

UNITED STATES MARINE CORPS
Logistics Operations School
Marine Corps Combat Service Support School
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MTAC 3405

STUDENT OUTLINE

LOGISTICS AND COMBAT SERVICE SUPPORT (CSS)

LEARNING OBJECTIVES:

1. Terminal Learning Objective: Given the billet of a major subordinate command motor transport chief and references, conduct planning for combat service support (CSS) operations, per the references. (35XX.08.05)

2. Enabling Learning Objectives:

(a) Given the billet of a major subordinate command motor transport chief and references identify the functions of CSS per the references. (35XX.08.05a)

(b) Given the billet of a major subordinate command motor transport chief and references identify the sub-functions of CSS per the references. (35XX.08.05b)

(c) Given the billet of a major subordinate command motor transport chief and references identify the principles of CSS per the references. (35XX.08.05c)

(d) Given the billet of a major subordinate command motor transport chief and references identify logistics planning considerations per the references. (35XX.08.05d)

OUTLINE

1. **LOGISTICS DEFINED.** The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects that deal with:

a. The design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel.

b. The movement, evacuation, and hospitalization of personnel.

c. The acquisition or construction, maintenance, operation, and disposition of facilities.

d. The acquisition or furnishing of services.

2. THE THREE LEVELS OF LOGISTICS.

a. Strategic

(1) Supports the organizing, training, and equipping of forces.

(2) Links the national economic base (people, resources and industry) to military operations.

(3) The combination of strategic resources (the national sustainment base) and distribution processes (our military deployment components).

(4) Lead times to coordinate and plan strategic logistics vary, ranging from up to a decade or more for equipment development and fielding, to 2 years for fiscal and routine operational contingency planning, to mere days for positioning forces around the globe in crisis response.

(5) At the strategic level, the Marine Corps-

(a) Procures weapons and equipment (except aircraft and class V[A]).

(b) Recruits, trains, and assembles forces.

(c) Establishes facilities, bases, and stations to house and maintain forces and stockpile resources.

(d) Mobilizes forces.

(e) Oversees and coordinates employment of strategic-level transportation assets.

(f) Regenerates forces.

(g) Provides command and control to manage the flow of resources from strategic to tactical level.

b. Operational (Theater-Transportation). Operational logistics links tactical requirements to strategic capabilities in order to accomplish operational goals and objectives. Operational logistics supports conducting campaigns and providing theater-wide logistics support, generally over periods of weeks or months. Operational logisticians assist in resolving tactical

requirements and coordinate the allocation, apportionment, and distribution of resources within theater. The focus of operational logistics is to balance the MAGTF deployment, employment, and support requirements to maximize the overall effectiveness of the force. Marine Corps operational logistics orients on force closure, sustainment, reconstitution, and redeployment of Marine forces in theater, which includes—

(1) Providing operational-level command and control for effective planning and management of operational logistics efforts.

(2) Establishing intermediate and forward support bases.

(3) Supporting employment of georepositioned and maritime prepositioned assets.

(4) Supporting arrival and assembly of forces in theater, and their reception, staging, onward movement, and integration.

(5) Coordinating logistics support with joint, other-Service, and host nation agencies.

(6) Reconstituting and redeploying MAGTFs and maritime prepositioning forces (MPFs) for follow-on missions.

c. Tactical (Battles-CSS echelonment). Tactical logistics includes organic unit capabilities and the combat service support (CSS) activities necessary to support military operations. Its focus is to support the commander's intent and concept of operations while maximizing the commander's flexibility and freedom of action. Tactical logistics involves the coordination of functions required to sustain and move units, personnel, equipment, and supplies. These functions must deliver flexible and responsive combat service support to meet the needs of the forces engaged in operations. Therefore, the response time of tactical logistics is necessarily rapid and requires anticipatory planning to provide responsive support. Supply and maintenance activities generate materiel readiness; transportation resources move personnel, equipment, and supplies within the tactical area of operations; and general engineering support, health service support, and general services support contribute to mission accomplishment.

3. CSS DEFINED. The essential capabilities, functions, activities, and tasks necessary to sustain all elements of operating forces in theater at all levels of war. Combat Service Support includes but is not limited to supply, maintenance, transportation, health services, and other services. In layman's terms, it is logistics for the tactical level of war. Some

functions, activities, etc., are more appropriately reclassified as combat support or command support.

a. Combat support functions include the following:

v Assault Amphibian Vehicles
v Combat Engineers
v Artillery
v Tanks

b. Command support functions include the following:

v Personnel administration
v Chaplain services
v Financial management
v Communications
v Intelligence
v Billeting
v Messing
v Band

4. **FUNCTIONAL AREAS OF CSS.** The six functional areas of CSS are: supply, maintenance, transportation, general engineering, health services, and services. Figure 1 depicts the functions and sub-functions of CSS.

Supply	Maintenance	Transportation
<ul style="list-style-type: none"> •Determination of requirements •Procurement •Storage •Distribution •Salvage •Disposal 	<ul style="list-style-type: none"> •Inspection and classification •Service, adjustment, and tuning •Testing and calibration •Repair •Modification •Rebuilding and overhaul •Reclamation •Recovery and evacuation 	<ul style="list-style-type: none"> •Embarkation •Landing support •Port and terminal operations •Motor transport •Air delivery •Freight/passenger transportation •Materials handling equipment
General Engineering	Health Services	Services
<ul style="list-style-type: none"> •Engineer reconnaissance •Horizontal/vertical construction •Facilities maintenance •Demolition and obstacle removal •Explosive ordnance disposal •Bridging 	<ul style="list-style-type: none"> •Health maintenance •Casualty collection •Casualty treatment •Temporary casualty holding •Casualty evacuation 	<ul style="list-style-type: none"> •Disbursing •Postal services •Exchange services •Security support •Legal services support •Civil affairs support •Graves registration

Figure 1

5. FUNCTIONS AND UNITS

a. Units. In the Marine Corps some tables of organization have unit names that correspond to certain CSS functions. This is true for supply, maintenance, and engineer support battalions of the Force Service Support Group (FSSG).

What a unit can do and what a unit is called can create confusion.

b. Units often have the capability to provide more than one function/subfunction of CSS. A unit may be called by the name of one function, but in carrying out that function, it will also be able to accomplish other functions and subfunctions as well. The following is an example:

<u>UNIT</u>	<u>TASKS</u>	<u>FUNCTION</u>
Engineer Bn	Bulk Fuel	Supply
	Utilities	Services
	Materiel handling	Transportation

6. PRINCIPLES OF LOGISTICS SUPPORT. There are seven principles of CSS. Like the principles of war, they are guides for planning, organizing, managing, and executing. These principles are not rigid rules to apply in every situation. Seldom will all of them exert equal influence. Usually, one or two will dominate in a situation.

a. Responsiveness. Responsiveness is the right support in the right place at the right time. Among the logistics principles, responsiveness is the keystone. All other principles become irrelevant if logistics support does not support the commander's concept of operations.

b. Simplicity. Simplicity fosters efficiency in both the planning and execution of logistics operations. Mission-type orders and standardized procedures contribute to simplicity. Establishment of priorities and preallocation of supplies and services by the supported unit can simplify logistics support operations.

c. Flexibility. Flexibility is the ability to adapt logistics structure and procedures to changing situations, missions, and concepts of operation. Logistics plans and operations must be flexible to achieve both responsiveness and economy. A commander must retain command and control over subordinate organizations to maintain flexibility. The principle of flexibility also includes the concepts of alternative planning, anticipation, reserve assets, redundancy, forward support of phased logistics, and centralized control with decentralized operations.

d. Economy. Economy is providing sufficient support at the least cost without impairing mission accomplishment or jeopardizing lives. At some level and to some degree, resources are always limited. When prioritizing limited resources and allocating them sufficiently to achieve success without imbalance or inordinate excess, the commander is, in effect, applying economy.

e. Attainability. Attainability (or adequacy) is the ability to provide the minimum, essential supplies and services required to begin combat operations. The commander's logistics staff develops the concept of logistics support; completes the logistics estimate; and initiates resource identification on the

basis of the supported commander's requirements, priorities, and apportionment. An operation should not begin until minimum essential levels of support are on hand.

f. Sustainability. Sustainability is the ability to maintain logistics support to all users throughout the area of operations for the duration of the operation. Sustainability focuses the commander's attention on long-term objectives and capabilities of the force. Long-term support is the greatest challenge for the logistician, who must not only attain the minimum, essential materiel levels to initiate combat operations (readiness), but also must maintain those levels for the duration to sustain operations.

g. Survivability. Survivability is the capacity of the organization to protect its forces and resources. Logistics units and installations are high-value targets that must be guarded to avoid presenting the enemy with a critical vulnerability. Since the physical environment typically degrades logistics capabilities rather than destroys them, it must be considered when planning. Survivability may dictate dispersion and decentralization at the expense of economy. The allocation of reserves, development of alternative sources, and phasing of logistics support contribute to survivability.

7. CSS PLANNING CONSIDERATIONS. In order to support the commander's concept of operations and assist the CSSE commander in formulating the concept of CSS, the following are considered informal guidelines involved in CSS planning and operations:

a. Integrated Planning. Operations cannot be conducted successfully without adequate logistics support. Logistics support cannot be effective if it is planned without detailed coordination with the functions it supports. Although the need for integration is obvious, staffs are typically organized on a functional basis that inhibits this coordination. Command oversight is necessary to ensure that essential functional integration occurs to produce one plan.

b. Forward Focus. The focus of logistics support is from the continental United States into the theater and forward, and from higher levels of support to lower levels. A system of continuous replenishment may take the form of either automatic (push) or requisitioning (pull) replenishment. Commanders and planners must devise a balance of push and pull replenishment that efficiently and effectively supports an operation and relieves the forward commanders of logistics support details without impairing their control of their organic logistics support capabilities. The replenishment system must effectively use the available transportation to maximize throughput, minimize

expenditure of resources in the pipeline, and reduce command and control of logistics.

c. Logistics Constraints. Logistics resources are usually constrained. Therefore, their use must be disciplined to accommodate these constraints. At the strategic level, these limitations are either fiscal constraints or the unavailability of materials, industrial facilities, and skilled labor. Long lead times for mobilization and deployment can also affect the strategic concentration of forces and supplies within a theater. At the operational and tactical levels, common limitations are attributed to-

(1) Inadequate transportation means and port capacities.

(2) Insufficient quantities of certain munitions, equipment, and critical spare parts.

(3) Lack of trained logistics personnel.

(4) Failure to plan for adequate or interoperable command, control, communications, and computer systems.

d. Standardization. Standardization is the commonality of equipment and uniformity of procedures. Standardized procedures make complex tasks easier to execute in a timely way. Commonality of equipment reduces the number of different maintenance procedures involved and reduces the amount and type of support equipment. Standardization promotes economy by reducing unnecessary redundancy. It also promotes productivity, flexibility, and system reliability.

e. Centralization Versus Decentralization. Centralized control and decentralized execution are ideals sought in logistics support operations. If achieved, support will be responsive, economical, and flexible. Often, however, a balance between centralization and decentralization is difficult to achieve. Control may suffer because it is fragmented, or support may fall short because services and materiel are too concentrated. Consequently, commanders and their staffs at all levels must use judgment and experience to achieve the optimal mix of centralized control and decentralized execution based on the circumstances. Centralized control is most effective at the strategic level. It draws on the existing infrastructure, established procedures, and a stable environment. The degree of centralization varies at the operational level as forces can be fragmented, some-times over great distances, and operations take place under primitive, expeditionary conditions. At the tactical level, the degree of centralization is determined by the mission and concept of operations- factors that may override considerations of a purely logistical nature.

f. Expenditure and Consumption. Commanders, operators, and logisticians must understand the difference between consumption and expenditure in order to enhance both responsiveness and economy in logistics support operations. Expenditure will always be greater than consumption because expenditure represents the sum of consumption, pipeline quantities, safety stocks, pilferage, waste, and loss. When determining requirements, planners must distinguish between consumption and expenditure. The supported commander submits requirements based on anticipated consumption. The supporting commander estimates requirements based on anticipated expenditures. While the supported commander must strive to identify consumption rates accurately, the supporting commander must constantly strive to refine expenditure rates. Usage factors require careful, constant reevaluation to ensure that they are based on current data.

g. Alternative Planning. Logistics alternative planning establishes more than one option to provide support using equivalent means. Alternative planning can involve substitute modes of transportation, sourcing supplies from different locations, or reassigning support tasks between different organizations. This requires a certain degree of planned redundancy but does not imply intentionally oversupplying or apportioning and allocating an excessive reserve. Alternative planning is essential to flexible support when fixed resources are apportioned or allocated for support of a particular operation.

h. Echelonment. Echelonment is the preplanned provision or positioning of resources to ensure uninterrupted logistics support. Echelonment can cause variation in the level of support capabilities available in a given location at a specified time. It must be considered when developing task-organized elements to accomplish specific functions. Echelonment planning considers the phasing of logistics support in both time and location to maximize the effectiveness of logistics operations. If properly used, echelonment contributes to the responsiveness, economy, and flexibility of logistics support operations and to the survivability and sustainability of Marine Corps forces.

i. Logistics Reserves. Logistics can be a pacing factor at the operational level of war. While the adequacy of logistics to sustain operations governs the rate at which the campaign can proceed, the presence of a reserve capability may determine whether opportunities are exploited or are missed. Just as strategic and operational reserves are necessary to exploit tactical or operational success or to respond to new contingencies, it is also necessary to coordinate and establish reserves of logistics resources that can be committed only by the Commander, Marine Corps Forces, at the strategic, operational,

and tactical levels. Logistics reserves are established for possible consumption by the supported forces, but their intent is not to cover expenditures in the supporting force's pipeline. It is important to note that building a logistics reserve should not take priority over satisfying imminent or immediate support requirements.

j. Redundancy. Redundancy is the duplication of systems, units, or functions that provides alternate means of support if there is an interruption, failure, or loss of capability. Redundant capabilities help prevent disruption of support. This concept may be perceived as a contradiction of economy. However, properly planned redundancy can provide assurance of continued support. It can also contribute to enhanced responsiveness. Although redundancy improves flexibility and survivability, redundancy of systems, units, or functions should be limited to only what is essential to accomplish the mission.

k. Conservation. Conservation avoids waste and is one of the components of economy. Because limits always exist on available supplies and services, commanders must continuously practice and enforce conservation. Commanders also enforce conservation to improve overall flexibility by making the conserved resources available elsewhere or at a later time. Means of conservation may include recycling of materiel, proper use of salvage, and local rebuilding of spares when authorized.

l. Austerity. Austerity avoids excess and is also a component of economy. Austerity entails providing just enough materiel or services to accomplish the mission. The objective of the logistics planner is to provide for the consumers' needs, rather than their wants. Austerity will not eliminate a commodity or service, but it will reduce it to absolute essentials. Commanders should encourage austerity even in times of plenty. Wide swings between wasteful overabundance and inadequate support jeopardize mission accomplishment.

m. Throughput. Throughput is a function of the distribution system. It is a measure of the amount of materiel passing through a processing point within a specified period of time. The distribution system is the pipeline through which supplies and services flow from the supporting command to the supported command. The flow cannot begin until requirements are identified and supplies and services procured. Until the flow of materials begins, the MAGTF relies on its organic sustainment that deploys with it. As procurement actions are accomplished, goods and services begin to flow, and eventually the flow reaches a state that matches expenditures. Maintenance of throughput is affected by lead-time and control.

REFERENCES :

1. MCWP 4-1, Logistics Operations
2. MCWP 4-11, Tactical-Level Logistics
3. JCS Pub 1-02, Dictionary of Military and Associated Terms