

UNITED STATES MARINE CORPS
Logistics Operations School
Marine Corps Service Support Schools
PSC Box 20041
Camp Lejeune, North Carolina 28542-0041

STUDENT OUTLINE

COURSE TITLE: Reserve Officer & SNCO Logistics Course

LESSON TOPIC NUMBER: RLO D116

LESSON TOPIC: Combat Service Support Planning Considerations

INSTRUCTIONAL REFERENCES:

1. MCWP 4-1, Logistic Operations
2. MCWP 4-11, Tactical-Level Operations
3. Joint Pub 3-02, Joint Doctrine For Amphibious Ops

OVERVIEW: The purpose of this class is to provide an introduction to Combat Service Support Planning Considerations.

a. Major Teaching Points:

- How to identify CSS Capabilities
- How to plan for CSS requirements
- How to plan for Logistics & CSS shortages
- How to prepare an estimate for the concept of support
- CSS in an amphibious operations

LEARNING OBJECTIVES

1. **Terminal Learning Objective:**

a. Given the billet of a Combat Service Support Chief, Commanders guidance, a mission to deploy the unit as part of a MAGTF, and the references, conduct planning in support of a MAGTF for a given mission, to ensure planning requirements are fulfilled or appropriately identified, per the references.
(0491.02.01)

2. **Enabling Learning Objective:**

a. Given a scenario wherein you are filling the billet of a Combat Service Support Chief, Commanders guidance, a mission to deploy the unit as part of a MAGTF, and the references, **identify the following:**

(1) **Procedures used to identify CSS capabilities,** to ensure planning requirements are fulfilled or appropriately identified, per the references. (0491.02.01b)

(2) **Procedures used to identify support requirements,** to ensure planning requirements are fulfilled or appropriately identified, per the references. (0491.02.01c)

(3) **Logistic/CSS shortfalls,** to ensure planning requirements are fulfilled or appropriately identified, per the references (0491.02.01d)

(4) **Procedures used to prepare estimates or supportability,** to ensure planning requirements are fulfilled or appropriately identified, per the references (0491.02.01d)

(5) **Procedures used to assist in the execution of amphibious operations,** to ensure planning requirements are fulfilled or appropriately identified, per the references (0491.02.01p)

STUDENT MASTERY

a. Date Material Will be Tested: N/A

b. Material will be tested using the following method: N/A.

OUTLINE

1. PROCEDURES USED TO IDENTIFY COMBAT SERVICE SUPPORT CAPABILITIES :

Tactical Logistics includes organic unit capabilities and the combat service support (CSS) activities necessary to support military operations. Its focus is to support the commanders intent and concept of operations while maximizing the commander flexibility and freedom of action.

There are 13 CSS Planning Considerations that are used as guides for planning, organizing, managing, and executing Tactical Logistics. They are not rigid rules, not will they apply at all times. As few as one or two may apply in any given situation. Thus, these considerations should not be interpreted as a checklist, but rather as a guide for analytical thinking and prudent planning. Lets review the following CSS Planning Considerations:

1. Integrated Planning

Logistics support cannot be effective if it is planned without detailed coordination with the functions it supports.

2. Forward Focus

A system of continuous replenishment may take the form of either automatic (push) or requisitioning (pull) replenishment

3. Logistic Constraints

Logistic Resources are usually constrained. Therefore, their must be disciplined to accommodate these constraints.

4. Standardization

Standardization is the commonality of equipment and uniformity of procedures. Commonality of equipment reduces the number of different maintenance procedures reduces the amount and type of support equipment.

5. Centralization vs Decentralization

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 material are too concentrated. 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.

6. Expenditure vs Consumption

Expenditure will always be greater than consumption because expenditure represents the sum of consumption, pipeline quantities, safety stocks, pilferage, waste, loss. When requirements, planners must distinguish consumption and expenditure.

7. 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.

8. Echelonment

Echelonment is the preplanned provision or positioning of resources to ensure uninterrupted logistics support.

9. Logistics Reserves

While the adequacy of logistics to sustain operations governs the rate at which the campaign proceeds, the presence of a reserve capability may determine whether opportunities are exploited or are missed.

10. 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.

11. Conservation

Because limits always exists on available supplies and services, commanders must continuously practice and enforce conservation.

12. Austerity

Austerity entails providing just enough material or services to accomplish the mission.

13. Throughput

It is the measure of the amount of material 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.

These considerations will not dictate a specific coarse of action but they will assist the logistic planner to maximize the effectiveness and efficiency of logistics operations. With these CSS planning considerations in mind, now we can begin to understand how we plan for our logistical support and ultimately develop our concept of support.

Simply, Logistic planning focuses on satisfying the CSS requirements generated by the supported force. This planning addresses the estimation of material and support requirements as well as the organization and employment of organic and supporting tactical logistic organizations.

There are 6 elements that provide logistic planners insights for developing and maintaining throughput systems and sustainment capabilities for the execution of logistic support of MAGTF tact operations.

a. **Supply:** Commanders should optimize the basic load for all supplies, including Class IX repair parts. The unit's basic load should not exceed the commander's anticipated requirements, even if the unit can carry additional quantities.

b. **External Support:** MAGTF plans should make maximum use of host nation and inter-service support available within the theater of operations.

c. **Forward Support:** The farther forward the CSS unit, the less responsibility it should have for routine support tasks. CSSE should be responsible only for those supplies and services that are critical to combat operations.

d. **Air Support:** In planning for sustained operations, the MAGTF should expect to receive critical items primarily by air; however, this does not preclude thorough planning for surface lift.

e. **Alternate Supply Routes:** Transportation planning at every echelon should include the development of alternate supply routes. Use of a single supply route increases the chances that enemy action could severely disrupt or prevent movement.

f. **Security:** The CSSE commander is inherently responsible for the organization's security. While continuing to provide support, the CSSE commander must employ both active and passive measures to defend against attempts to disrupt support operations.

2. PROCEDURES USED TO IDENTIFY SUPPORT REQUIREMENTS

a. A variety of factors influence logistics planning efforts to determine precise logistics support requirements (i.e., what, when, where). These factors affect logistics estimates, annexes, and plans for logistics support operations. Commanders or supporting logistics organizations and their staffs also prepare complete plans for logistics support operations based on these factors.

Many logistics support requirements can be calculated mathematically based on the number of people and types or quantities of equipment to be supported for a specified period of time over known distances. The basis for estimating other support requirements is less precise, requiring judgment and experience to develop reasonable predictions. Information processing systems have greatly facilitated requirements estimation by allowing planners to merge, categorize, and summarize large quantities of data. However, in the end, all information systems reflect the inputs of their users, and logisticians must review input data and underlying assumptions carefully, examine planning output critically, and apply common sense to any plan before it is implemented.

Here are 6 factors which will assist in forming our CSS requirements:

(1) Intelligence: Intelligence resources are a source of vital information for logistic planners. The potential effects of enemy force strengths, locations, and capabilities, in addition to the effects of weather and terrain on logistic operations, can be significant. Logisticians must take into account the existing infrastructure (i.e. roads, bridges, rail).

(2) Personnel: Personnel planning begins with accurate identification of the number and location of personnel (by gender) to be supported. This drives numerous requirements, which include but are not limited to feeding, billeting, and transportation.

(3) Equipment Density, Distribution, and Characteristics: The quantity and type of equipment, equipment location, equipment technical specifications, and information regarding how equipment is employed are critically important to planners. Requirements for fuel, batteries, spare parts, maintenance, salvage, and ammunition are all based on this information.

(4) Historical Data: Historical data collected from past operations provides a foundation for calculating current support requirements.

(5) Modeling and Simulation: Models and simulations can be tremendously useful in effectively demonstrating the possible impact of proposed changes in force structure or concept of operation.

(6) Experience and Intuitive Analysis: Commanders and logisticians must apply judgment based on experience and sound staff work to assess risk and ensure that a proposed solution to a support problem is both practical and feasible.

b. Once we have looked at the CSS planning Factors, we then need to consider the 6 functions of logistics in order to develop our requirements for combat service support. The following is a planning process utilizing the 6 functions of logistics.

(1) Supply. Compromises that are acceptable in peacetime to improve economy and enhance accountability may not be appropriate in a combat situation. For example, storage of a commodity in a single dumpsite may be appropriate in peacetime.

In combat a CSSE commander may establish multiple CSSA's. Their capacities and locations vary based on the tactical situation, the concept of operations, and the scheme of maneuver.

(2) **Maintenance.** Each MAGTF element should make maximum use of organic maintenance contact teams and CSSE maintenance support teams. Repair and return of equipment as far forward as possible speeds return of equipment to the user.

(a) Aspects to consider

1. Maintenance activities must operate in harsh conditions during tactical operations.
2. Limited resources may require around-the-clock work conditions.
3. Contamination in the battlespace may further complicate and delay repair of equipment.
4. Units must minimize the time required to repair combat essential items.

(b) How to minimize repair time?

1. To minimize repairs, units must recover, evacuate, and repair equipment as far forward as possible. Repairing equipment as far forward as possible reduces transportation requirements and increases equipment availability.

2. Evacuate inoperable equipment only if the mechanics or equipment technicians cannot repair it forward or if the repairs will take excessive time.

3. Make critical repair parts available as far forward as practical. Combat may even require positioning critical parts at the using-unit level. Combat may also dictate greater reliance on selective interchange.

(3) **Transportation.** Because transportation is the most limited and limiting logistic capability in the MAGTF, it requires close management. Improper management of transportation assets may degrade combat operations. The

transportation planning process is the same regardless of mode, distance, or locale. The operational commander provides requirements and establishes priorities based on the concept of operations.

(a) The transportation planner sequences movement requirements in the following order:

1. Determine the desired arrival team at destination
2. Select mode of transportation
3. Determine load and pickup point
4. Apply time-distance factors.
5. Reconcile conflicting requirements.
6. Test movement plan for feasibility.

(b) Planning Elements:

1. **Requirements** (list of personnel, supplies, and equipment). Includes delivery date and destination.
2. **Lift Mode**. Means of transportation.
3. **Routing**. From load and pickup to intermediate and transfer locations.
4. **Timing**. Timely arrival of personnel, supplies, and equipment at the intended destination. The key to transportation is flexibility.

(4) **General Engineering**. The MAGTF engineer assigns and integrates construction tasks and priorities for both Marine and Naval Construction Force (NCF) engineer components assigned to the MAGTF. The NCF headquarters assists the MAGTF engineer in planning and coordinating construction requirements to best use the unique capabilities of the NCF. Continuous liaison is vital during the planning, deployment, and execution phases of MAGTF operations. The following engineer support planning areas 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 other extended distances, augmentation is necessary.

(a) Construction Materials. Many CSS engineering tasks require large amounts of construction materials. The time, manpower, equipment, and fuel required to assemble and use these supplies are often significant. (Class IV Supplies)

(b) Supply, Maintenance, and Ordnance Support. Supply, Maintenance, and Ordnance support for engineer operations is extensive. Engineer 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 and cratering charges.

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

(5) Health Services. The MAGTF medical units have extensive, cumbersome equipment that requires external transportation, fuel, and utilities support. In addition, medical unit's logistical footprint creates significant terrain management challenges. Although HSS staffs conduct medical planning within the MAGTF, logistical planners should ensure the following:

(a) Complimentary equipment and associated consumables kits (authorized medical allowances lists [AMALs] and authorized dental allowance lists [ADALs]) are in sufficient quantities to support the force.

(b) Narcotics handling and security procedures are established.

(c) Medical regulating channels and procedures for the movement and tracking of casualties between and within the levels of care are established.

(d) The mix of dedicated versus opportune lift for casualty evacuation is decided based on the concept of operations, casualty estimates, and METT-TSL (estimate of the situation).

(e) MAGTF level II and level III treatment facilities are identified and medical evacuation policies are established.

(f) Preventative medicine requirements and preventive medicine technicians for insect control and redeployment agriculture inspections are identified.

(g) Mass casualty procedures are established.

(h) Primary and secondary casualty receiving and treatment ships (CRTS) are identified for amphibious operations

(i) Medical requirements for the area of operations (e.g., immunizations, anti-venom, and anti-malarial medication) are identified.

(6) **Services.** Planning considerations for services vary for each particular services function and the operational situation. Combat service support services functions are typically implemented in operational chains of command. In contrast, most command services functions normally operate in administrative chains of commands in garrison and may continue to do so even after deployment. Element commanders must consider problems that deployments might pose for continuing administrative support when preparing plans for command services functions.

3. LOGISTIC / CSS SHORTFALLS.

Planning for a single mission or contingency is relatively straightforward but rarely the norm. Multiple, concurrent operations frequently occur whose requirements conflict and compete for the same resources and constrain preparations for response. Logistics planners accommodate potential or actual competing requirements for resources by apportioning or allocating available resources, establishing distribution priorities, and anticipating demands.

Here are three ways of planning for CSS Shortfalls:

a. **Apportionment and Allocate Resources**

Apportionment and allocation decisions establish how much of a particular resource is available to the supported commander. Apportionment is the planned distribution of limited resources among competing requirements. In time-sensitive planning, apportionment blends into allocation, which is the actual distribution of limited resources among competing requirements. Apportionment and allocation are processes that divide limited resources, but they may not always satisfy projected consumption or provide desired sustainment levels. Resolution of shortfalls may require either a commander's intervention to obtain increased apportionments and allocations or modifications to the concept of operations to reduce consumption requirements. Identification of potential apportionment support plans is critical to ensure the logistics feasibility of an operation plan.

c. Establish Distribution Priorities

The commander must establish distribution priorities for the apportioned or allocated logistics resources. These priorities determine who, will receive what resources, when. Priorities are initially based on the concept of operations and modified as the situation develops.

d. Anticipate Demands

Analysis of assigned missions and tasks to determine resources, requirements, and shortfalls reduces uncertainty. It cannot entirely remove the impact of unanticipated support demands, but it can minimize their extent and potential effect on operations. Additionally, planning gives commanders and their staffs the opportunity to assess the area of operations environment, the assigned forces and potential oppositions characteristics, and the nature of the mission. This assessment should enable commanders and their staffs to develop flexibility in planning that addresses most unanticipated demands.

Effective logistic planning requires a coordinated effort between the supported force and the supporting organizations. Ground-common and aviation-peculiar logistic support must be provided in the right quantity, at the right time, and in the right place. Providing too much material or too robust service at one location may disrupt operations of the supported unit or deprive other supported units of what they need when they need it.

a. This is best accomplished when -

(1) Supported organizations:

- (a) Calculate their requirements as precisely as possible.
- (b) Factor organic or attached and/or direct support cargo and personnel transportation capacity into the requirements calculation.
- (c) Prioritize requirements.
- (d) Integrate requirements with expected schedule and duration of the operation.
- (e) Verify critical material or services allocations made by higher authority when determining requirements for tactical missions.

(2) Supporting organizations:

- (a) Provide the support required
- (b) Review with the supported organization the support requirements as they are developed.
- (c) Coordinate with the supported organization to refine the requirements based on the supported organizations competing requirements.
- (d) Procure material and task-organize internally to provide support efficient
- (e) Plan support distribution by anticipating demand.

b. Identification of potential apportionment support shortfalls is critical to ensure the logistics feasibility of an operation plan. The commander must establish distribution priorities for the apportioned or allocated logistics resources. These priorities determine who will receive what resources, when. Analysis of assigned missions and tasks to determine resources, requirements, and shortfalls reduces uncertainty. It cannot entirely remove the impact of unanticipated support demands, but it can minimize their extent and potential effect on operations. Additionally, planning gives commanders and their staffs the opportunity to assess the area of operations environment, the assigned forces and the potential opposition's characteristics, and the nature of the mission. This assessment should enable commanders and their staffs to develop flexibility in planning that addresses most unanticipated demands.

4. PREPARE ESTIMATES OR SUPPORTABILITY

The concept of logistics and CSS is a broad statement of the essential logistic and CSS tasks involved in supporting the conduct of MAGTF operations. It gives an overall picture of CSS operations and addresses solutions to shortfalls cited in the CSS estimate.

The CSS estimate is a rapid assessment by the G-4/S-4 of logistic capabilities and limitations for each proposed course of action (COA). It analyzes the COA's under consideration to provide the logistic aspects of relative combat power. The estimate helps determine the most desirable and most supportable COA from the CSS standpoint.

The commander decides which COA will be used to accomplish the assigned mission. As an advisor, the G-4/S-4 provides the commander with information and makes recommendations based on logistics / CSS estimate.

The logistic / CSS estimate is the result of an examination of the logistic factors which influence contemplated COA's and an appraisal of the degree and manner of that influence. The estimate looks at the six tactical logistic functional areas. The estimate compares requirements, available assets, problems, limitations, advantages, and disadvantages for each COA. The logistic / CSS estimate assesses the limitations of each COA. It also determines what actions are necessary to overcome any problems or limitations. If any COA is not supportable, the estimate specifically states this. It gives the commander enough information to make a decision based on the suitability, feasibility, acceptability, and relative merit of each COA from a logistic standpoint.

In order to come up with a Combat Service Support Estimate, the Logistics planner must address each of the following elements:

(1) Mission: The mission of the MAGTF as deduced by the commanders 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.

(2) Concept of Operations: CSS personnel must have a complete knowledge of the supported commanders concepts of operations.

(3) Theater Characteristics: This includes 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.

(4) Intensity of Operations: The expected intensity of operations determines those planning factors or combination of factors used to quantify CSS requirements.

(5) Timing and Duration: 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.

(6) Forces: The availability of support from other services or host nations influences the concept of logistics and CSS. Similarly, enemy capabilities influence the selection of a concept of logistics and CSS in a given situation.

5. PROCEDURES USED TO ASSIST IN THE EXECUTION OF AMPHIBIOUS OPERATIONS.

An amphibious operation is characterized by the rapid buildup of combat power ashore. Logistic and/or CSS planning for an amphibious operation embraces the determination of material and personal requirements, their procurement and distribution to support the operation, and necessary administrative procedures incident thereto.

Planning must consider both the inter-theater and intra-theater logistic and or CSS systems established by the combatant commanders and the provision of requisite logistic and/or CSS for forces within the ATF. Associated with this projection of combat power may be the requirement to land CSS units to sustain the Landing Force. 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

Combat Service Support in the Assault Phase. To sustain the assault, CSS operations must support tactical operations. Therefore, the buildup of a CSS capability ashore must parallel the tactical buildup. Landing support operations begin with the

landing of the advance elements of the landing force support element, and they continue until the operation ends. Combat service support early in the amphibious operation is limited to the provision of essential supplies and services (i.e. rations, water, ammunition, fuel, medical support). Until the CSSE is established ashore, nonaviation-peculiar CSS operations focus on the landing force support element and its shore element and on helicopter-landed support from ships. Aviation logistics support generally remains aboard ship or out of the area at supporting airfields.

a. Planning Considerations:

- (1) Orderly assembly and embarkation of personnel and material based on anticipated requirements of the Landing Force scheme of maneuver ashore.
- (2) Establishment and maintenance of a logistic and /or CSS System in the AOA that will ensure adequate support to all elements of the ATF and later support of base development and garrison forces as directed.
- (3) Initiation of logistic and/or CSS support from the seaward, or the rear, and directed forward to the point of application at the using unit.
- (4) Preservation of tactical security during logistic and/or CSS planning. Nonsecure logistic and/or CSS planning can compromise tactical surprise and landing location.

b. Planning Factors:

- (1) Character, size, and expected duration of the operation
- (2) Target date (D-Day)
- (3) Characteristics of the AOA.
- (4) Enemy capabilities
- (5) Strength and Composition of the Landing Force
- (6) Capabilities of the Landing Force to perform logistics and or CSS functions

- (7) Gradual increase in the CSS required by the buildup of forces in the landing area.
- (8) Support required to provide for EPW's
- (9) Availability of logistic and or CSS
- (10) Availability of communication means.
- (11) Requirements for rehabilitation or construction of aviation installations within the AOA or within supporting distance.
- (12) Possible impact of NBC warfare on the provision of logistic and/CSS.
- (13) Availability of AE amphibious shipping and provision of AFOE and follow-up shipping to support the amphibious operation.

c. Other Planning Considerations :

Certain logistic and/or CSS matters in an amphibious operation affect only one element of the force and are therefore prepared individually by that element. Such plans are not covered in this publication. The remainder of this chapter addresses logistic and / or CSS plans concerning more than one element of the ATF that require a certain degree of coordination, including:

- (1) Embarkation and loading plan
- (2) Plans for supply and resupply
- (3) Medical and dental plans
- (4) Landing Force Support Party (LFSP) plan
- (5) Engineer planning
- (6) Civil Engineer plan