (Same as STANAG 3150)	2 (PENDING)	
	Purpose: To provide a uniform system of supply classification for use by the Armed Forces of the ABCA countries.		
785	ABCA Armies Materiel Issue and Movement Priority System (ABCAMIMPS)	1 880615	
	Purpose: To establish a standard system of determining priorities for the demanding, issue and movement of materiel in support of combined ABCA forces.		

829	ABCA Armies Procedures for Bar Coding	1
	Purpose: To establish standard procedures of bar coding operations for the use of the ABCA Armies.	870715
830	Procedures for Emergency Logistic Assistance (Same as STANAG 2135)	1
	Purpose: To establish standard procedures for effecting emergency logistic assistance to the ABCA forces and for the reimbursement for such assistance.	860421

Related NATO/Quadripartite Standardization Agreements

This section provides a listing of STANAGs and QSTAGs related to the primary agreements listed in the preceding pages. This listing is based on information contained in the primary STANAGs and QSTAGs and is subject to modification. The United States and/or the Department of the Navy may not have subscribed to each of the related STANAGs or QSTAGs or may have registered reservations in connection with certain STANAGs/QSTAGs. Refer to AAP-6.

STANAGs

PRIMARY STANAG	RELATED STANAG(s):	
2010 ENGR	2174 M&T 2021 ENGR	Military Routes and Route/Road Networks Computation of Bridge, Raft and Vehicle Classification
2021 ENGR	2010 ENGR	Military Load Classification Markings
2023 M&T	1059 OP 2019 OP 2175 VF 2316 AMMO 2322 AMMO 3150 MMS 3151 MMS 3427 TN 3854 TN 4123 LOG	National Distinguishing Letters for Use by NATO Forces Military Symbols Classification and Designation of Flat Wagons Suitable for Transporting Military Vehicles and Equipment Marking Ammunition (and Its Packaging) of a Calibre Below 20mm Minimum Markings for the Identification of Ammunition (and Its Packaging) Codification of Equipment—Uniform System of Supply Classification Codification of Equipment—Uniform System of Item Identification Colors for Identification of Air-Dropped Supplies Policies and Procedures Governing the Air Transportation of Dangerous Cargo Methods to Determine and Classify the Hazards of Ammunition
2025 M&T	2010 ENGR 2021 ENGR 2027 OP 2154 M&T 2174 M&T	Military Load Classification Markings Computation of Bridge, Raft and Vehicle Classifications Marking of Military Vehicles Regulations for Military Motor Vehicle Movements by Road Military Routes and Route/Road Networks
2026 M&T		NONE
2027 OP	2010 ENGR 2019 OP 2025 M&T 2154 M&T 3570 TN 3597 HIS	Military Load Classification Markings Military Symbols Basic Military Road Traffic Regulations Regulations for Military Motor Vehicle Movements by Road Drop Zones and Extraction Zones—Criteria and Markings Helicopter Tactical or Non-Permanent Landing Sites

2034 LOG	2135 LOG	Procedures for Emergency Logistics Assistance
2041 M&T	2014 OP	Operation Orders, Annexes to Operational Orders, Administrative and Logistics Orders
	2029 OP	Method of Describing Ground Locations, Areas and Boundaries
	2154 M&T	Regulations for Military Motor Vehicle Movement by Road
2109 LOG		NONE
2115 LOG	1135 F&L	Interchangeability of Fuels, Lubricants and Associated Products Used by the Armed Forces of the North Atlantic Treaty Organization Nations
	3150 MIS	Codification of Equipment—Uniform System of Supply Classification
2135 LOG	2034 LOG	Land Forces Procedures for Allied Supply Transactions
	3113 ACS	Provision of Support to Visiting Personnel, Aircraft and Vehicles
	3430 ACS	Responsibilities for Fixed and Rotary Wing Aircraft Cross-Servicing
2154 M&T	1059 OP	National Distinguishing Letters for Use by NATO Armed Forces
	2021 ENGR	Computation of Bridge, Raft and Vehicle Classifications
	2024 M&T	Military Vehicle Lighting
	2025 M&T	Basic Military Road Traffic Regulations
	2041 M&T	Operations Orders, Tables and Graphs for Road Movement
	2155 M&T	Road Movement Bid and Credit
	2159 M&T	Identification of Movement Control and Traffic Control Personnel and Agencies
	2174 M&T	Military Routes and Route/Road Networks
2155 M&T	2026 M&T	NATO Travel Order
	2041 M&T	Operations Orders, Tables and Graphs for Road Movement
	2154 M&T	Regulations for Military Motor Vehicle Movements by Road
	2174 M&T	Military Routes and Route/Road Networks
	2176 M&T	Procedures for Military Road Movement Across National Frontiers
2156 M&T	2021 ENGR	Computation of Bridge, Raft and Vehicle Classifications
	2023 M&T	Marking of Military Cargo for International Movement by All International Means of Transport
	2155 M&T	Road Movement Bid and Credit
	2165 M&T	Forecast Movement/Transport Requirements—Rail, Road and Inland Waterways
	2166 M&T	Movements and Transport Documents Used for Movements by Ship
	2174 M&T	Military Routes and Route/Road Networks
	2175 VF	Classification and Designation of Flat Wagons Suitable for Transporting Military Vehicles and Equipment
	3093 TN	NATO Air Transport Request and Answer to Air Transport Request (NARAT and TRANSAR)
2158 VF	1059 OP	National Distinguishing Letters for Use by NATO Armed Forces

2159 M&T	1059 OP 2019 OP 2025 M&T 2035 OP 2174 M&T	National Distinguishing Letters for Use by NATO Armed Forces Military Symbols Basic Military Road Traffic Regulations Marking of Headquarters and Dumps Military Routes and Route/Road Networks
2165 M&T	1059 OP 2021 ENGR 2156 M&T	National Distinguishing Letters for Use by NATO Armed Forces Computation of Bridge, Raft and Vehicle Classifications Surface Transport Request and Surface Transport Reply
2166 M&T	2023 M&T 2116 OP 2155 M&T 2156 M&T 2165 M&T	Marking of Military Cargo for International Movement by All Means of International Transport NATO Code for Equivalent Grades of Military Personnel Road Movement Bid and Credit Surface Transport Request and Surface Transport Reply Forecast Movement/Transport Requirements—Rail, Road and Inland Waterways
2173 VF	4062 MH	Attachment for Lifting Vehicles and Heavy Military Equipment by Land and Sea
2174 M&T	2002 NBC 2010 ENGR 2019 OP 2021 ENGR 2024 M&T 2025 M&T 2035 OP 2036 ENGR 2154 M&T 2159 M&T	Warning Signs for the Marking of Contaminated or Dangerous Land Areas, Complete Equipments, Supplies and Stores Military Load Classification Markings Military Symbols Computation of Bridge, Raft and Vehicle Classifications Military Vehicle Lighting Basic Military Road Traffic Regulations Marking of Headquarters and Dumps Land Minefield Laying, Marking, Recording and Reporting Procedures Regulations for Military Motor Vehicle Movements by Road Identification of Movement Control and Traffic Control Personnel and Agencies
2175 VF	2158 VF 2171 VF 2173 VF 2832 VF	Identification of Military Trains Procedures for Military Trains Crossing Frontiers Regulations for the Securing of Military Tracked and Wheeled Vehicles on Railway Wagons Restrictions for the Transport of Military Equipment by Rail on European Railways
2176 M&T	2026 M&T 2154 M&T 2155 M&T 2156 M&T 2165 M&T 2174 M&T	NATO Travel Order Regulations for Military Motor Vehicle Movement by Road Road Movement Documents Surface Transport Request and Reply to Surface Transport Request Forecast Movement/Transport Requirements—Rail, Road and Inland Waterways Military Routes and Route/Road Networks

2257 IGEO	2019 OP	Military Symbols
	2175 VF	Classification and Designation of Flat Wagons Suitable for Transporting Military Vehicles and Equipment
	2251 MGD	Scope and Presentation of Military Geographic Information and Documentation (MGID)
	2253 MGD	Roads and Road Structures
	2260 MGD	Electric Power
	2832 VF	Restrictions for the Transport of Military Equipment by Rail on European Railways
	3675 MC	Symbols on Land Maps, Aeronautical Charts and Special Naval Charts
2406 LOG	2034 LOG	Land Forces Procedures for Allied Supply Transactions
	2135 LOG	Procedures for Emergency Logistics Assistance
2832 VF	2158 VF	Identification of Military Trains
	2163 M&T	Vehicle Weight and Dimension Card
	2171 VF	Procedures for Military Trains Crossing Frontiers
	2173 VF	Regulations for the Securing of Military Tracked and Wheeled Vehicles on Railway Wagons
	2175 VF	Classification and Designation of Flat Wagons Suitable for Transporting Military Vehicles and Equipment
2937 LOG	2034 LOG	Land Forces Procedures for Allied Supply Transactions
	2135 LOG	Procedures for Emergency Logistic Assistance
	3113 ACS	Provision of Support to Visiting Personnel, Aircraft and Vehicles
2961 LOG	3150 MMS	Codification of Equipment—Uniform System of Supply Classification
	3151 MMS	Codification of Equipment—Uniform System of Item Identification
3146 TN	2014 OP	Operations Orders, Warning Orders and Administrative/Logistics Orders
	3345 TN	Data/Forms for Planning Air Movements
	3466 TN	Responsibilities of Air Transport Units and User Units in the Loading and Unloading of Transport Aircraft in Tactical Air Transport Operations
	3570 TN	Drop Zones and Extraction Zones—Criteria and Markings
	3601 TN	Criteria for Selection and Marking of Landing Zones for Fixed Wing Transport Aircraft
	3739 TN	Combined Air Terminal Operations
	3767 TN	Exchange of Data on Load Capabilities of Transport Aircraft
3543 TN		NONE

QSTAGs

QSTAG NUMBER	RELATED QSTAG(s)/STANAG(s):	
165	190 (QSTAG) 507 (QSTAG) 520 (QSTAG) 539 (QSTAG) 540 (QSTAG) 562 (QSTAG) 591 (QSTAG) 592 (QSTAG) 660 (QSTAG)	Movements and Transport Documents Used for Movements by Ship Military Routes and Route/Road Networks Operation Orders, Tables, and Graphs for Road Movement Regulations for Military Motor Vehicle Movement by Road Identification of Movement Control and Traffic Control Personnel and Agencies Surface Transport Request and Reply to Surface Transport Request Basic Military Road Traffic Regulations Forecast Movement/Transportation Requirements—Rail, Road, and Inland Waterway Movement Control
171		NONE
181	2109 (STANAG)	Postal Organization for the NATO Armed Forces in Wartime
190	2166 (STANAG) 165 (QSTAG) 507 (QSTAG) 520 (QSTAG) 539 (QSTAG) 540 (QSTAG) 562 (QSTAG) 591 (QSTAG) 592 (QSTAG)	Movements and Transport Documents Used for Movements by Ship Movements Principles, Policies, and Duties Military Routes and Route/Road Networks Operation Orders, Tables, and Graphs for Road Movement Regulations for Military Motor Vehicle Movement by Road Identification of Movement Control and Traffic Control Personnel and Agencies Surface Transport Request and Reply to Surface Transport Request Basic Military Road Traffic Regulations Forecast Movement/Transportation Requirements—Rail, Road, and Inland Waterway
507	2174 (STANAG) 180 (QSTAG) 501 (QSTAG) 504 (QSTAG) 508 (QSTAG) 509 (QSTAG) 517 (QSTAG) 539 (QSTAG) 540 (QSTAG) 591 (QSTAG) 2024 (STANAG)	Military Routes and Route/Road Networks Computation of Bridge, Raft, and Vehicle Classification Marking of Contaminated or Dangerous Land Areas, Complete Equipments, Supplies, and Stores Bridge Classification Markings Land Minefield Laying, Recording, Reporting, and Marking Procedures Military Symbols Marking of Headquarters and Dumps Regulation for Military Motor Vehicle Movements by Road Identification of Movement Control and Traffic Control Personnel and Agencies Basic Military Road Traffic Regulations Military Vehicle Lighting
516	2034 (STANAG) 642 (QSTAG) 680 (QSTAG)	Land forces Procedures for Allied Supply Transactions Codification of Equipment—Uniform System of Item Identification Codification of Equipment—Uniform System of Supply Classification

FMFM 5-1	Marine Aviation
FMFM 5-3	Assault Support Helicopter Tactical Manual
FMFM 6-1	Marine Division
FMFM 6-2	Marine Infantry Regiment
FMFM 6-3	Marine Infantry Battalion
FMFM 7-4	Field Artillery Support
FMFM 8-1	Special Operations
FMFM 8-3	Advanced Naval Base Defense
FMFM 9-1	Tank Employment/Countermechanized Operations
FMFM 13	MAGTF Engineer Operations

5. Fleet Marine Force Reference Publications

FMFRP 0-14	Marine Corps Supplement to the DOD Dictionary of Military and Associated Terms
FMFRP 4-14	Field Grounding Procedures for Computers and Generators
FMFRP 4-15	Commander's Guide to Maintenance
FMFRP 4-19	Vehicle Recovery Operations
FMFRP 6-17	Tactical Logistics for Artillery Units

6. Army Regulations and Field Manuals

AR 310-25	Dictionary of United States Army Terms
FM 6-20-1	Field Artillery Cannon Battalion
TC 6-50-1	Field Artillery Cannon Battery
FM 8-8	Medical Support in Joint Operations
FM 8-10	Medical Support in Theater of Operations
FM 8-35	Evacuation of Sick and Wounded
FM 8-55	Planning for Health Service Support
FM 9-6	Ammunition Service in the Theater of Operations
FM 9-38	Conventional Ammunition Unit Operations
FM 9-47	Special Ammunition Unit Operations
FM 9-59	Missile Support Unit Operations
FM 20-22	Vehicle Recovery Operations
FM 27-10	Law of Land Warfare
FM 29-3-1	Direct Support Supply and Service in Theaters of Operations
FM 29-20	Maintenance Management in Theaters of Operations
FC 29-47	Headquarters and Supply Company, Forward Supply Companies, Supply and Transport Battalion, Airborne Division
FC 29-167	Supply and Transport Troop, Support Squadron, Armored Cavalry Regiment
FM 31-35	Jungle Operations
FM 31-36	Night Operations
FM 31-50	Combat in Fortified and Built-Up Areas
FM 31-71	Northern Operations
FM 41-10	Civil Affairs Operations
FM 43-30	Theater Maintenance Operations
FM 55-1	Army Transportation Services in a Theater of Operations
FM 55-10	Army Movement Management Units and Procedures

Appendix F

References

1. Joint Publications

Joint Pub 0-2	Unified Action Armed Forces (UNAAF)
Joint Pub 1-01	Joint Publication System, Joint Doctrine and Joint Tactics, Techniques, and Procedures (JTTP) Development Program
Joint Pub 1-02	Department of Defense Dictionary of Military and Associated Terms
Joint Pub 3-02	Joint Doctrine for Amphibious Operations
Joint Pub 3-02.1	Joint Doctrine for Landing Force Operations
Joint Pub 3-02.2	Joint Doctrine for Amphibious Embarkation
Joint Pub 3-57	Doctrine for Joint Civil Affairs
Joint Pub 4-0	Doctrine for Logistic Support of Joint Operations
Joint Pub 4-01	(C) Joint Logistic Policy and Guidance (U)
Joint Pub 4-03	Joint Logistics Over The Shore (JLOTS)
Joint Pub 5-01	Mobilization

2. Allied Publications

AAP-6	NATO Glossary of Terms and Definitions
AAP-23	NATO Glossary of Packaging Terms and Definitions
ALP-9	Land Forces Logistic Doctrine

3. Naval Warfare Publications

NWP 3	Naval Terminology
NWP 22-3	Ship-to-Shore Movement
NWP 22-5	The Naval Beach Group

4. Fleet Marine Force Manuals

FMFM 1-14	The Amphibious Task Force Plan
FMFM 1-15	Military Sealift Command in Support of Amphibious Operations
FMFM 3-1	Command and Staff Action
FMFM 4	Combat Service Support
FMFM 4-3	Landing Support Operations
FMFM 4-6	Movement of Units in Air Force Aircraft
FMFM 4-8	Handling Deceased Personnel in Theaters of Operations
FMFM 4-9	Motor Transport
FMFM 4-50	Health Service Support
FMFM 4-51	Task Force Medical Regulating Manual

training squadron allowances (TSA)—TSA IMRL/AVCAL/COSAL/SE/MF allowances are designed to support a training squadron(s) attached to a MAG.

transportation coordinator's automated information for movements system (TC AIMS)—TC AIMS provides the MAGTF commander with an automated capability to plan, coordinate, manage, and execute MAGTF movement from the point of origin to the air and sea POE, and from the POD to the final destination. During the planning and execution phase of an operation, TC AIMS updates MDSS II, MAGTF II, and Defense Transportation System with movement requirements and status.

type/model/series (TMS) aircraft—An alphanumeric code used to identify a particular group of

aircraft. Example: F/A-18C: F/A = (fighter/attack), 18 = (model), C = (series).

U

unified command—(DOD) A command with a broad continuing mission under a single commander and composed of significant assigned components of two or more Services, and which is established and so designated by the President, through the Secretary of Defense with the advice and assistance of the Joint Chiefs of Staff, or, when so authorized by the Joint Chiefs of Staff, by a commander of an existing unified command established by the President. (Joint Pub 1-02)

S

salvage — (DOD) 1. Property that has some value in excess of its basic material content but which is in such condition that it has no reasonable prospect of use for any purpose as a unit and its repair or rehabilitation for use as a unit is clearly impractical. 2. The saving or rescuing of condemned, discarded, or abandoned property, and of materials contained therein for reuse, refabrication, or scrapping. (Joint Pub 1-02)

salvage operation — (DOD) 1. The recovery, evacuation, and reclamation of damaged, discarded, condemned, or abandoned allied or enemy materiel, ships, craft, and floating equipment for reuse, repair, refabrication, or scrapping. 2. Naval salvage operations include harbor and channel clearance, diving, hazardous towing and rescue tug services and the recovery of materiel, ships, craft, and floating equipment sunk offshore or elsewhere stranded. (Joint Pub 1-02)

serial — (DOD, NATO) An element or a group of elements within a series which is given a numerical or alphabetical designation for convenience in planning, scheduling, and control. (Joint Pub 1-02)

serial number — A number allocated to each unit or grouping, including its equipment, which is (1) embarked entirely in one ship, (2) to be landed as a unit on one beach or helicopter landing zone, and (3) is to be landed at approximately the same time. (NWP 3)

storage — (DOD) 1. The retention of data in any form, usually for the purpose of orderly retrieval and documentation. 2. A device consisting of electronic, electrostatic, electrical, hardware or other elements into which data may be entered, and from which data may be obtained as desired. See also **ammunition and toxic material open space; bin storage; bulk storage; igloo space; large-lot storage; medium-lot storage; open improved storage space; open unimproved wet space; small-lot storage**. (Joint Pub 1-02)

subordinate command — (DOD) A command consisting of the commander and all those individuals, units, detachments, organizations, or installations that have been placed under the command by the authority establishing the subordinate command. (Joint Pub 1-02)

supply point distribution — That method of distributing supplies in which the receiving unit is issued supplies at a supply point (depot, railhead, truckhead, distribution point) and moves the supplies in organic transportation. This method is the normal method of providing direct support ammunition supply service. (AR 310-25)

support — (DOD) 1. The action of a force which aids, protects, complements, or sustains another force in accordance with a directive requiring such action. 2. A unit which helps another unit in battle. Aviation, artillery, or naval gunfire may be used as a support for infantry. 3. A part of any unit held back at the beginning of an attack as a reserve. 4. An element of a command which assists, protects, or supplies other forces in combat. See also **interdepartmental/agency support; international logistic support; inter-Service support**. (Joint Pub 1-02)

T

task force — (DOD, NATO) 1. A temporary grouping of units, under one commander, formed for the purpose of carrying out a specific operation or mission. 2. Semi-permanent organization of units, under one commander, formed for the purpose of carrying out a continuing specific task. 3. A component of a fleet organized by the commander of a task fleet or higher authority for the accomplishment of a specific task or tasks. (Joint Pub 1-02)

task organization — (DOD) 1. In the Navy, an organization which assigns to responsible commanders the means with which to accomplish their assigned tasks in any planned action. 2. An organization table pertaining to a specific naval directive. (Joint Pub 1-02)

training exercise support package (TESP) — TESP are supplemental allowances designed to provide the organizational level spare/repair parts to support a specified number of a particular TMS aircraft for 15 days at peacetime flying hours. TESP allowances are sourced from and encompassed within a site's total AVCAL/COSAL allowance. A supplemental TESP allowance will be authorized only when a TESP requirement cannot be satisfied from a site's total AVCAL/COSAL without impacting the readiness for the aircraft not deployed from the home site.

Marine expeditionary force — (DOD) The Marine expeditionary force, the largest of the Marine Air-Ground Task Forces, is normally built around a division/wing team, but can include several divisions and aircraft wings, together with an appropriate combat service support organization. The Marine expeditionary force is capable of conducting a wide range of amphibious assault operations and sustained operations ashore. It can be tailored for a wide variety of combat missions in any geographic environment. Also called MEF. See also **Marine Air-Ground Task Force**. (Joint Pub 1-02)

Marine expeditionary unit — (DOD) The Marine expeditionary unit is a task organization which is normally built around a battalion landing team, reinforced helicopter squadron, and logistic support unit. It fulfills routine forward afloat deployment requirements, provides an immediate reaction capability for crisis situations, and is capable of relatively limited combat operations. Also called MEU. See also **Marine Air-Ground Task Force**. (Joint Pub 1-02)

Maritime Prepositioning Ships — (DOD) Civilian-crewed, Military Sealift Command chartered ships which are organized into three squadrons and are usually forward-deployed. These ships are loaded with prepositioned equipment and 30 days of supplies to support three brigade-size MAGTFs. Also called MPS. (Proposed change to Joint Pub 1-02)

MEU service support group — The task-organized combat service support element of the Marine expeditionary unit (MEU). Personnel and equipment are assigned from the permanent battalions of the force service support group. As required, it may be augmented by combat service support assets from the Marine division or Marine aircraft wing. (FMFRP 0-14) Also called MSSG. See also **combat service support detachment**; **force service support group**.

O

objective — (DOD, NATO) The physical object of the action taken, e.g., a definite tactical feature, the seizure and/or holding of which is essential to the commander's plan. See also **target**. (Joint Pub 1-02)

obstacle — Any natural or manmade obstruction that canalizes, delays, restricts, or diverts movement

of a force. The effectiveness of an obstacle is enhanced considerably when covered by fire. Obstacles can include abatis, antitank ditches, blown bridges, built-up areas, minefields, rivers, road craters, terrain, and wire.

operating forces — (DOD) Those forces whose primary missions are to participate in combat and the integral supporting elements thereof. See also **combat forces**; **combat service support elements**; **combat support elements**. (Joint Pub 1-02)

operational chain of command — (DOD, NATO) The chain of command established for a particular operation or series of continuing operations. See also **administrative chain of command**; **chain of command**. (Joint Pub 1-02)

P

peculiar contingency support package (PCSP) allowances — The PCSP allowances consist of those peculiar items required to provide I level support for a specific TMS and quantity of aircraft, and associated support equipment, that a MAG provides to a MAGTF ACE. A peculiar item is an item that is peculiar to a specific aircraft/support equipment application.

R

rebuild — (DOD) The restoration of an item to a standard as nearly as possible to its original condition in appearance, performance, and life expectancy. See also **overhaul**; **repair**. (Joint Pub 1-02)

removal — The physical relocation of any structure, facility, or material so that it no longer exerts a negative influence on friendly activities. (FMFM 4-1)

repair cycle — (DOD) The stages through which a repairable item passes from the time of its removal or replacement until it is reinstalled or placed in stock in a serviceable condition. (Joint Pub 1-02)

requisition — (DOD, NATO) 1. An authoritative demand or request especially for personnel, supplies, or services authorized but not made available without specific request. (DOD) 2. To demand or require services from an invaded or conquered nation. (Joint Pub 1-02)

and structured to accomplish a specific mission. The Marine Air-Ground Task Force (MAGTF) components will normally include command, aviation combat, ground combat, and combat service support elements (including Navy Support Elements). Two types of Marine Air-Ground Task Forces which can be task organized are the Marine expeditionary unit and Marine expeditionary force. The four elements of a Marine Air-Ground Task Force are: (Proposed change to Joint Pub 1-02)

- a. **command element (CE)**—The MAGTF headquarters. The command element is a permanent organization composed of the commander, general or executive and special staff sections, headquarters section, and requisite communications and service support facilities. The CE provides command, control, and coordination essential for effective planning and execution of operations by the other three elements of the MAGTF. There is only one CE in a MAGTF.
- b. **aviation combat element (ACE)**—The MAGTF element that is task organized to provide all or a portion of the functions of Marine Corps aviation in varying degrees based on the tactical situation and the MAGTF mission and size. These functions are air reconnaissance, antiair warfare, assault support, offensive air support, electronic warfare, and control of aircraft and missiles. The ACE is organized around an aviation headquarters and varies in size from a reinforced helicopter squadron to one or more Marine aircraft wing(s). It includes those aviation command (including air control agencies), combat, combat support, and combat service support units required by the situation. Normally, there is only one ACE in a MAGTF.
- c. **ground combat element (GCE)**—The MAGTF element that is task organized to conduct ground operations. The GCE is constructed around an infantry unit and varies in size from a reinforced infantry battalion to one or more reinforced Marine division(s). The GCE also includes appropriate combat support and combat service support units. Normally, there is only one GCE in a MAGTF.
- d. **combat service support element (CSSE)**—The MAGTF element that is task organized to provide the full range of combat service support necessary to accomplish the MAGTF mission.

CSSE can provide supply, maintenance, transportation, deliberate engineer, health, postal, disbursing, prisoner of war, automated information systems, exchange, utilities, legal, and graves registration services. The CSSE varies in size from a Marine expeditionary unit (MEU) service support group (MSSG) to a force service support group (FSSG). Normally, there is only one combat service support element in a MAGTF.

Marine Air-Ground Task Force II — MAGTF II is a system that allows MAGTF planners to select and tailor MAGTF force structures, estimate sustainment, and estimate airlift/sealift requirements for plan feasibility.

Marine Air-Ground Task Force II/Logistics Automated Information System (MAGTF II/LOGAIS)—MAGTF II/LOGAIS is a family of coordinated, mutually supporting automated systems. MAGTF II/LOGAIS enables commanders at different levels to track asset availability. The system calculates sustainment requirements and processes requisitions both inside and outside the AOR from Defense Automated Addressing System, Defense Logistics Agency, and the Marine Corps logistics base. MAGTF II/LOGAIS provides the MAGTF with the necessary tools to support war planning in both deliberate and time-sensitive situations, and execution from initiation of mobilization or deployment through employment in the AOR.

Marine Air-Ground Task Force data library (MDL)—The MDL programs encompass source planning management and technical data extracted from mainframe data bases/systems on a monthly basis. The MDL is the origin of all standard source data elements used by the MAGTF/LOGAIS family of systems, and contains critical elements such as tables of organization/equipment, ammunition consumption factors, and aviation data.

Marine Air-Ground Task Force Deployment Support System II (MDSSII)—MDSS II enables commanders at various echelons of a MAGTF to build and maintain a data base that contains force and equipment data reflecting how the MAGTF is configured for deployment. This data can be maintained during normal day-to-day garrison activities and updated during plan development and execution.

required. Depot maintenance serves to support lower categories of maintenance by providing technical assistance and performing that maintenance beyond their responsibility. Depot maintenance provides stocks of serviceable equipment by using more extensive facilities for repair than are available in lower level maintenance activities. (Joint Pub 1-02)

distribution — (DOD) 1. The arrangement of troops for any purpose such as a battle, march, or maneuver. 2. A planned pattern of projectiles about a point. 3. A planned spread of fire to cover a desired frontage or depth. 4. An official delivery of anything, such as orders or supplies. 5. That functional phase of military logistics that embraces the act of dispensing materiel, facilities, and services. 6. The process of assigning military personnel to activities, units, or billets. (Joint Pub 1-02)

distribution point — (DOD, NATO) A point at which supplies and/or ammunition, obtained from supporting supply points by a division or other unit, are broken down for distribution to subordinate units. Distribution points usually carry no stocks; items drawn are issued completely as soon as possible. (Joint Pub 1-02)

F

floating dump — Emergency supplies preloaded in landing craft, amphibious vehicles, or in landing ships. Floating dumps are located in the vicinity of the appropriate control officer who directs their landing as requested by the troop commander concerned. (Joint Pub 1-02) See also **pre-positioned emergency supplies; prestaged helicopter-lifted supplies; remaining landing force supplies.**

fly-in support package (FISP) — FISPs are organizational level parts support packages designed to support the fly-in echelon aircraft of a MPF/MAGTF ACE. A FISP, flown in with the fly-in echelon (FIE) aircraft, will be combined with the organizational level aviation support equipment and organizational level parts to support the support equipment, off-loaded from MPS ships. This combination of assets is designed to provide readiness and sustainability for the deployed aircraft until the intermediate maintenance support capability arrives in the theater of operations aboard the TAVB, by airlift, or other means.

follow on support package (FOSP) allowances — FOSP equipment consists of those items that, although not required to initiate the assault, are required to sustain the assault. These are items that, because of sealift and airlift constraints, must be phased into a deployment area by use of assault follow-on echelon (AFOE) or follow-up shipping.

force service support group — The combat service support element of the Marine expeditionary force (MEF). It is a permanently organized Fleet Marine Force command charged with providing combat service support beyond the organic capabilities of supported units of the MEF. If supporting a force of greater size, additional assets are necessary to augment its capabilities. Although permanently structured with eight functional battalions, task organizations from those battalions would normally support MEF operations over a wide geographic area. (FMFRP 0-14) Also called FSSG. See also **combat service support detachment; MEU service support group.**

L

landing force — (DOD, NATO) A task organization of troop units, aviation and ground, assigned to an amphibious assault. It is the highest troop echelon in the amphibious operation. See also **amphibious force.** (Joint Pub 1-02) Also called LF.

landing force asset distribution system (LFADS) — LFADS is a supply and equipment management system for the support of the MAGTF commander and provides sustainment support to the MAGTF during deployment. LFADS produces materiel requisitions that are passed to sources of supply. On-hand assets and replenishment status can be tracked at various echelons, giving an accurate logistics posture as an operation evolves.

M

main supply route — (DOD, NATO) The route or routes designated within an area of operations upon which the bulk of traffic flows in support of military operations. (Joint Pub 1-02) Also called MSR.

Marine Air-Ground Task Force — (DOD) A task organization of Marine forces (division, aircraft wing and service support groups) under a single command

from designated MAGs. For planning purposes, it is assumed that the F/W and R/W IMAs will be geographically separated.

computer-aided embarkation management system (CAEMS)—CAEMS produces amphibious, Maritime Prepositioning Force (MPF), and Military Sealift Command (MSC) ship load plans and associated reports. CAEMS employs linked computer-aided design and data base systems to recognize ship and cargo characteristics, to conduct cargo onload and offload flow path analysis, to allocate cargo to stowage spaces, and to ensure stowage compatibility requirements are met. During the planning and execution phases of an operation, CAEMS updates MDSS II.

computer-aided load manifesting (CALM)—CALM produces AMC approved aircraft load plans and reports. CALM automatically computes the optimal configuration of cabin loads of C-130, C-141, C-5, and KC-10 aircraft by aggregating weights, volume, center of balance, and cargo compatibility. During planning and execution phases of an operation, CALM updates MDSS II, MAGTF II, and Joint Operation Planning and Execution System (JOPES) with actual aircraft load plans.

concept of logistic support—A verbal or graphic statement, in a broad outline, of how a commander intends to support and integrate with a concept of operations in an operation or campaign. (Joint Pub 1-02)

concept of operations—(DOD) A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to an operation or series of operations. The concept of operations frequently is embodied in campaign plans and operation plans; in the latter case, particularly when the plans cover a series of connected operations to be carried out simultaneously or in succession. The concept is designed to give an overall picture of the operation. It is included primarily for additional clarity of purpose. Frequently, it is referred to as commander's concept. (Joint Pub 1-02)

contingency plan—(DOD) A plan for major contingencies which can reasonably be anticipated in the principal geographic subareas of the command. (Joint Pub 1-02)

contingency support package (CSP)—CSPs consist of the common and peculiar intermediate level logistical support required for the task-organized deployment of detachments/squadrons of particular TMS aircraft—with one exception. CSP AVCAL/COSAL allowances are the exception, because they provide the spares and repair parts to support both organizational and intermediate level maintenance. The four distinct elements that make up a CSP are: 1) personnel, 2) support equipment (IMRL), 3) mobile facilities (MFs), and 4) spare/repair parts (AVCAL/COSAL). CSP allowances are computed at the combat flying hour rate for a 90-day endurance period, and they will be supplemental allowances to those AVCAL/COSAL/IMRL/SE/MF allowances identified in master allowance documents. From the master allowance documents, CSP allowances are broken into CCSP and PCSP subcategories.

coordination—The action necessary to ensure adequately integrated relationships between separate organizations located in the same area. Coordination may include such matters as: fire support, emergency defense measures, area intelligence, and other situations in which coordination is considered necessary. (FMFRP 0-14)

D

data management & standardization (DM&S)—The DM&S program enforces data accuracy, currency, definition, and naming standards by establishing a common model of MAGTF II/LOGAIS data resources in compliance with DOD 5000.11 and Joint Pub 6. DM&S serves as the foundation for the integration of the MAGTF II/LOGAIS family of systems.

depot—(DOD) **1. supply**—An activity for the receipt, classification, storage, accounting, issue, maintenance, procurement, manufacture, assembly, research, salvage or disposal of material. **2. personnel**—An activity for the reception, processing, training, assignment, and forwarding of personnel replacements. (Joint Pub 1-02)

depot maintenance—(DOD) That maintenance performed on materiel requiring major overhaul or a complete rebuild of parts, assemblies, subassemblies, and end-items, including the manufacture of parts, modifications, testing, and reclamation as

Section II. Definitions

A

airfield — (DOD, NATO) An area prepared for the accommodation (including any buildings, installations, and equipment), landing and take-off of aircraft. See also **alternative airfield**; **departure airfield**; **landing area**; **landing point**; **landing site**; **landing zone**; **main airfield**; **redeployment airfield**; **regroup airfield**. (Joint Pub 1-02)

assault support coordinator (airborne) (ASC[A]) — An aviator who coordinates from an aircraft, the movement of aviation assets during assault support operations. Formerly referred to as HC(A). (NWP 55-9-ASH, Vol. I [Rev F]/FMFM 5-35)

assign — (DOD, NATO) 1. To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. 2. To detail individuals to specific duties or functions where such duties or functions are primary and/or relatively permanent. See also **attach**. (Joint Pub 1-02)

aviation logistics support ship (TAVB) — The TAVB, operated by the MSC, provides dedicated sealift for movement of an intermediate maintenance capability to support the rapid deployment of Marine Corps fixed- and rotary wing aircraft units in support of the MAGTF ACE. It can also be used for resupply in a conventional container or RO/RO configuration.

B

beach organization — (DOD) In an amphibious operation, the planned arrangement of personnel and facilities to effect movement, supply, and evacuation across beaches and in the beach area for support of a landing force. (Joint Pub 1-02)

beach party — (DOD) The naval component of the shore party. See also **beachmaster unit**; **shore party**. (Joint Pub 1-02)

C

combat service support detachment — A separate task organization of combat service support assets formed for the purpose of providing rearming, refueling, and/or repair capabilities to the Marine Air-Ground Task Force or designated subordinate elements; e.g., a battalion conducting independent operations or an aircraft squadron operating at a remote airfield. The combat service support element normally provides the command element of a combat service support detachment. (FMFRP 0-14) Also called **CSSD**. See also **force service support group**; **MEU service support group**.

combat service support elements — (DOD) Those elements whose primary missions are to provide service support to combat forces and which are a part, or prepared to become a part, of a theater, command, or task force formed for combat operations. See also **operating forces**; **service troops**; **troops**. (Joint Pub 1-02) Also called **CSSE**. See also **Marine Air-Ground Task Force**.

common contingency support package (CCSP) allowances — CCSP allowances consist of those Marine common assets that the rotary wing (R/W) or fixed-wing (F/W) host intermediate maintenance activity (IMA) of an ACE provides to support all, or the majority, of aircraft assigned. A F/W Marine-common item is one that has application to at least the F/A-18 and AV-8B aircraft that are part of the ACE. A R/W common item is one that has application to at least the CH-53E, CH-46E, and AH-2W aircraft that are a part of an ACE. Weight, cube, cost, reliability, and supportability are the primary considerations in making this determination. Host IMAs, one R/W and one F/W per ACE, are sourced

SCO secondary control officer
SCS secondary control ship
SE support equipment
SEAL sea-air-land
SELF strategic expeditionary landing field
SJA staff judge advocate
SOP standing operating procedure
SRA system replacement assembly
SRIG ... surveillance, reconnaissance, intelligence group
STANAG standardization agreement

TACC tactical air command center (USMC);
 tactical air control center (USN)
TACLOG tactical-logistical group
TADC tactical air direction center
TAO tactical air officer
TAVB aviation logistics support ship
TC AIMS transportation coordinator's automated
 information for movements system
T/E table of equipment
TESP training exercise support package
TMS type/model/series
T/O table of organization
TSA training squadron allowance
TYCOM type command

UMCC unit movement control center
USTRANSCOM U.S. Transportation Command

VHF very high frequency

WRA weapon replacement assembly

CSP..... contingency support package
 CSS..... combat service support
 CSSA..... combat service support area
 CSSD..... combat service support detachment
 CSSE..... combat service support element
 CSSOC.... combat service support operations center
 CULT..... common user land transportation

DACG..... departure airfield control group
 DASC..... direct air support center
 DLA..... Defense Logistics Agency
 DM&S..... data management & standardization
 DOA..... day(s) of ammunition
 DOD..... Department of Defense
 DOS..... day(s) of supply
 DS..... direct support

EAF..... expeditionary airfield
 EOD..... explosive ordnance disposal
 EPW..... enemy prisoner of war

FARP..... forward arming and refueling point
 FCSSA..... force combat service support area
 FIE..... fly-in echelon
 FISP..... fly-in support package
 FMCC..... force movement control center
 FMF..... Fleet Marine Force
 FMFM..... Fleet Marine Force manual
 FMFRP.... Fleet Marine Force reference publication
 FOSP..... follow-on support package
 FSSG..... force service support group
 F/W..... fixed-wing

GCE..... ground combat element
 GS..... general support
 GS-R..... general support-reinforcing

H&S..... headquarters & service
 HDC..... helicopter direction center
 HF..... high frequency
 HLSC..... helicopter logistics support center
 HLZ..... helicopter landing zone
 HNS..... host nation support
 HST..... helicopter support team

IMA..... intermediate maintenance activity
 IMRL..... individual material readiness list
 IP..... initial point
 ISMO..... information systems management officer

JDA..... joint deployment agency
 JDC..... joint deployment community
 JDS..... joint deployment system
 JOPES... joint operation planning & execution system
 JOPS..... joint operation planning system
 JSCP..... joint strategic capabilities plan
 JTF..... joint task force

LCAC..... landing craft air cushion
 LF..... landing force
 LFADS..... landing force asset distribution system
 LFOC..... landing force operations center
 LFORM... landing forces operational reserve materiel
 LFSP..... landing force support party
 LMCC..... logistics movement control center
 LOD..... line of departure (amphibious operations)
 Log/CSS..... logistics/combat service support
 LOTS..... logistics over the shore
 LZ..... landing zone
 LZSA..... landing zone support area

MAG..... Marine aircraft group
 MAGTF..... Marine Air-Ground Task Force
 MAGTF II..... Marine Air-Ground Task Force II
 MAGTF II/LOGAIS..... Marine Air-Ground Task Force II/Logistics Automated Information System
 MALS..... Marine aviation logistics squadron
 MALSC... Marine aviation logistics support concept
 MAW..... Marine aircraft wing
 MCC..... movement control center
 MCLB..... Marine Corps logistics base
 MCP..... Marine Corps capabilities plan
 MCT..... maintenance contact teams
 MDL..... MAGTF data library
 MDSS II.... MAGTF deployment support system II
 MEF..... Marine expeditionary force
 MEU..... Marine expeditionary unit
 MF..... mobile facility
 MHE..... materials handling equipment
 MLA..... mission load allowance
 MP..... military police
 MPF..... Maritime Prepositioning Force
 MPS..... maritime prepositioning ships
 MPSRON... maritime prepositioning ships squadron
 MRC..... medical regulating center
 MRS..... medical regulating section
 MSC..... Military Sealift Command
 MSR..... main supply route
 MSSG..... MEU service support group

Glossary

Section I. Abbreviations and Acronyms

AAA arrival and assembly area
AACG arrival airfield control group
ABCA... American, British, Canadian, and Australian
ACCO assistant central control officer
ACE aviation combat element
ADCON administrative control
ADP automatic data processing
AE assault echelon
AFOE assault follow-on echelon
AGS aviation ground support
AIMD aircraft intermediate maintenance department
AIS automated information system
ALD aviation logistics department
AMC air mobility command
AOA amphibious objective area
AOR area of responsibility
APOD aerial port of debarkation
APOE aerial port of embarkation
ASC(A) assault support coordinator (airborne)
ASMRO.. Armed Services Medical Regulating Office
ASP..... ammunition supply point
ATF amphibious task force
AVCAL aviation consolidated allowance list

BAS battalion aid station
BLT battalion landing team
BSA beach support area

CAEMS computer-aided embarkation
 management system
CALM computer-aided load manifesting
CAS crisis action system (JOPS)
CATF commander, amphibious task force
CCO central control officer
CCS central control ship
CEBn combat engineer battalion
CEO communications-electronics officer
CINC Commander in Chief
CLF commander, landing force
CLZ craft landing zone
CMC Commandant of the Marine Corps
CMPF .. commander, Maritime Prepositioning Force
COC combat operations center
CONPLAN contingency plan
CONUS continental United States
COSAL coordinated ship-station allowance list
CP command post
CRTS casualty receiving and treatment ship

	540 (QSTAG)	Identification of Movement Control and Traffic Control Personnel and Agencies
	562 (QSTAG)	Surface Transportation Request and Reply to Surface Transportation Request
	592 (QSTAG)	Forecast Movement Requirements—Rail, Road and Inland Waterways
680	3150 (STANAG)	Codification of Equipment—Uniform System of Supply Classification
785	516 (QSTAG)	ABCA Armies Procedures for Supply Transactions
	642 (QSTAG)	Codification of Equipment—Uniform System of Item Identification
	680 (QSTAG)	Codification of Equipment—Uniform System of Supply Classification
829	590 (QSTAG)	Marking of Military Cargo for International Movement by all International Means of Transport
830	2135 (STANAG)	Procedures for Emergency Logistic Assistance

	2322 (STANAG)	Minimum Markings for the Identification of Ammunition (and its Packaging)
	2826 (STANAG)	Characteristics and Unit Loads and Corresponding Handling Equipment
	3150 (STANAG)	Codification of Equipment—Uniform System of Supply Classification
	3151 (STANAG)	Codification of Equipment—Uniform System of Item Identification
	3427 (STANAG)	Colours for Identification of Air-Dropped Supplies
	3571 (STANAG)	Classification Certification and Labelling of Dangerous Cargo
	4123 (STANAG)	Methods of Determine and Classify the Hazard of Ammunition
591	2025 (STANAG)	Basic Military Road Traffic Regulations
	504 (QSTAG)	Bridge Classification Markings
	2021 (STANAG)	Computation of Bridge, Raft and Vehicle Classifications
	512 (QSTAG)	Marking of Military Vehicles
	539 (QSTAG)	Regulations for Military Motor Vehicle Movements by Road
592	2165 (STANAG)	Forecast Movement/Transport Requirements—Rail, Road, and Inland Waterways
	2021 (STANAG)	Computation of Bridge, Raft and Vehicle Classification
	562 (QSTAG)	Surface Transport Request and Reply to Surface Transport Request
	1059 (STANAG)	National Distinguishing Letters for use by NATO Forces
627	2827 (STANAG)	Materials Handling in the Field
	628 (QSTAG)	Handling Aids
628	2830 (STANAG)	Handling Aids
	590 (QSTAG)	Marking of Military Cargo for International Movement by all International Means of Transport
	627 (QSTAG)	Materials Handling in the Field
	2828 (STANAG)	Military Pallets, Packages and Containers
	2829 (STANAG)	Materials Handling Equipment
	4062 (STANAG)	Attachment for Lifting Vehicles and Heavy Military Equipment by Land and by Sea
642	3151 (STANAG)	Codification of Equipment—Uniform System of Item Identification
	516 (QSTAG)	ABCA Armies Procedures for Supply Transactions
	680 (QSTAG)	Codification of Equipment—Uniform System of Supply Classification
	785 (QSTAG)	ABCA Armies Materiel Issue and Movement Priority Systems (MIMPS)
655	2070 (STANAG)	Emergency War Burial and Graves Registration
	470 (QSTAG)	Documentation Relative to Medical Evacuation, Treatment, and Cause of Death of Patients
657	2845 (STANAG)	Guide Specification for NATO Army Fuels, Lubricants, and Associated Products
	1135 (STANAG)	Interchangeability Chart of NATO Standardized Fuels, Lubricants and Associated Products
660	165 (QSTAG)	Movements Principles, Policies, and Duties
	539 (QSTAG)	Regulations for Military Motor Vehicle Movement by Road

	785 (QSTAG)	ABCA Armies Materiel Issue and Movement Priority Systems (MIMPS)
520	2041 (STANAG) 506 (QSTAG)	Operation Orders for Road Movement, Tables, and Graphs Operation Orders, Annexes to Operational Orders, Administrative and Logistical Orders
	514 (QSTAG) 539 (QSTAG)	Method of Describing Ground Locations, Areas and Boundaries Regulations for Military Motor Vehicle Movement by Road
539	2154 (STANAG) 1059 (STANAG) 2021 (STANAG) 2024 (STANAG) 591 (QSTAG) 520 (QSTAG) 561 (QSTAG) 540 (QSTAG)	Regulations for Military Motor Vehicle Movement by Road National Distinguishing Letters for Use by NATO Armed Forces Computation of Bridge, Raft and Vehicle Classification Military Vehicle Lighting Basic Military Road Traffic Regulations Operation Orders, Tables and Graphs For road Movement Road Movement Documents Identification of Movement Control and Traffic Control Personnel and Agencies
	2174 (STANAG)	Military Routes and Route/Road Networks
540	2159 (STANAG)	Identification of Movement Control and Traffic Control Personnel and Agencies
	509 (QSTAG) 591 (QSTAG) 517 (QSTAG) 2174 (STANAG)	Military Symbols Basic Military Road Traffic Regulations Marking of Headquarters and Dumps Military Routes and Route/Road Networks
562	2156 (STANAG) 180 (QSTAG) 190 (QSTAG) 507 (QSTAG) 590 (QSTAG)	Surface Transport Request and Reply to Surface Transport Request Computation of Bridge, Raft, and Vehicle Classifications Movements and Transport Documents Used for Movement by Ship Military Routes and Route/Road Networks Marking of Military Cargo for International Movement by All International Means of Transport
	592 (QSTAG)	Forecast Movement/Transport Requirements Rail, Road, and Inland Waterways
	2155 (STANAG) 2158 (STANAG) 2175 (STANAG)	Road Movement Bid and Credit Identification of Military Trains Classification and Designation of Flat Wagons Suitable for Transporting Military Vehicles and Equipment
	3998 (STANAG)	NATO Air Transport Policies and Procedures
590	2023 (STANAG)	Marking of Military Cargo for International Movement by all International Means of Transport
	1059 (STANAG) 509 (QSTAG) 2163 (STANAG) 2175 (STANAG)	National Distinguishing Letter for Use by the NATO Armed Forces Military Symbols Vehicle Weight and Dimension Card Classification and Designation of Flat Wagons suitable for Transporting Military Vehicles and Equipment
	131 (QSTAG)	Marking of Ammunition (and its Packaging) of a Caliber below 20mm

FM 63-1	Combat Service Support Operations—Separate Brigade
FM 63-2	Combat Service Support Operations—Division
FM 63-2-1	Combat Service Support Operations—Light Infantry Division
FM 63-2-2	Combat Service Support Operations—Armored, Mechanized, and Motorized Divisions
FM 63-3	Combat Service Support Operations—Corps
FM 63-3J	Combat Service Support Operations—Corps
FM 63-4	Combat Service Support Operations—TAACOM
FM 63-5	Combat Service Support Operations—Theater Army
FM 71-1	The Tank and Mechanized Company Team
FM 71-2	The Tank and Mechanized Battalion Task Force
FM 90-3	Desert Operations
FM 90-6	Mountain Operations
FM 90-10	Military Operations on Urbanized Terrain (MOUT)
FM 90-13	River Crossing Operations
FM 100-5	Operations
FM 100-10	Combat Service Support

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