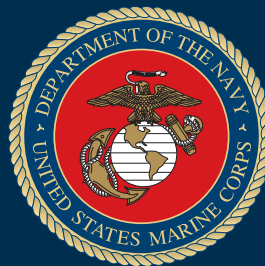
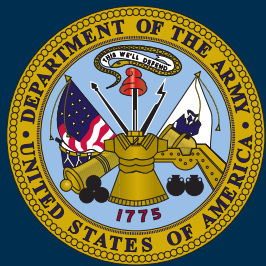


Joint Publication 3-02.1



Amphibious Embarkation and Debarkation



30 November 2010



PREFACE

1. Scope

This publication provides joint doctrine for the planning and conduct of embarkation and debarkation for amphibious operations.

2. Purpose

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff. It sets forth joint doctrine to govern the activities and performance of the Armed Forces of the United States in joint operations and provides the doctrinal basis for interagency coordination and for US military involvement in multinational operations. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders (JFCs) and prescribes joint doctrine for operations, education, and training. It provides military guidance for use by the Armed Forces in preparing their appropriate plans. It is not the intent of this publication to restrict the authority of the JFC from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of the overall objective.

3. Application

a. Joint doctrine established in this publication applies to the Joint Staff, commanders of combatant commands, subunified commands, joint task forces, subordinate components of these commands, and the Services.

b. The guidance in this publication is authoritative; as such, this doctrine will be followed except when, in the judgment of the commander, exceptional circumstances dictate otherwise. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence unless the Chairman of the Joint Chiefs of Staff, normally in coordination with the other members of the Joint Chiefs of Staff, has provided more current and specific guidance. Commanders of forces operating as part of a multinational (alliance or coalition) military

command should follow multinational doctrine and procedures ratified by the United States. For doctrine and procedures not ratified by the United States, commanders should evaluate and follow the multinational command's doctrine and procedures, where applicable and consistent with US law, regulations, and doctrine.

For the Chairman of the Joint Chiefs of Staff:

A handwritten signature in black ink, appearing to be 'WEG', written in a stylized, cursive manner.

WILLIAM E. GORTNEY
VADM, USN
Director, Joint Staff

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EXECUTIVE SUMMARY COMMANDER'S OVERVIEW

- Discusses the concept of deployment
 - Describes organizations for embarkation operations
 - Outlines the duties and responsibilities of embarkation personnel
 - Explains amphibious embarkation planning
 - Covers shipload planning
 - Discusses embarkation, movement and assembly
 - Describes debarkation and re-embarkation
 - Introduces administrative movement
-

Introduction and Concept of Deployment

Amphibious operations are military operations launched from the sea by the amphibious force, embarked in ships or craft with the primary purpose of introducing a landing force (LF) ashore to accomplish the assigned mission.

Embarkation planning involves all the measures necessary to ensure timely and effective loading and off-loading of the amphibious force (AF). Embarkation planning must begin early, proceed concurrently, and be coordinated with other planning. It requires coordination between forces, including detailed knowledge of the characteristics, capabilities, and limitations of ships, and the troops, supplies, and equipment to be embarked.

The embarkation phase is the period during which the forces, with their equipment and supplies, are embarked in assigned shipping.

The embarkation phase is one of five phases in an amphibious operation, which are: planning, embarkation, rehearsal, movement, and action. These phases may occur in a different sequence depending on the plan or operation.

E-day is the day landing force (LF) personnel, supplies, and equipment begin to be embarked aboard amphibious or commercial ships. An embarkation order specifying dates, times, routes, loading diagrams and methods of movement to shipside or aircraft for troops, and their equipment is normally given.

Embarkation is a joint undertaking conducted by both the amphibious task force and the LF.

Proper embarkation depends to a large extent on the mutual understanding of objectives and capabilities, and the full cooperation in planning and execution. Throughout the planning and execution of the amphibious operation, the landing force staff works in concert with its amphibious task force (ATF) counterparts.

Ideally, units embarked for combat should be loaded to allow the greatest flexibility in landing at the objective area. **The organization for embarkation of the LF must be compatible with the plan for the ship-to-shore movement, which in turn, must support the scheme of maneuver ashore.** Insofar as possible, each ship of the ATF should be loaded to provide maximum flexibility to meet possible changes in the tactical plan and to facilitate discharge of cargo to meet emergency calls for personnel, equipment, and supplies.

A characteristic of successful amphibious operations is the manner in which troops establish themselves ashore.

The power and size of the LF must be expanded to the maximum extent necessary to carry out its mission in the shortest possible time. This expansion requires a rapid yet orderly buildup of troops and materiel, which depends in large measure on the manner in which the ships have been loaded.

Most joint operations are conducted within the context of an alliance or coalition. Commanders should evaluate differences involved in planning, coordinating, and conducting operations in a multinational environment and the impact on embarkation and the amphibious operation.

Force protection is a fundamental aspect of security designed to protect military and civilian participants, facilities, and equipment.

In developing amphibious embarkation and deployment plans, significant consideration must be given to detailed security, counterintelligence (CI) support requirements, and force protection (FP). FP is accomplished through planned and integrated application of antiterrorism, chemical, biological, radiological, and nuclear defense, information operations, law enforcement, physical security, operations security, personal protective services and is supported by intelligence (especially CI), and other security programs.

Concept of Deployment

The deployment is objective focused and developed by a “reverse planning” process, wherein the anticipated combat requirements ashore (based on the concept of operations) drive the time-phasing and method of landing the LF, which in turn drives the timing and manner used to embark and deploy the force.

The amphibious force commander prepares an intricate plan for projecting this power ashore.

The ability to mass personnel and materiel, as well as the flexibility to change the time and place of loading, usually dictates a heavy reliance on sealift.

Movement via sealift and airlift must be fully integrated to optimize timeliness and minimize

An AF deploys by way of intratheater and intertheater modes of transportation. The AF may be employed in situations in which the LF is required to land in a hostile (or potentially hostile) objective area. Additionally, it may be required to remain poised for extended periods over the horizon, pending a decision by the supported combatant commander to take specific action, or it may be required to act as a sea-based platform to support various joint operations.

Deployment is predicated on the tactical requirements for operations ashore, which drive the development of a detailed landing plan. This landing plan, in turn, drives development of time-phased force requirements. Those requirements drive movement, embarkation, marshalling, and staging requirements and plans.

The commander, amphibious task force (CATF), in close coordination with the commander, landing force, is responsible for the preparation and overall execution of the ship-to-shore movement and landing plan. The landing plan is the basis for organization and deployment of the entire AF and leads to the determination of LF echelons. The landing plan is composed of specific documents which are incorporated into annexes to operations and in administrative plans and orders.

The time required in the operational area, suitability of materiel for sealift or airlift, availability of suitable ports of debarkation, and lift availability are some of the major determinants for the mode of deployment.

The assault echelon (AE) is embarked in amphibious ships equipped to conduct amphibious operations. The assault follow-on echelon (AFOE), on the other hand, is embarked primarily in strategic sealift shipping or aircraft. Intratheater, intertheater, and self-deploying air assets may be used to move personnel and selected supplies and equipment.

Port loading considerations and modes of transportation must be fully integrated to ensure the smooth, coordinated flow of personnel and materiel into the amphibious operational area.

possible port throughput constraints.

The potential tactical employment requires planning, execution, and integration of the deployment regardless of mode of transportation to achieve a rapid buildup of combat power ashore. Preferably, forces will be organized, trained, marshalled, and deployed from the same geographical location. The AF can be created in the objective area, using forward deployed contingency forces and/or various strategic mobility enhancements, including maritime pre-positioning. This compositing method is mandated by the need for rapid deployment coupled with the reduced ability to mass amphibious ships and other forces because of normal peacetime dispositions.

Organization

Amphibious operations are normally part of a joint operation and the forces executing these operations are task-organized to meet the requirements of the mission. No standard organization is applicable to all situations.

The organization for embarkation consists of temporary task organizations for the LF and a temporary organization of Navy forces. These task organizations are formed to simplify planning and facilitate execution of embarkation at all levels of command. For this reason, the task organizations conform to the circumstances of the embarkation and the requirements of the anticipated tactical situation.

The LF organization for embarkation is composed of embarkation groups, embarkation units, embarkation elements, and embarkation teams. Formation of the various embarkation echelons depends on the degree of decentralization of command and control essential to the successful accomplishment of the embarkation phase.

Mobility officers specially trained in the techniques of planning and supervising loading for an amphibious operation are assigned to LF organizations, major amphibious ships, and naval staffs within the AFs. **In the LF, these mobility officers are referred to as embarkation officers.** They have the status of special staff officers in the headquarters in which they are assigned. The LF embarkation officers advise and assist their respective commanders in planning the embarkation and supervising its execution.

Planning

The goal of amphibious embarkation planning is the timely and effective loading of ATF assets.

Amphibious embarkation planning is a dynamic process where AF operational and individual unit requirements compete in a resource-constrained environment. Key to the success of this effort is the close working relationship which must exist between LF operations and logistics officers and their naval counterparts.

Amphibious embarkation planning must begin early and proceed concurrently with all other planning; this cannot be overemphasized.

Amphibious planning requires detailed knowledge of the characteristics, capabilities, and limitations of ships and their relationship to the personnel, supplies, and equipment to be embarked. It is important to note that the Navy support element and other embarking organizations are considered part of the LF with the exception of the embarking naval staff. These organizations may impact berthing, cargo, and vehicle storage, and should be considered in embarkation planning.

Following receipt of the initiating directive for the amphibious operation, LF embarkation planning begins at all echelons and proceeds concurrently.

The LF operations officer produces the landing plan and organization for embarkation and assignment to shipping; these two documents provide the operational direction the embarkation and combat cargo planners require in order to arrive at a load planning solution. Other processes, such as determining overall shipping requirements and embarkation schedules, also figure prominently in arriving at a workable load plan.

Three principles drive embarkation planning: support the tactical plan, provide for unit self-sufficiency, and provide for dispersion.

During deployment planning, decisions are reached to provide for a time-phased echelon of personnel and supplies into the objective area as reflected in the time-phased force and deployment data.

Echelonning is required not only because of the limited availability of airlift and sealift but also for control purposes to ensure the orderly buildup of forces and sustainment. Normally, three separate transportation echelons are required for the amphibious assault: AE, AFOE, and follow-up.

The **AE** is the element of a force that is scheduled for initial assault on the objective area and is transported in amphibious shipping.

The **AFOE** is the echelon of the assault troops, vehicles, aircraft equipment, and supplies that, though not needed to initiate the assault, are required to support and sustain the assault.

Follow-up provides the logistic pipeline to sustain the LF.

In amphibious operations, **follow-up** is the landing of reinforcements and stores after the assault echelon and assault follow-on echelon have been landed.

A **ship loading plan** is prepared for each embarkation by the ship's team embarkation officer assisted by the ship's combat cargo officer when possible. Close and continuous liaison between these individuals is desirable to ensure expeditious and successful embarkation planning. Entries in the loading documents must be the actual weight or measurement of that item of cargo as it is to be loaded.

Each ship loading plan must be approved by both the commanding officer of troops and the ship's commanding officer (or master for Military Sealift Command ships).

The embarkation team commander ensures that the plan supports the tactical logistic plans of the LF. **The ship's commanding officer (or master for Military Sealift Command ships) ensures that the plan does not exceed the capabilities of the ship and does not adversely affect the stability, trim, or safety of the ship.** The commanding officer or master is the final approval authority and has the authority to reject the load plan if it violates safety regulations e.g., cargo or vehicles blocking escape scuttles or fire-lanes that are too narrow or even blocked.

The general types of loading in amphibious operations are: administrative loading and combat loading.

Administrative loading is a loading method that gives primary consideration to achieving maximum use of billeting and cargo space without regard to tactical considerations.

Combat loading is a loading method that gives primary consideration to the facility with which troops, equipment, and supplies can be unloaded ready for combat rather than to economical use of ship space. **Combat loading is the arrangement of personnel and the stowage of equipment and supplies in a manner designed to conform to the anticipated tactical operation of the organization embarked.**

Cargo to be loaded aboard ship is divided into four major groupings by physical configuration – vehicles, standard cargo, unitized cargo, and bulk petroleum, oils, and lubricants.

A good personnel embarkation plan contributes to the comfort of personnel and prevents unnecessary administrative burdens. More importantly, **it specifically provides for the rapid and orderly debarkation of personnel for landing and entry into combat.** The personnel embarkation plan must give consideration to priority for debarkation, the tactical grouping of personnel as dictated by the landing plan, and an assigned debarkation station on the ship. Further, it must provide for control of personnel and permit accomplishment of required administrative and training functions during the voyage.

Execution

The timely and efficient execution of embarkation, movement, and assembly relies principally on jointly developed detailed plans and schedules that fully support approved amphibious force embarkation plans.

The development of detailed and comprehensive embarkation and staging plans is a mutual responsibility of the naval forces, LF, and external supporting agencies.

Ships at embarkation points and supplies and equipment stored in the embarkation area are subject to sabotage and pilferage. Sentry posts should be established in accordance with the AF force protection plan.

The CATF is responsible for expeditious off-loading in the objective area in the planned order or priority, and to the proper beaches or landing zones. The CATF may delegate control and coordination of off-loading operations to subordinate commanders. Thus, the commander of each Navy echelon, including the commanding officer of each ship, is responsible for off-loading personnel and cargo.

Cargo and vehicles must be loaded in reverse order to support the off-load sequence as defined in the landing plan. The LF debarkation officer prepares the detailed off-load plan taking into consideration the framework established by the embarkation team commander. The

LF debarkation officer will ensure rehearsals are conducted and designated personnel are thoroughly indoctrinated in debarkation procedures.

Administrative Movement

Normally, administrative movements are used when troops are transported overseas in peacetime or transported in nonassault shipping in combat operations.

Billeting of personnel and stowing of cargo according to off-loading priorities for selective discharge are not required. Instead, administrative or commercial loading is employed because it achieves maximum use of billeting and cargo space.

Generally, an embarking unit, its supplies, and equipment are loaded in the same ship without considering off-loading priorities. Unit integrity is thus maintained.

CONCLUSION

This publication provides detailed guidance on the organization for embarkation/debarkation planning and execution of these phases of the operation, including Military Sealift Command support to amphibious operations.

CHAPTER I

INTRODUCTION AND CONCEPT OF DEPLOYMENT

“The amphibious landing is the most powerful tool we have.”

Douglas MacArthur
Planning Conference for Inchon,
Tokyo, 23 August 1950

SECTION A. INTRODUCTION

1. General

Embarkation planning involves all the measures necessary to ensure timely and effective loading and off-loading of the amphibious force (AF). An AF is an amphibious task force (ATF) and a landing force (LF) together with other forces that are trained, organized, and equipped for amphibious operations. An ATF is a Navy task organization, and the LF is a Marine Corps or Army task organization. Amphibious operations are military operations launched from the sea by the AF, embarked in ships or craft with the primary purpose of introducing an LF ashore to accomplish the assigned mission. The measures, involved in embarkation planning, range from a determination of overall shipping requirements and embarkation schedules to debarkation of the forces. Embarkation planning must begin early, proceed concurrently, and be coordinated with other planning. It requires coordination between forces, including detailed knowledge of the characteristics, capabilities, and limitations of ships; and the troops, supplies, and equipment to be embarked. An amphibious operation involves the deployment of the LF and other forces that may originate from several locations and require both sealift and airlift support. The total capacity of assault shipping utilized in an amphibious operation expressed in terms of personnel, vehicles, and measurement or weight tons of supplies is amphibious lift.

For more information on general concepts and overview on amphibious operations, refer to Joint Publication (JP) 3-02, Amphibious Operations.

2. Embarkation Phase

The embarkation phase is one of five phases in an amphibious operation, which are: planning, embarkation, rehearsal, movement, and action. These phases may occur in a different sequence depending on the plan or operation. For example, a typical amphibious ready group (ARG)/Marine expeditionary unit (MEU) deployment would consist of a series of predeployment planning conferences; the actual embarkation of LF elements; the movement to the assigned operational area; and based on the initiating directive for the amphibious operation, a rehearsal landing, and then the execution of an actual landing or action. **The embarkation phase is the period during which the forces, with their equipment and supplies, are embarked in assigned shipping.** E-

day is the day LF personnel, supplies, and equipment begin to be embarked aboard amphibious or commercial ships. An embarkation order specifying dates, times, routes, loading diagrams, and methods of movement to shipside or aircraft (A/C) for troops, and their equipment is normally given. This publication provides detailed guidance on the organization for embarkation/debarkation planning and execution of these phases of the operation, including Military Sealift Command (MSC) support to amphibious operations.

3. Embarkation Execution

Embarkation of the assault echelons (AEs) and assault follow-on echelons (AFOEs) will be in accordance with the approved operation and embarkation plans.

a. **Mutual Effort.** Embarkation is a joint undertaking conducted by both the ATF and LF. Proper embarkation depends, to a large extent, on the mutual understanding of objectives and capabilities and the full cooperation in planning and execution. Throughout the planning and execution of the amphibious operation, the LF staff works in concert with its ATF counterparts.

b. **Degree of Flexibility.** Ideally, units embarked for combat should be loaded to allow the greatest flexibility in landing at the objective area. **The organization for embarkation of the LF must be compatible with the plan for the ship-to-shore movement, which in turn, must support the scheme of maneuver ashore.** Insofar as possible, each ship of the ATF should be loaded to provide maximum flexibility to meet possible changes in the tactical plan and to facilitate discharge of cargo to meet emergency calls for personnel, equipment, and supplies.

c. **Rapid and Effective.** A characteristic of successful amphibious operations is the manner in which troops establish themselves ashore. The power and size of the LF must be expanded to the maximum extent necessary to carry out its mission in the shortest possible time. This expansion requires a rapid, yet orderly, buildup of troops and materiel, which depends in large measure on the manner in which the ships have been loaded.

4. Use of Combatant and Military Sealift Command Ships

a. **Combatant Ships.** Throughout US naval history, troops have embarked aboard combatant ships for movement to an objective area. These situations sometimes develop under circumstances of great urgency. Accordingly, direct liaison between the embarking forces and the embarked ship must be accomplished to ensure thorough planning, mutual understanding, and expeditious embarkation. In planning for operations, where exact capabilities and specifications are required, the individual ship's loading characteristics pamphlet (SLCP) must be consulted.

For additional information on ship capabilities, refer to Marine Corps Reference Publication (MCRP) 3-31B, Amphibious Ships and Landing Craft Data Book.

b. Navy Inactive Fleet. The Navy inactive fleet consists of decommissioned amphibious shipping that is placed in a layed-up status, and is maintained by the naval inactive ship maintenance facilities under the Navy amphibious lift enhancement program (ALEP). All ships are placed in Mobility Category B status (operational in 180 days or more).

c. Military Sealift Command Ships. The mission of MSC is to support our nation by delivering supplies and conducting specialized missions across the world's oceans. MSC provides ocean transportation of equipment, fuel, supplies, and ammunition to sustain US forces worldwide, during peacetime and in war, for as long as operational requirements dictate. MSC is a major command of the US Navy. As a transportation component command of United States Transportation Command (USTRANSCOM), **MSC provides common-user and exclusive use sealift transportation services to deploy, employ, sustain, and redeploy US forces on a global basis.** The MSC has a unique relationship with the maritime industry: a partnership to ensure that the combatant commanders have the right mix of sealift assets to successfully deploy and sustain their troops. MSC manages a mix of government-owned, MSC-operated ships in which the crew is government or civil service employees; government-owned, contract-operated ships with merchant marine crews through general agency agreements with companies; and contracted ships. An MSC government-owned ship is normally designated United States naval ship (USNS), which is a prefix that appears before, and as a part of the ship's name. USNS is defined as a public vessel of the United States that is in the custody of the Navy and is either operated by the MSC and manned by a civil service crew or operated by a commercial company under contract to the MSC and



Detailed planning is critical for assembly of equipment for loading on assault shipping.

manned by a merchant marine crew. Some of the ships also have a small contingent of Navy personnel aboard for operations support, supply coordination, and helicopter operations. The MSC web site at <http://www.msc.navy.mil/> provides additional information on mission, organization, ship inventory, publications, and ship's cargo capabilities and capacities.

(1) **The Naval Fleet Auxiliary Force** provides direct support for Navy combatant ships, thus allowing them to remain at sea for extended periods of time. MSC's Naval Fleet Auxiliary Force is composed of fleet ocean tugs, oilers, ammunition ships, combat stores ships, and fast combat support ships. Besides delivering supplies at sea, the auxiliary force ships also conduct towing and salvage operations. In addition to logistic operations, the auxiliary force has two hospital ships (T-AHs) designed to provide emergency on-site medical care.

(2) **The MSC Pre-positioning Program has strategically-located ships, which make up the afloat pre-positioning force.** These ships are laden with military equipment and supplies for the US Army, Marine Corps, Navy, Air Force, and Defense Logistics Agency. Pre-positioning provides the ability of the US military forces to respond quickly to any crisis which may arise throughout the world by marrying pre-positioned equipment with fly-in echelon troops.

(a) MSC provides ships for the **Army's pre-positioned stocks (APS).**

(b) **The maritime prepositioning force (MPF)** consists of MSC prepositioning ships, specifically designed for transporting United States Marine Corps (USMC) supplies and equipment, organized in three maritime prepositioning ships squadrons (MPSRONS), one each forward deployed to the Mediterranean Sea (MPSRON ONE), the Indian (MPSRON TWO), and Pacific (MPSRON THREE) Ocean areas. Each squadron can carry everything needed to support a Marine expeditionary brigade (MEB) size Marine air-ground task force (MAGTF) for up to 30 days.

For additional information on MPF operations, refer to Navy Tactics, Techniques, and Procedures (NTTP) 3-02.3M/Marine Corps Warfighting Publication (MCWP) 3-32, Maritime Prepositioning Force Operations.

(c) Other vessels comprise the final major component of the MSC Pre-positioning Program. **The logistics pre-positioning ships** contain Air Force ordnance, Navy munitions, and US military fuel requirements. These remaining pre-positioning ships are assigned to the three MPSRONS.

(d) In addition to its fully activated at-sea ships, the MSC Pre-positioning Program oversees two aviation logistics support ships (T-AVBs). These ships provide mobile maintenance facilities for USMC fixed-wing and rotary-wing A/C. Both ships are maintained in a reduced operating status (ROS) and can be fully activated in five days (ROS-5).

For additional information on MSC, refer to Navy Warfare Publication (NWP) 3-02.21, MSC Support of Amphibious Operations, and JP 4-01.2, Sealift Support to Joint Operations.

d. **Ship Cargo Responsibilities.** For MSC-provided ships, **the master is the captain of the vessel.** The master's responsibility for cargo does not begin until the cargo has been loaded aboard and accepted. However, the ship's master is responsible for ensuring proper stowage. This responsibility is discharged by approving loading plans before commencement of loading, ensuring all loading is in accordance with the vessel's approved loading plan, and ensuring the cargo and its stowage do not adversely affect the trim and stability or safety of the ship. Once the ship's master has accepted the load, the master is responsible for the cargo until the ship arrives at its destination and off-loading begins.

e. **Ship's Loading Characteristics Pamphlets**

(1) **MSC Ships.** SLCPs prepared for MSC ships are similar to the loading characteristics pamphlets for amphibious ships and serve the same purpose. The MSC ships that appear in NWP 3-02.21, *MSC Support of Amphibious Operations*, are part of the fleet of merchant marine vessels that will generally be available to augment amphibious ships.

(2) **Merchant Ships.** SLCPs, in the form and detail familiar to troop commanders, are not available for all merchant ships. General capacities of US flag and



Military Sealift Command ships provide an immediate sealift capability in support of contingency operations.

US-controlled commercial ships may be found in NWP 3-02.21, *MSC Support of Amphibious Operations*.

f. **Commercial Cargo Ships.** Ships procured from the MSC for any major amphibious operation will be obtained, to a great extent, from the merchant fleet. Ideally, **ships from the merchant fleet will only be necessary for the movement of reinforcements and stores.** These ships are usually administratively loaded (vice combat loaded) and do not normally require the detail included in the loading plans of amphibious ships. A ship's capacity plan is normally used to provide general load planning data since SLCPs are not available for all merchant ships. The following compounds the difficulties in embarkation planning generated by the lack of a SLCP.

(1) The period of time available for the development of embarkation plans, including the preparation of detailed individual ship's loading plans for large numbers of MSC-procured shipping, is frequently inadequate.

(2) The brief period of time between the procurement by MSC of a vessel, its arrival on berth, and the specified date of completion of loading normally demands that loading be initiated almost simultaneously with the arrival of the ship on berth. This condition provides little time for embarkation officers to thoroughly familiarize themselves with the ship's capabilities and limitations.

g. **Compatibility of Cargo Aboard MSC Ships.** The same compatibility regulations that apply to amphibious ships apply to MSC ships. When required in the interest of national defense, a waiver of navigation and vessel inspection laws and regulations should be obtained from the United States Coast Guard (USCG) to permit MSC-provided ships to carry out their assigned missions in support of military operations or exercises.

h. **Loading MSC Ships.** Because **the ship's company on MSC ships is not responsible for, or capable of, loading the ship,** the LF must take the following actions:

(1) Establish early liaison with the ship to obtain a current SLCP, correct any SLCPs held by the command, and visually inspect the cargo holds and billeting facilities.

(2) Determine on an individual ship basis what services can be provided by the ship because of the limited or, in most cases, complete lack of berthing, messing, and head facilities on MSC cargo ships to support personnel beyond the ship's assigned crew. Make arrangements for all services that cannot be performed by the ship to be handled by other means, such as pierside facilities or frequent rotation of working parties.

(3) Establish, through close liaison with the ship, the size and composition of the ship's platoon (drivers, guards, and maintenance personnel) that will be embarked

during the voyage. Determine at this time if cots, sleeping bags, combat rations, water, containers, and portable heads will be required.

(4) Prepare loading plans and submit them to the ship's master for approval.

(5) Employ Navy cargo-handling battalions (NCHBs), US Army Transportation Company (Cargo Transfer), commercial stevedores, or qualified naval personnel for operating heavy cargo-handling equipment during the loading of the ship.

See Appendix E, "Navy Expeditionary Logistics Regiments and Navy Cargo Handling," and Appendix F, "Army Cargo Handling Units," for additional information.

i. **Maritime Pre-positioning.** Maritime pre-positioning operations and amphibious operations are complementary capabilities. Amphibious operations provide the means for forcible entry, while maritime pre-positioning operations permit rapid deployment to areas where force introduction will be unopposed and is expected to remain unopposed throughout the arrival and assembly phase.

Refer to NTTP 3-02.3M/MCWP 3-32, Maritime Prepositioning Force Operations, for more information.

5. Multinational Considerations

a. Most joint operations are conducted within the context of an alliance or coalition. **Each multinational operation is unique, and participation with multinational forces may complicate normal organization, planning, and operations.** Commanders should evaluate differences involved in planning, coordinating, and conducting operations in a multinational environment and the impact on embarkation and the amphibious operation. The following considerations should be taken into account in a multinational environment:

(1) When organizing joint forces with multinational forces, **simplicity and clarity are critical.**

(2) If force integration is necessary to conduct operations, commanders and planners must **determine where the integration of units and headquarters (HQ) should occur.** Such decisions affect the deployment priorities and schedules for personnel and equipment. If integration is to occur at an intermediate staging base (ISB) or port of debarkation (POD), the impact on those bases or ports can be significant and must be addressed and accounted for by commanders and staffs.

(3) **Determine capabilities and limitations of multinational forces.** An accurate assessment of US, allied, and coalition capabilities and limitations to conduct embarkation and debarkation operations should indicate what additional or special personnel and equipment may be requested.

(4) Precise delineation of what each member of a particular multinational force has **agreed to provide** (e.g., personnel, equipment, supplies) under the auspices of existing bilateral agreements.

Additional multinational guidance is available in JP 3-0, Joint Operations, JP 3-16, Multinational Operations, and JP 4-08, Multinational Logistics.

b. The essential movements and transport documents used in conjunction with the movement and transport of personnel, supplies, and equipment by ship with North Atlantic Treaty Organization (NATO) countries are discussed in allied tactical publications (ATPs).

ATP 8(B), Volume I, Doctrine for Amphibious Operations, and ATP 8(B), Volume II, Tactics, Techniques, and Procedures for Amphibious Operations, along with various NATO standardization agreements (STANAGs), provide additional information.

6. Force Protection

In developing amphibious embarkation and deployment plans, significant consideration must be given to detailed security, counterintelligence (CI) support requirements, and force protection (FP). **FP is a fundamental aspect of security designed to protect military and civilian participants, facilities, and equipment.** FP is accomplished through planned and integrated application of antiterrorism, chemical, biological, radiological, and nuclear (CBRN) defense, information operations, law enforcement, physical security, operations security (OPSEC), personal protective services and is supported by intelligence (especially CI), and other security programs. CI can provide in-depth information on the adversary's intelligence collection effort and capability.

Refer to JP 3-07.2, Antiterrorism, for more information.

SECTION B. CONCEPT OF DEPLOYMENT

7. General

An AF deploys by way of intratheater and intertheater modes of transportation. The AF may be employed in situations in which the LF is required to land in a hostile (or potentially hostile) objective area. Additionally, it may be required to remain poised for extended periods over the horizon (OTH), pending a decision by the supported combatant commander to take specific action, or it may be required to act as a sea-based platform to support various joint operations (e.g., foreign humanitarian assistance or noncombatant evacuation operations [NEOs]). The combat landing requires intricate and detailed deployment planning to minimize losses and achieve maximum effectiveness. **The deployment is objective focused and developed by a “reverse**

planning” process, wherein the anticipated combat requirements ashore (based on the concept of operations [CONOPS]) drive the time-phasing and method of landing the LF, which, in turn, drives the timing and manner used to embark and deploy the force. Generally, an amphibious operation is characterized by preparation of the objective area by a subordinate task force (the advance force) while assault of the objective area is conducted by an LF from naval amphibious ships followed by rapid reinforcement with forces deployed by strategic lift assets. Forward-deployed forces or other combat forces already in theater may support all of these activities. The concept of the deployment includes the consideration of options, selection of deployment modes, organization of forces, awareness of foreign intelligence activity, implementation of FP measures, incorporation of mobility enhancements, and integration of the AF deployment into the overall Joint Operation Planning and Execution System (JOPES) process.

8. Organization

a. **General.** Deployment is predicated on the tactical requirements for operations ashore, which drive the development of a detailed landing plan. This landing plan, in turn, drives development of time-phased force requirements. Those requirements drive movement, embarkation, marshalling, and staging requirements and plans.

b. Landing Plan

(1) The AF must be capable of projecting power ashore in a manner that supports combat operations against an in-place or rapidly closing adversary’s force.

(2) Consequently, the AF commander prepares an intricate plan for projecting this power ashore. **The commander, amphibious task force (CATF), in close coordination with the commander, landing force (CLF), is responsible for the preparation and overall execution of the ship-to-shore movement and landing plan.** The landing plan is the basis for organization and deployment of the entire AF and leads to the determination of LF echelons. The landing plan is composed of specific documents which are incorporated into annexes to operations and in administrative plans and orders (see Figure I-1).

(3) The landing plan is executed through the ship-to-shore-movement. Ship-to-shore movement divides the off-loading of the LF into two periods:

(a) The assault and initial off-loading period is primarily tactical in character and must be instantly responsive to LF requirements ashore.

(b) The general off-loading period is primarily logistic in character and emphasizes speed and volume of off-loading operations.

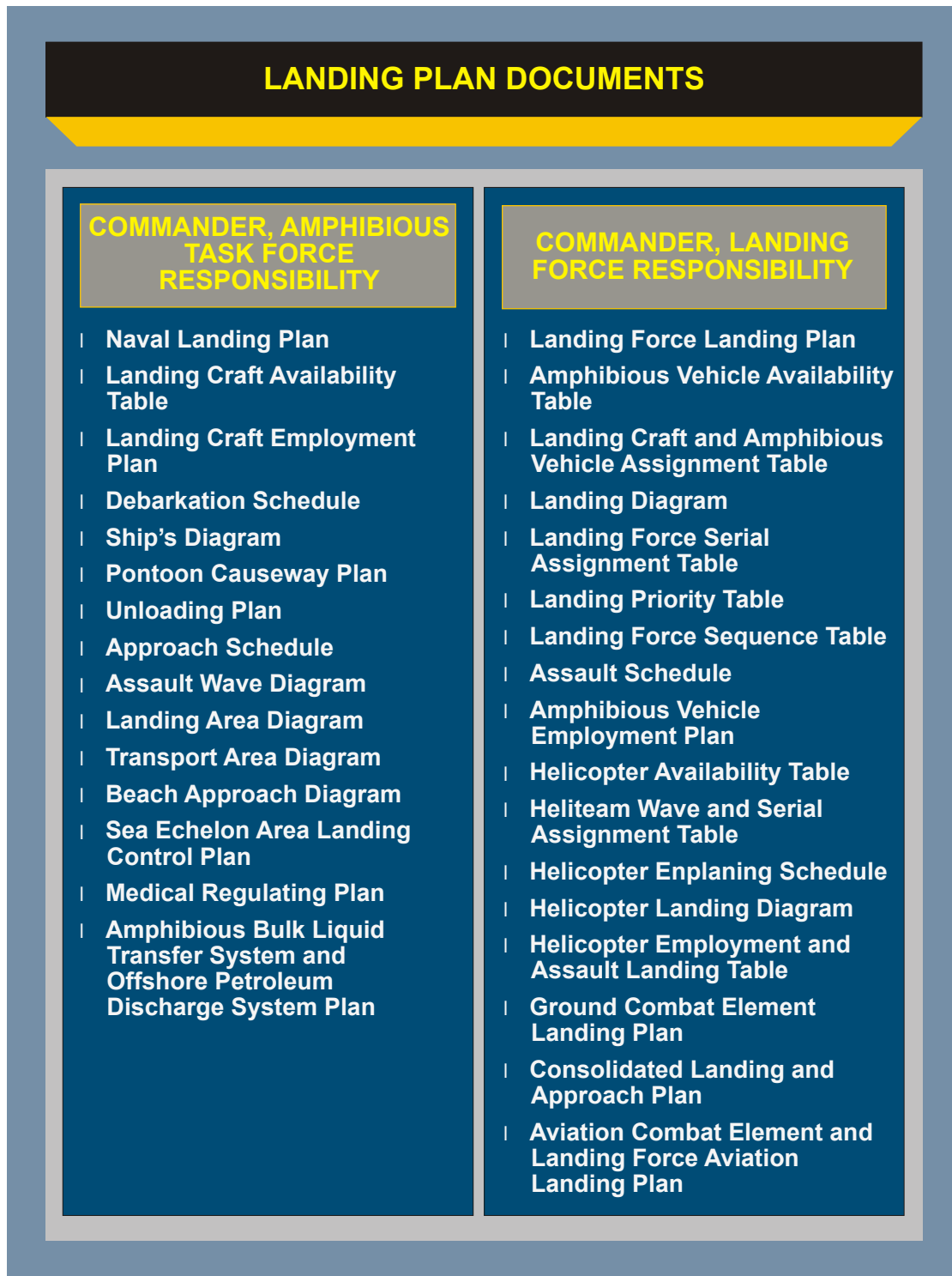


Figure I-1. Landing Plan Documents

(4) Other factors influencing the landing plan include:

(a) Priority of airlifted units.

- (b) Air movement tables for Air Mobility Command (AMC) airlift.
- (c) Foreign intelligence and security services activity.
- (d) Ship mix and landing craft availability.
- (e) Changing operational picture and tactical requirements ashore.

c. Echelons of the Landing Force

(1) Assault Echelon. The AE includes:

(a) **Those forces embarked in assault shipping that initiate the assault of the military objectives ashore.** These forces are tailored units and equipment packages, including the maximum amount of supplies (principally classes of supply I, III, V, and VIII) that can be loaded on assigned shipping and typically provide 15 days of supply (DOS) and 36 days of ammunition (DOA). More information on classes of supply can be found in Appendix A, “Determination of Shipping Requirements.”

(b) **LF elements of the advance force** deployed with sufficient supplies to accomplish their mission and sustain units until the arrival of additional forces.

(c) **Selected LF elements (e.g., advanced-based LF aviation assets), may be positioned at support bases and airfields in, and adjacent to, the objective area** prior to the assault in order to provide initial combat capability to support the landing. These forces will be deployed with sufficient supplies to sustain the force until arrival of the AFOE.

(2) Assault Follow-On Echelon. The AFOE consists of **those assault troops, vehicles, A/C, equipment, and supplies that, although not needed to initiate an assault, are required to support and sustain the assault.** To accomplish its purpose, it is normally required in the objective area no later than five days after commencement of the assault landing.

Refer to JP 3-02, Amphibious Operations, for more information on echelons of the LF.

(a) The AFOE is organized for landing and embarkation based upon the anticipated requirements of operations ashore. **The AFOE requires prioritized combat loading,** vice administrative loading, because access to its equipment supports the CONOPS ashore. The ability to mass assault personnel and materiel and the flexibility to change time and place of landing dictate maximum use of sealift. As with the AE, elements of the AFOE may be deployed by airlift. The time required in theater lift availability, expected hostilities and availability of aerial ports of debarkation are but a few of the planning factors considered when contemplating deploying elements of the AFOE by airlift.

(b) Planned strategic sealift shipping support for an AFOE will be based on the number and capability of USTRANSCOM-controlled, common-user ships, capable of off-loading in-stream, allocated by USTRANSCOM in coordination with the supported combatant commander for dedication to the AFOE mission. The supported combatant commander will list in the operation plan (OPLAN) or operation order (OPORD) the number, type, capability, seaport of embarkation (SPOE), and required availability relative to the unnamed day on which a deployment operation begins (C-day) of common-user ships, which have been coordinated with USTRANSCOM to support the AFOE.

(c) **Coordinating and loading the AFOE are the CATF and CLF responsibilities.** Units with their equipment are marshalled at home stations and staged at ports of embarkation (POEs) in accordance with the time-phased force and deployment data (TPFDD) schedules. Materiel arriving from supply sources is aggregated at POEs under LF supervision.

(d) Selective combat loading must be integrated into the overall landing plan. **The requirement to containerize AFOE materiel cannot be overemphasized.** The capability of commands to containerize AFOE materiel will vary, depending on such factors as the source of accompanying supplies; TPFDD scheduling requirements (more time would allow more containerization); POEs and PODs container throughput capability; container handling and transport equipment availability; container packing, blocking, and bracing; and off-loading capability, and joint logistics over-the-shore (JLOTS) container handling capability. An additional consideration of containerizing AFOE material is the ability to extract the containerized material at the time and place of need. Although the AF commanders are normally responsible for planning and executing embarkation, more reliance may be given to civilian stevedores to actually load commercial ships. In consultation with, and upon the approval of, the AF commanders, the Military Surface Deployment and Distribution Command (SDDC) will provide stow plans, cargo documentation, and other port services in assisting the embarking command with the accomplishment of its planned load out.

(e) **Ship off-loading is directed by the normal ship-to-shore control and support activities.** The size and organization of these agencies will change as the operation matures. Additional cargo handling battalions (CHBs) and amphibious construction battalion (ACB) forces are required to support the off-load of merchant ships. As they become accessible, developed seaports and aerial ports are used to supplement traditional beach operations, and the normal ship-to-shore organization will be expanded to include them. **The CATF and CLF are responsible for debarkation and off-load until termination of the amphibious operation.** At that time, the responsibilities for debarking may be passed to another off-load organization designated by higher authority. Continued off-load under a Navy commander and/or transition of the off-load to an Army commander is addressed in JP 4-01.2, *Sealift Support to Joint*

Operations, JP 4-01.6, *Joint Logistics Over-the-Shore*, and JP 4-01.5, *Joint Terminal Operations*.

d. **The Organization for Landing.** The landing organization is **the specific tactical grouping of forces for amphibious operations**. It is normally task-organized with appropriate combat and combat service support capabilities as assault support under overall integrated control of the CLF.

e. **The Organization for Embarkation.** Organization for embarkation **consists of a temporary task grouping of the LF**, paralleling the special task grouping of naval forces established by the CATF. These groups are formed to facilitate the planning and execution of embarkation at all levels of command.

f. **Organization for Movement.** Based on the landing plan and echelons of the LF, the AF organizes its ships, self-deploying A/C, and airlift for embarkation and deployment. This organization is based on the time-phased force requirements of the AF, naval task groups, and other units in the objective area.

(1) **Transport Groups.** Elements that directly deploy and support the landing of the LF are functionally designated as transport groups in the ATF organization.

(a) Amphibious transport groups provide for the embarkation, movement to the objective, landing, and logistic support of the LF. **An amphibious transport group is a subdivision of an ATF composed primarily of transport ships.** The size of the transport group will depend upon the scope of the operation. A transport unit will usually be formed to embark troops and equipment to be landed over a designated beach or to embark all helicopterborne troops and equipment. They comprise all the assets in which the LF is embarked, including lighterage and cargo off-loading and discharge systems to be employed in ship-to-shore movement. Amphibious transport groups can include ships from commercial and other sources that include the following:

1. **Strategic sealift shipping groups** consist of ships from MSC's fleet, including maritime prepositioning ships (MPSs); US flag commercial shipping enrolled in the Voluntary Intermodal Sealift Agreement (VISA) program; shipping provided to the Department of Defense (DOD) through the Maritime Administration (MARAD), to include effective US-controlled shipping; and MARAD-controlled National Defense Reserve Fleet, to include the Ready Reserve Force (RRF). These groups may include unique special-mission sealift assets such as T-AH, T-AVB, auxiliary crane ships (also referred to as T-ACS), and offshore petroleum discharge system vessels. A T-AVB will normally be included in any Marine expeditionary force (MEF) deployment. When activated and employed, the T-AVB provides dedicated sealift for movement of an intermediate maintenance activity to support the deployment of USMC fixed-wing and rotary-wing A/C units. The T-AVBs (one on each coast) are in RRF in ROS-5 and would be available to sortie to the SPOE five days after activation.

A T-AH may be employed in support of the AFs if the expected intensity or duration of the operation dictates. The T-AH is a floating surgical hospital with the capability to provide acute medical care to forward-deployed forces. The two T-AHs (one on each coast) are under the control of MSC in ROS-5. Although the T-AH vessel can be ready within five days, additional time would most likely be required to provide the medical complement to support the full designed medical capacity of the T-AH. If used to support operations, the VISA program is a partnership between the US Government and the maritime industry to provide the DOD with assured access to commercial sealift and intermodal capacity to support the emergency deployment and sustainment of US military forces.

2. Ships provided by allied and friendly governments.

3. Army watercraft such as the logistic support vessel (LSV) or landing craft utility. These detachments may augment amphibious transport group task organizations when conditions permit Army land component command seaborne and beach landing capability integration.

(b) **Airlifted groups** are used for amphibious operations involving a fly-in echelon that links up with their equipment, which is transported by MSC shipping.

(2) **Movement Groups.** Sealift, airlift, and self-deploying A/C in the amphibious transport groups are organized for embarkation and deployment as movement groups. **Dividing the AF according to speed and characteristics of airlift or sealift develops movement groups.** These movement groups are built according to the time the forces are required in the objective area. Thus, there are movement groups that comprise advance forces, which deploy prior to the unnamed day on which operations commence or are scheduled to commence (D-day) and are required to be in the objective area before D-day. There are D-day movement groups that comprise the amphibious transport groups of the main body of the AF and appropriate screening and supporting groups. All amphibious ships will normally be used as part of the AE. If needed to support the scheme of maneuver post-D-day groups, such as the AFOE, which will arrive no later than D+4, will usually be assigned a screen force for protection. Force modules are developed and entered into JOPES to track the movement of forces and equipment included in movement groups.

Refer to JP 3-02, Amphibious Operations, for more information on movement groups.

9. Modes of Transportation

a. **Determinants of Transportation Modes.** The time required in the operational area, suitability of materiel for sealift or airlift, availability of suitable PODs, and lift availability are some of the major determinants for the mode of deployment.

b. **Sealift.** The ability to mass personnel and materiel, as well as the flexibility to change the time and place of loading, usually dictates a heavy reliance on sealift. The AE is embarked in amphibious ships equipped to conduct amphibious operations. The AFOE, on the other hand, is embarked primarily in strategic sealift shipping or A/C.

c. **Airlift.** Intratheater, intertheater, and self-deploying air assets may be used to move personnel and selected supplies and equipment.

d. **Mode Integration.** Movement via sealift and airlift must be fully integrated to optimize timeliness and minimize possible port throughput constraints. Port loading considerations and modes of transportation must be fully integrated to ensure the smooth, coordinated flow of personnel and materiel into the amphibious operational area.

10. Integration of Amphibious Forces in the Joint Deployment Process

a. Overview

(1) **JOPES is the single authoritative source for developing and consolidating deployment data required for crisis action planning, as well as monitoring of deployments on execution.** The system can provide a comprehensive deployment picture to the Secretary of Defense, Chairman of the Joint Chiefs of Staff, supported and supporting combatant commanders, and Services, as well as deploying commands, to allow timely decisions based on the evolving crisis situation and force flow. The deployment database established in JOPES can be accessed and updated at all JOPES sites. Access to specific plans and sites can be limited to the extent desired by using user identification permissions located in the JOPES segment of the Global Command and Control System (GCCS).

(2) **The deployment of the AF is integrated into JOPES to provide a complete deployment picture for higher HQ and to generate or activate requests for all strategic lift** (Commander, United States Transportation Command [CDRUSTRANSCOM] assets) that are essential parts of the AF deployment. It is essential that accurate movement requirements be established in JOPES. The supported combatant commander, and those components and supporting commands providing forces, are responsible for providing specific requirements in JOPES. The JOPES publications (Chairman of the Joint Chiefs of Staff manual [CJCSM] 3122 series) provide detailed requirements and procedures. Because of the need to orchestrate the deployment of the AF by all modes to meet the tactical requirements of the amphibious operation, the CATF and the CLF determine movement requirements and force arrival in the operational area.

b. **Establishing and Updating Requirements.** For CDRUSTRANSCOM components to provide strategic lift, transportation requirements must be identified and validated by the supported commander.

(1) Based on guidance provided by the supported combatant commander, the CATF or the CLF establishes TPFDD requirements and identifies preferred modes of transport PODs and destinations.

(2) Deploying units provide unit movement characteristics, including time available and load data, that are used to determine the number and types of strategic lift assets necessary to deploy the force.

(3) CDRUSTRANSCOM analyzes movement requirements and capabilities and makes recommendations to the supported combatant commander.

c. **Scheduling and Tracking Intertheater Airlift and Sealift.** When requirements are identified and validated in JOPES, CDRUSTRANSCOM will provide strategic lift for the deployment in accordance with the JOPES manual. **Strategic (intertheater) sealift and airlift are provided by CDRUSTRANSCOM** as directed by the supported combatant commander to meet the time-phased force deployment requirements of the AF. Overall movement control procedures are contained in JP 4-09, *Distribution Operations*. Additional information on embarkation operations is contained in JP 3-35, *Deployment and Redeployment Operations*.

(1) **Airlift.** AMC develops and enters schedules in the Global Decision Support System and executes the airlift in support of the CATF and CLF. The CLF, as the preponderant user of airlift in the AF, may serve as the coordinating agent for the AF airlift requirements and scheduling. **Using the LF movement control agencies, the CLF plans and monitors the airlift, through GCCS, to ensure integration with the sea movement.** AMC airlift deploys in support of CATF, under control of CDRUSTRANSCOM, to meet required arrival times. Transport A/C fall under control of CATF while in the operational area until a land-based air control agency is established ashore so that integration with the landing of sealifted forces is achieved, and the unified air defense and airspace control of the operational area is maintained.

(2) **Sealift. CATF plans, schedules, and executes ship movements.** Normal US Navy movement report (MOVREP) procedures are employed. From strategic (intertheater) sealift allocated by the Secretary of Defense at execution, the geographic combatant commander and CDRUSTRANSCOM will direct required fleet commanders and MSC to sail ships to designated SPOE(s). At SDDC-controlled SPOE(s), SDDC assumes responsibility for reporting ship loading. The Naval Cooperation and Guidance for Shipping organization office will file MOVREPs for ships on completion of loading and before sailing. The Navy component commander enters scheduled ship movements into JOPES in accordance with the JOPES procedures. At SDDC-controlled ports, strategic sealift ships are loaded under control of the CATF and CLF, in coordination with the SDDC, and deployed under the control of the Navy component commander. Strategic sealift ships convoy or deploy independently, depending on the threat and ship capability. **Control during transit is vested in the CATF or another fleet organization, but the CATF is ultimately responsible for the ship's transit to arrive**

in the operational area as called for in the landing plan. While in the operational area, strategic sealift ships are under the direction of the same organization that controlled the assault landing. Arrival of the AFOE in the operational area is governed by LF requirements ashore. Generally, strategic sealift ships with the AFOE embarked would begin off-loading no later than D+4, but may in fact be required to begin off-loading sooner, depending on the situation ashore. MEB and MEF personnel and unit equipment are normally phased ashore by D+9 and D+12, respectively. All supplies should be ashore by D+15 for a MEB (30 DOS/DOA) and D+30 for a MEF (60 DOS/DOA). Organic aviation supply support requires 90 days of aviation spares and repair parts (computed at combat flying hours) for either a MEB or MEF. Such a timeline for the MEF provides the capability to build a stockpile of 30 DOS/DOA by D+30, thereby ensuring sustainment until the resupply pipeline can be established.

11. Deployment Sequence

a. **Sequence of Events and Deployment of an AF.** The potential tactical employment requires planning, execution, and integration of the deployment regardless of mode of transportation to achieve a rapid buildup of combat power ashore. Preferably, forces will be organized, trained, marshalled, and deployed from the same geographical location. The AF can be created in the objective area, using forward-deployed contingency forces and/or various strategic mobility enhancements, including maritime pre-positioning. This compositing method is mandated by the need for rapid deployment coupled with the reduced ability to mass amphibious ships and other forces because of normal peacetime dispositions. However, MPS assets are not designed for forcible entry operations.

b. **Options for Deployment.** Two deployment types must be considered before committing an AF.

(1) **Deliberate deployment from one geographical location.**

(2) **Composite deployment** wherein:

(a) Forces from two or more geographical locations are deliberately deployed.

(b) Forward-deployed forces are integrated into the force.

(c) Strategic mobility enhancements (principally, maritime pre-positioning) are used to develop the force in-theater (vice in garrison) before deployment. This option is obviously more complex but is still governed by the same doctrinal precepts.

c. **Intermediate Staging Bases.** In some cases, it may be necessary or desirable to deploy forces through ISBs where the desired task organization for landing is developed

from forces deployed administratively in strategic assets. This permits optimum tactical configuration of the forces to support the landing plan. **ISBs play a critical role when facilities in the operational area do not support the basing and/or terminal requirements of the strategic lift required to move the LF into the operational area.** An ISB may serve as the site of the landing rehearsal. Further, once an ISB is established it may continue to serve as the operating base for combat service support elements until termination of the assault. Forces deployed to an ISB normally remain under the operational control of the CATF.

d. Deployment Using Strategic Mobility Enhancements. The deployment enhancements listed below improve the responsiveness of limited transportation resources and the impact of amphibious and strategic lift shortfalls.

(1) Forward-Deployed Forces. Forces deployed to forward areas can be used singly or in combination with other forces to comprise an assault force that can move rapidly to an objective area. **In peacetime, forward-deployed forces possess limited forcible entry capability and sustainability when employed alone.** The requirement for some strategic lift, both air and sea, will be reduced for the entire LF because the forward-deployed forces possess organic A/C and lighterage for ship-to-shore movement. An ISB may be required to enable the forward-deployed unit to be reconfigured to execute the landing plan.

(2) Pre-Positioning

(a) Geographic Pre-positioning. The positioning of equipment in strategically important areas of the world provides the ability to deploy forces more rapidly by eliminating the need to strategically transport large amounts of materiel over great distances to the objective area. Theater mobility resources are needed to move the pre-positioned equipment.

(b) Maritime Pre-positioning. The pre-positioning of equipment and supplies on ships provides more flexibility than does geographic pre-positioning. The mobility of ships permits early movement toward a trouble area. **The need for airlift and its underlying requirement for airfields, staging areas, and security make deployment of an MPF dependent on supporting strategic mobility resources.** There are two requirements for an MPF operation: preparation of the ships and embarked watercraft and equipment before arrival in the operational area, and assessment of the port or beach and arrival airfield. To accomplish these requirements, planners must take into consideration the timing for deployment of the off-load preparation party (OPP) and the survey-liaison-reconnaissance party. Ideally, the OPP should embark on the MPSRON at least 96 hours prior to the MPSRON's arrival in the operational area. Positioning of the MPSRON will dictate the timing of these deployments as will the necessity, if required, for augmentation from the Selected Reserves of the Navy support element (NSE), ACB, and CHB. **The use of ISBs will be mandatory for reconstituting the pre-positioned units and their fly-in elements, as**

well as configuring them to fit into the landing plan. Reconfiguration will be accomplished through restructuring units into the task organization necessary to carry out the landing plan.

(c) **Army Pre-positioned Stocks.** The Army maintains the APS program. APS has both land and sea components. It possesses port operations support packages and JLOTS capabilities for use when seaports do not exist, are unavailable, or are insufficient.

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CHAPTER II ORGANIZATION

“The strength in joint operations and jointness as an entity is that everybody brings their own competencies and core capabilities to the table or the operation, and you pick from those the strengths you need to meld together for whatever specific task you’re asked to carry out.”

Admiral Jay L. Johnson, US Navy
Chief of Naval Operations
August 1996 to July 2000

SECTION A. ORGANIZATION FOR EMBARKATION

1. General

Amphibious operations are normally part of a joint operation and the forces executing these operations are task-organized to meet the requirements of the mission. No standard organization is applicable to all situations. The command relationships established within the AF are in accordance with the concept and principles delineated in JP 1, *Doctrine for the Armed Forces of the United States*, and amplified within JP 3-02, *Amphibious Operations*. **The organization for embarkation consists of temporary task organizations for the LF and a temporary organization of Navy forces.** These task organizations are formed to simplify planning and facilitate execution of embarkation at all levels of command. For this reason, the task organizations conform to the circumstances of the embarkation and the requirements of the anticipated tactical situation.

2. Navy Organization

a. **Administrative Organization.** The Navy is organized for administrative purposes into various type commands. **A type commander (TYCOM) has administrative control of all the ships and forces of a particular type.** Commander, Naval Surface Forces Atlantic, and Commander, Submarine Forces Pacific, are examples of type commands. Amphibious squadrons (PHIBRONs) and their assigned ships come under the administrative control of the surface forces commander. A PHIBRON plans and conducts amphibious operations and serves as a subordinate command and staff within the ATF. The commander of a PHIBRON may also serve as the CATF for ARGs/MEUs.

b. **Task Organization.** In forming the ATF, the task force commander may designate a subordinate commander(s) as the amphibious transport group commander(s). **The amphibious transport group(s) provides for the embarkation, movement to the objective, landing, and logistics in support of the LF.** Initially, the amphibious transport group is a planning organization. As the landing plan, which is developed from the scheme of maneuver ashore, is produced, shipping is allocated and organized into task units and elements as required to lift the LF. Meanwhile, the ships and various

commanders of the amphibious transport group are in an administrative fleet organization. As operations begin, they are transferred through the various task organizations established to accomplish each phase of the naval mission. For example, under certain conditions, loading and movement control groups may be established to coordinate loading and move shipping to meet embarkation schedules (see Figure II-1).

c. **Designator**

(1) **Task Designator.** As the ATF organization develops, the commanders of amphibious transport groups, units, elements, and ships are identified by task designator.

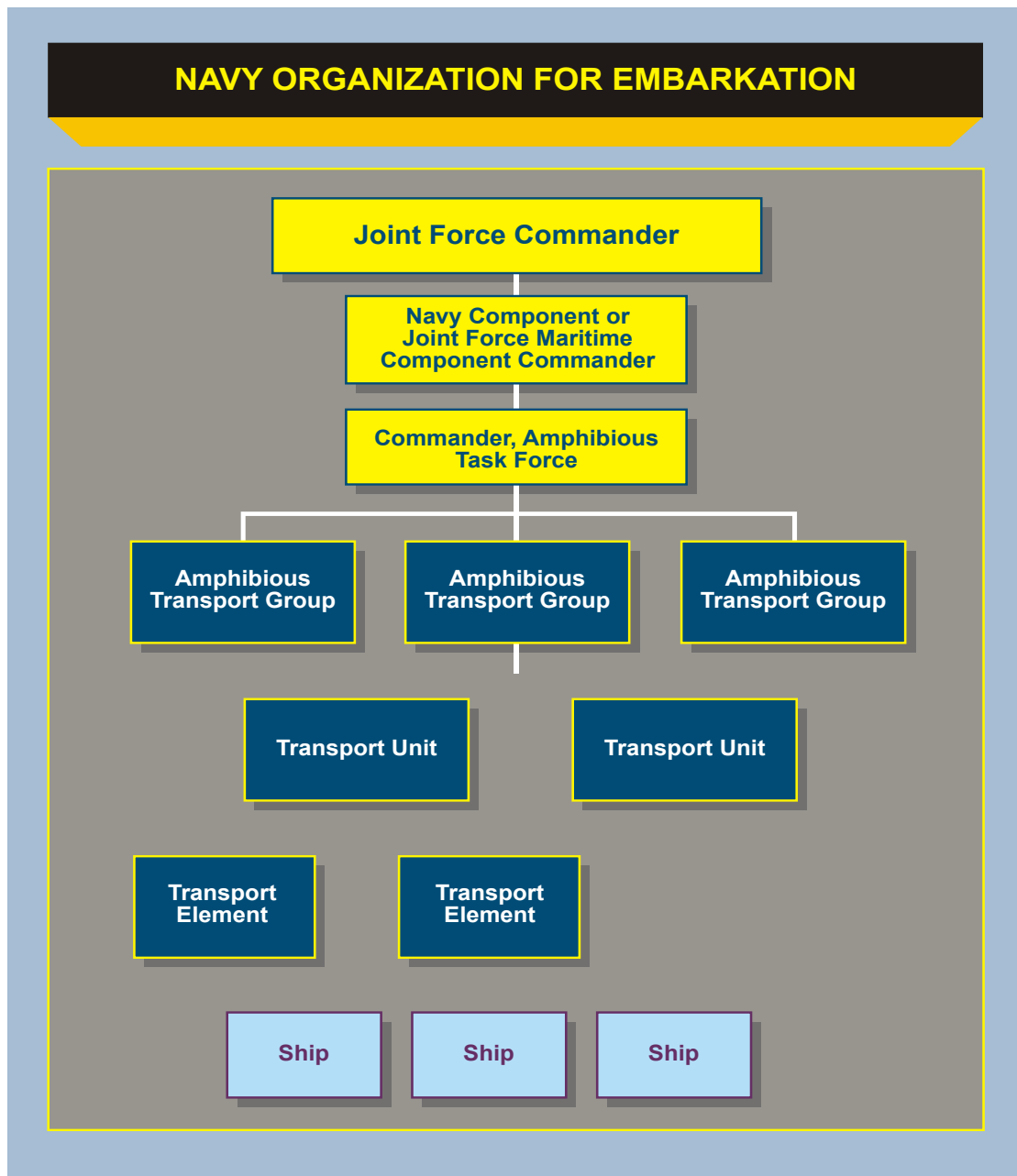


Figure II-1. Navy Organization for Embarkation

Corresponding LF elements will be assigned a task force designator, down through the battalion landing team, squadron, MEU combat logistics battalion-level or equivalent unit, and any subordinate unit physically separated from its parent command. Examples of task designation numbers are as follows:

- (a) Task Force 12.
- (b) Task Group 12.1.
- (c) Task Unit 12.1.1.
- (d) Task Element 12.1.1.1.

(2) This system of identification enhances coordination during planning. It also permits personnel to become familiar with the tactical organizations with which they will operate.

3. Landing Force Organization

The LF organization for embarkation is composed of embarkation groups, embarkation units, embarkation elements, and embarkation teams. Formation of the various embarkation echelons depends on the degree of decentralization of command and control (C2) essential to the successful accomplishment of the embarkation phase. **The embarkation group and embarkation teams are always formed** because these organizations represent the essential ingredients for embarkation. The group is the largest LF organization, and the team is the smallest subordinate organization capable of planning and executing embarkation. The embarkation unit is usually formed to bridge the gap between the group and team organizations. The embarkation element is organized only when a complex situation requires additional organizations for control in planning and execution of embarkation.

a. Embarkation Group. The embarkation group has as its nucleus a major subdivision of the task organization of the LF, such as division, regiment, or other comparable LF organization. It is composed of two or more embarkation units (when formed), a combination of units and elements (when required), or two or more embarkation teams if elements and units are not formed (see Figure II-2). An amphibious transport group is the parallel naval organization.

b. Embarkation Unit. The embarkation unit is the next subordinate organization below the embarkation group level. It consists of two or more embarkation elements (when formed) or two or more embarkation teams (when elements are not formed). The number of embarkation units formed will vary, depending primarily on the LF organization for landing and geographical locations of both the embarkation areas and of the embarking units. It may be necessary to form embarkation units composed of embarking elements, which normally perform special missions (e.g.,

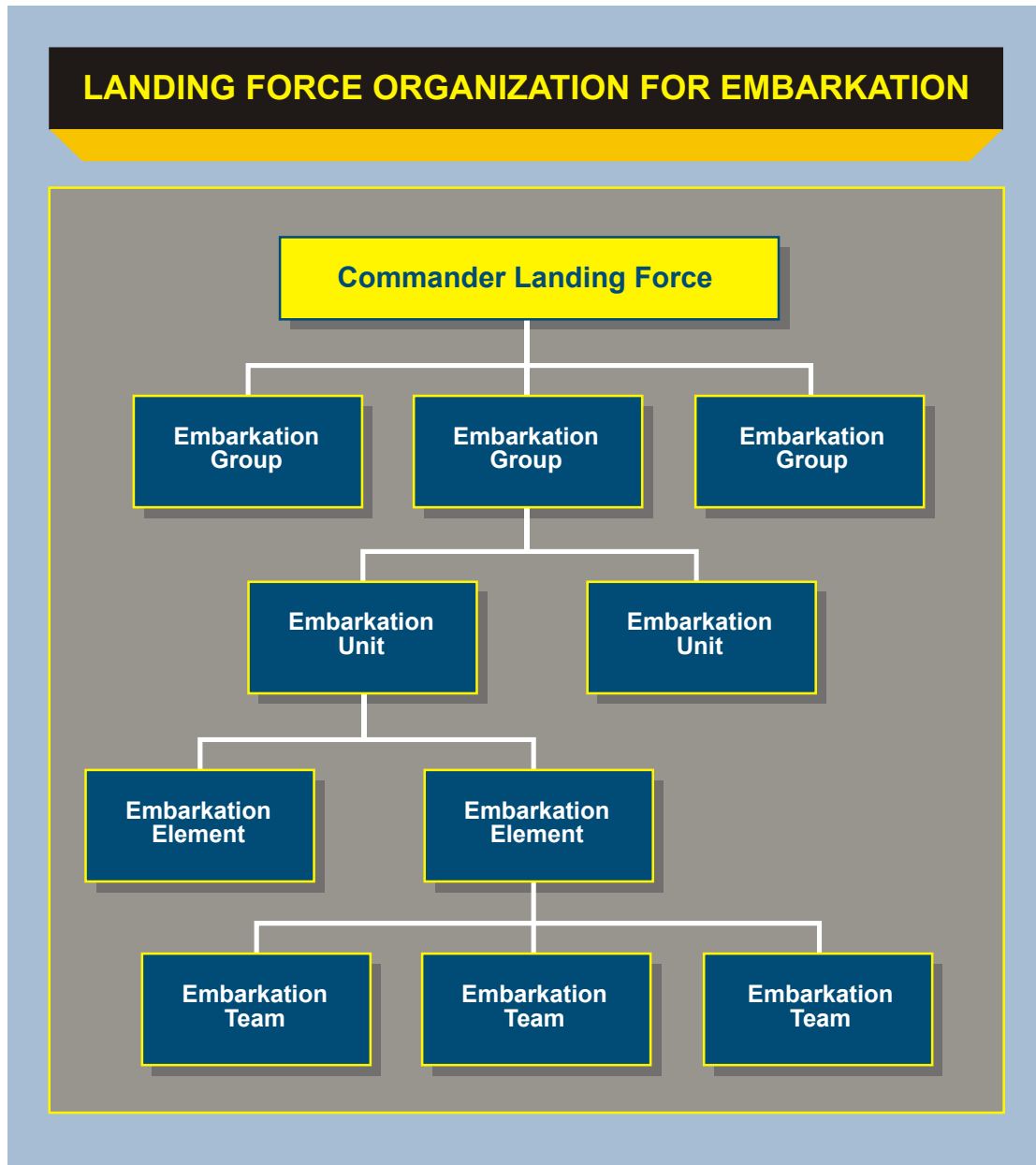


Figure II-2. Landing Force Organization for Embarkation

advanced force operations) in support of the main assault. A transport unit is the parallel naval organization.

c. **Embarkation Element.** The embarkation element (when formed) is the next subordinate organization below the embarkation unit level, except that its nucleus is normally the next lower organization in the chain of command. The embarkation element consists of two or more embarkation teams grouped to conform to the organization for landing. It may be necessary to form embarkation elements composed of organizations with special missions in support of the main assault. A transport element is the parallel naval organization.

d. **Embarkation Team.** The embarkation team is the basic organization for **embarkation**. It consists of the personnel, supplies, and equipment embarked on a single ship. An embarkation team may be comprised solely of, or be a grouping of, ground combat, combat support, combat service support, or aviation units. A single ship is the embarkation team's parallel naval echelon.

4. Responsibilities

The CATF is responsible for establishing the temporary embarkation organization of Navy forces. In a similar manner, the CLF is responsible for establishing the LF organization for embarkation. Once established, the task organization titles of the various units are used exclusively throughout the embarkation phase. Parent unit designations are used for administrative purposes only. **These temporary task organizations dissolve when directed by the CATF and CLF, or on termination of the amphibious operation.**

SECTION B. EMBARKATION PERSONNEL

5. General

Mobility officers specially trained in the techniques of planning and supervising loading for an amphibious operation are assigned to LF organizations, major amphibious ships, and naval staffs within the AFs. **In the LF, these mobility officers are referred to as embarkation officers.** They have the status of special staff officers in the HQ in which they are assigned. The LF embarkation officers advise and assist their respective commanders in planning the embarkation and supervising its execution. The CATF and CLF must coordinate plans for embarkation of naval attachments; this coordination will result in these units being placed in the embarkation plan by the appropriate embarkation officer. The embarkation officers of the LF maintain continuous liaison with their counterpart combat cargo officers (CCOs) of the Navy. Embarkation officers must be familiar with the items found in Figure II-3 to efficiently carry out their respective duties.

Refer to Appendix C, "Duties of the Team Embarkation Officer," and Appendix D, "Duties of the Combat Cargo Officer," for more information.

6. Embarkation Officers and Assistants in Garrison

a. **Unit Embarkation Officers and Assistants.** All Marine Corps units (down to battalion or squadron size) and Army units have mobility officers or transportation officers and assistants assigned for embarkation. The duties of these officers are covered in local standing operating procedures (SOPs).

b. Combat Cargo Officers and Assistants (Ship and Staff)

EMBARKATION OFFICERS' KNOWLEDGE REQUIREMENTS

- | Naval customs and terminology.
- | Standard ship organization.
- | Applicable tables of organization, allowances, and equipment.
- | Amphibious task force organization.
- | Landing force organization.
- | Landing force tactical and logistic plans.
- | Classification of supplies and equipment.
- | Standing operating procedures for preparing supplies and equipment for loading, including packing, crating, marking, and waterproofing.
- | Characteristics of and procedures for dealing with release/spills of hazardous cargo (e.g., ammunition, electrolytes, compressed gasses, lithium batteries, corrosives) for loading purposes. Some categories of ammunition, such as self-contained systems like missiles, grenades, have special security requirements.
- | Characteristics of classified cargo (e.g., cryptographic) and sensitive cargo (e.g., M1A1 tank).
- | Format and proper use of the ship's loading characteristics pamphlet.
- | Loading and off-loading time factors.
- | Characteristics of amphibious and strategic ships, intertheater airlift, landing craft and other amphibious vehicles, and helicopters.
- | Current directives for landing force operational reserve material.
- | Foreign intelligence activity impacting on loading and off-loading.
- | Use of automated logistics, unit move, and load planning systems.
- | Materials handling equipment (forklifts, cranes, strong-backs, etc.) capabilities and requirements.
- | Capabilities and limitations of sea and aerial ports worldwide.

Figure II-3. Embarkation Officers' Knowledge Requirements

(1) **Ship.** Amphibious ships may have a USMC officer and USMC enlisted personnel assigned as part of the ship's company as the CCO and combat cargo assistant

(CCA). When USMC personnel are not assigned, the ship's first lieutenant serves as the CCO, and the ship's boatswain or leading chief petty officer serves as the CCA.

(2) **Staff.** CCO and CCA duties are performed by a USMC officer and enlisted personnel, assigned to the staffs of Navy Surface Forces Atlantic and Pacific and their respective assigned PHIBRONs.

7. Embarkation/Combat Cargo Officers and Assistants During an Amphibious Operation

Embarkation/Combat Cargo Officers. The embarkation officer and CCO advise and assist their respective commanders in planning the embarkation and supervising its execution. The embarkation officer and ship's CCO maintain continuous liaison. Corresponding levels of embarkation officers within the organization for embarkation area are shown in Figure II-4.

a. Landing Force, Group, Unit or Element, and Team Embarkation Officers

(1) **Landing Force Embarkation Officer.** The duties of the LF embarkation officer include the following:

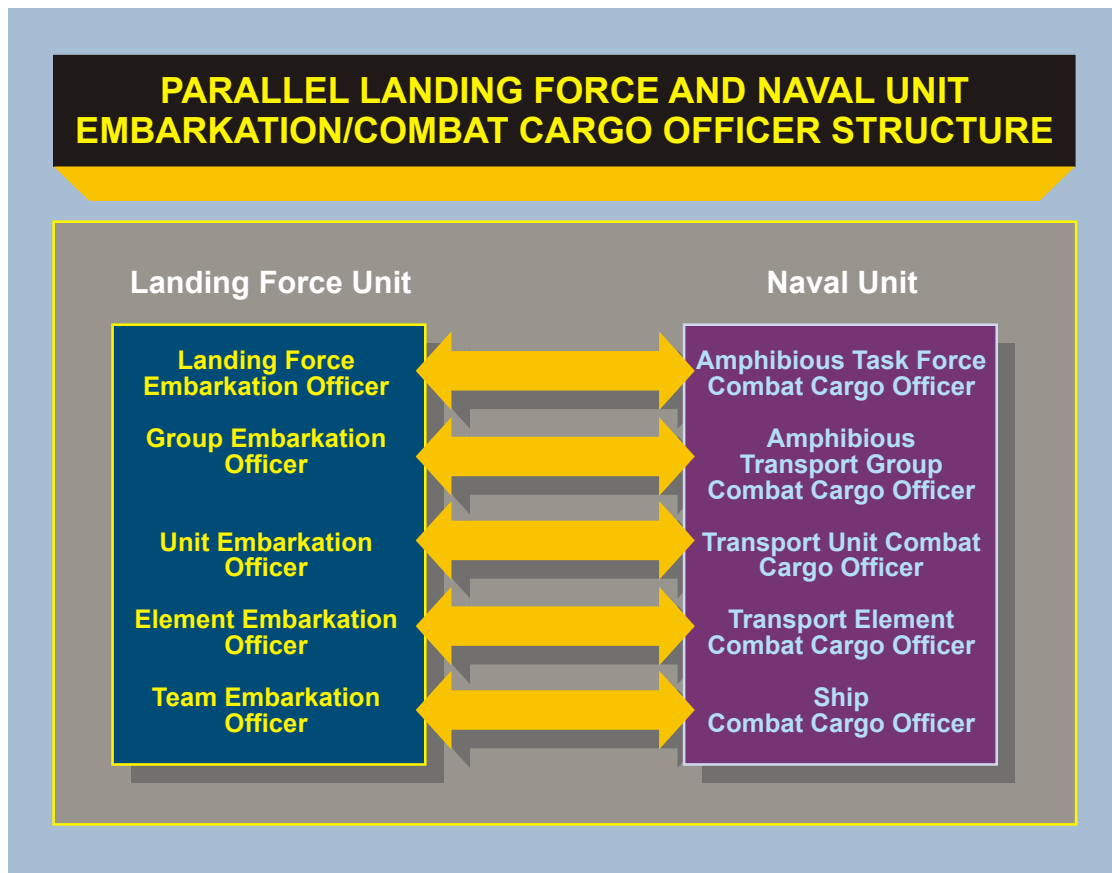


Figure II-4. Parallel Landing Force and Naval Unit Embarkation/Combat Cargo Officer Structure

- (a) Heads the embarkation section on the special staff of the CLF.
- (b) Determines LF shipping requirements in coordination with the LF operations officer for submission to the CATF.
- (c) Reviews the LF operations section landing plan and recommends allocation of assigned shipping.
- (d) Reviews the LF operations section landing plan and recommends scheduling of assault shipping, to include AFOE, to meet the LF tactical and logistic requirements.
- (e) Prepares the LF embarkation plan for approval by the CLF.
- (f) Coordinates all loading activities of the LF.
- (g) Maintains a complete and current file of SLCP for amphibious ships and loading characteristics data for other type ships that may be assigned for an operation.

For additional information on ship capabilities, refer to MCRP 3-31B, Amphibious Ships and Landing Craft Data Book, and NWP 3-02.21, MSC Support of Amphibious Operations.

- (h) Maintains a complete and current file of LF operational reserve material (LFORM) loading plans for all ships assigned for an operation that have LFORM embarked. LFORM is a package of contingency supplies pre-positioned and maintained onboard selected amphibious warfare ships to enhance reaction time and provide support for the embarked LF in contingencies.
- (i) Ensures load plans are completed for ships allocated to the LF.
- (j) Familiarizes with the capabilities and limitations of sea ports, aerial ports, and landing beaches that the LF is designated to utilize.
- (k) Familiarizes with marshalling and staging areas.
- (l) Maintains a copy of the landing plan and loading plans for all ships assigned to the LF.

(2) **Group Embarkation Officer.** The group embarkation officer:

- (a) Heads the embarkation section on the special staff of the embarkation group commander.

- (b) Obtains and maintains the embarkation data for the embarkation group.
- (c) Obtains names and types of ships to be assigned for the operation.
- (d) Obtains and maintains complete and current file of SLCPs for amphibious shipping and loading characteristics data for other type ships, such as A/C carriers and MSC ships assigned for the operation.
- (e) Obtains and maintains copies of LFORM loading plans for all assigned ships with LFORM embarked and provides copies of applicable plans to pertinent embarkation unit, element, or team embarkation officers (TEOs) for use in shipload planning.
- (f) In conjunction with principal staff officers of the embarkation group and subordinate commanders, prepares the group organization for embarkation and assignment to shipping (OE&AS) worksheet (see Figure III-2). This table is based on the organization for landing, the basic concepts of the landing plan, and shipping requirements.
- (g) Advises and assists the embarkation unit commanders in the preparation of their respective OE&AS worksheet whenever possible.
- (h) Obtains data on stevedoring and materials handling equipment (MHE).
- (i) Prepares a berthing and loading schedule (BALS) in conjunction with the CCO of the amphibious transport group. The BALS is then published as an annex to the embarkation plan.
- (j) Schedules and assigns marshalling areas and embarkation areas to subordinate embarkation units.
- (k) Prepares a complete group embarkation plan for approval by the embarkation group commander.
- (l) Coordinates and supervises all loading activities within the embarkation group.
- (m) During the ship-to-shore-movement, functions as a member of the tactical-logistical (TACLOG) group on the central control ship or other designated ship, or the LF operations center on the AF command ship.
- (n) Possesses knowledge in the use of automated logistics, unit movement, and load planning systems.

(3) **Unit or Element Embarkation Officer.** Duties of the unit or element embarkation officer include the following:

(a) Heads the embarkation section on the special staff of the embarkation unit or element commander.

(b) Prepares, in conjunction with the principal subordinate commanders and staff officers of the embarkation unit or element, the OE&AS worksheet for approval by the embarkation unit commander.

(c) Assigns and schedules the use of cargo assembly areas, vehicle staging areas, and embarkation points to subordinate embarkation elements or teams. Assignments are based on marshalling area and embarkation area assignments made by the embarkation group.

(d) Prepares the complete unit embarkation plan for approval by the embarkation unit or element commander.

(e) Advises element or TEOs in the preparation of loading plans.

(f) Coordinates all loading activities of subordinate embarkation echelons.

(g) During the ship-to-shore movement, functions as a member of the TACLOG group on a designated ship.

(h) Maintains a copy of the ship load plans.

(i) Maintains a copy of the LF landing plan.

(4) **Team Embarkation Officer**

(a) **Assignment.** The TEO is a commissioned officer assigned from the embarking organization forming the nucleus of the embarkation team. Assignment to such duty is temporary; but upon appointment, the TEO should be relieved of other duties.

(b) **Assistants.** Qualified assistants should be assigned to the TEO early in the planning phase. Usually, one officer and several enlisted personnel are assigned.

(c) **General Duties.** General duties of the TEO include the following:

1. Acts as direct representative of the embarkation team commander in matters pertaining to team embarkation and cargo loading.

2. Maintains liaison between the embarkation team commander and the ship's commanding officer.

3. Prepares detailed loading plans for the ship to which the embarkation team is assigned.

4. Coordinates and supervises execution of the loading plan.

5. Assists in planning for and executing off-loading.

6. Possesses knowledge in use of automated logistics, unit movement, and load planning systems. In the preparation of loading plans, the ship CCO usually assists the TEO.

7. Maintains a copy of and is familiar with the LF landing plan.

8. Possesses knowledge of seaports, aerial ports, and other designated landing areas, i.e., beaches.

(d) **Detailed Duties.** A checklist of the duties of the TEO during each phase of the amphibious operation is provided in Appendix C, “Duties of the Team Embarkation Officer.”

b. **Amphibious Task Force, Amphibious Transport Group, Transport Unit, Transport Element, and Ship’s Combat Cargo Officers.** CCOs are assigned to naval staffs within the AFs. These officers assume the following duties:

(1) **Amphibious Task Force Combat Cargo Officer.** Duties of the ATF CCO include the following:

(a) Advises the CATF on the allocation of assault shipping and the staff supervision of loading and off-loading the ships assigned to transport LF units, supplies, and equipment. The CCO also has a similar responsibility for AFOE shipping.

(b) Possesses complete knowledge of the composition and schedules of the assault follow-on and follow-up echelons, including knowledge of the type of cargo in each ship, as well as its off-load capability.

(c) Becomes thoroughly familiar with the operations and capabilities of POEs used by the ATF.

(d) Possesses knowledge in use of automated logistics, unit move, and load planning systems.

(2) **Amphibious Transport Group Combat Cargo Officer.** Duties of the amphibious transport group CCO include the following:

(a) Advises and assists the amphibious transport group commander in matters concerning embarkation, cargo stowage, and off-loading.

(b) Acts as liaison officer between the amphibious transport group commander and the embarkation group commander.

(c) Maintains a complete file of amphibious ship characteristics. This file should contain cargo handling and stowage characteristics and performance records obtained under all operating conditions.

(d) Coordinates activities of the transport unit or element CCOs.

(e) Collects the loading plans of the amphibious transport group.

(f) Maintains up-to-date records of embarkation and off-loading progress, compiling and submitting periodic reports required by higher authority.

(g) Possesses knowledge in the use of automated logistics, unit move, and load planning systems.

(3) **Transport Unit Combat Cargo Officer.** Duties of the transport unit CCO include:

(a) Advises and assists the commander on matters concerning embarkation, cargo stowage, and off-loading of ships.

(b) Acts as liaison officer between the commander and the corresponding embarked unit commander.

(c) Maintains a file of SLCPs of all amphibious ships and advises on the capabilities of these ships.

(d) Advises and coordinates the activities of ship CCOs.

(e) Collects the loading plans for ships of the transport unit.

(f) Reviews loading and off-loading plans to ensure they support the LF landing plan.

(g) Maintains statistical records of ship cargo handling characteristics and performance to advise or recommend the allocation of units and cargo.

(h) Compiles required periodic reports of the progress for transmission to higher authority, during loading and off-loading.

(4) **Transport Element Combat Cargo Officer.** The transport element, when formed under the transport unit, normally consists of so few ships that a CCO is not required. However, when the size and composition of this echelon generate a valid requirement for a staff CCO, the transport element CCO's duties parallel those of a transport unit CCO.

(5) **Ship Combat Cargo Officer**

(a) **Assignment.** The ship CCO is typically a limited duty officer or warrant officer qualified in the field of embarkation. **The CCO is a member of the ship's company and** is a department head reporting to the commanding officer via the executive officer (XO). Each major ship of the AF normally has a trained USMC officer assigned to this duty. Ships with CCO billets include the amphibious assault ship (general purpose) (LHA), amphibious assault ship (multipurpose) (LHD), amphibious transport dock (LPD), and dock landing ship (cargo variant) (LSD 49 Class). On the LSD 41 Class where no Marine Corps CCO is attached, a Navy officer, normally the ship's first lieutenant, is the ship CCO.

(b) **Assistants.** The LHA/LHD CCO is assigned three CCAs; LPD 17 Class ships have two CCAs assigned; all other CCOs have one CCA assigned. The CCA is a staff noncommissioned officer and is a member of the ship's complement.

(c) **General Duties.** General duties of the CCO include:

1. Acting as direct representative of the ship's commanding officer.
2. Maintaining liaison with the TEO.
3. Assisting the TEO in preparing detailed loading plans for the ship.
4. Coordinating and supervising execution of the loading plan.
5. Assisting in the planning for and execution of the off-load.
6. Managing, loading, and tracking the LFORM account.
7. Submitting reports to higher HQ in accordance with Commander, Naval Surface Forces Instruction 4621.1.
8. Coordinating with the ship's department heads and XO in ensuring material condition of the LF spaces is maintained to a deployment ready condition.

(d) **Duties during an Amphibious Operation.** A checklist of the general duties of the CCO during each phase of the amphibious operation is shown in Figure II-5.

GENERAL DUTIES OF THE COMBAT CARGO OFFICER

DUTIES DURING THE PLANNING PHASE

- | Advise ship's commanding officer on plans for loading and off-loading cargo and plans for embarking, billeting, and messing.
- | Prepare, correct, maintain, and distribute the ship's loading characteristics pamphlet.
- | Establish and maintain liaison with the team embarkation officer.
- | Advise/assist team embarkation officer in preparation of loading and off-loading plans.
- | Provide embarkation team commander with a current inventory of US Marine Corps (USMC) landing force operational reserve material (LFORM) and mission load allowance (MLA).

DUTIES DURING THE EMBARKATION AND REHEARSAL PHASES

- | Maintain continuous liaison with embarkation team commander through the team embarkation officer.
- | Ensure loading plan is being followed.
- | Ensure a hatch or compartment list is maintained at each hatch or compartment.
- | Keep ship's commanding officer informed of progress of loading/embarkation.
- | Advise ship's commanding officer and embarkation team commander of problem areas encountered during rehearsal phase and recommend corrective action.
- | Coordinate with first lieutenant and weapons officer to ensure USMC LFORM and MLA are not inadvertently off-loaded with other landing force material during training exercises or operations.
- | Inspect USMC LFORM and MLA to ensure serviceability and accountability.

DUTIES DURING UNLOADING

- | Conduct inspections to ensure that off-loading is proceeding according to schedule.
- | Ensure all items of cargo requested on a priority basis are expeditiously located and off-loaded.
- | In cooperation with team embarkation officer, maintain data from which periodic off-loading progress reports are made.
- | Keep record of boat requirements, by number and type, necessary to complete off-loading.

HANDLING CARGO

- | The ship's combat cargo officer is NOT responsible for handling cargo, operating cargo handling equipment, or the cargo's safety and security in the cargo holds. The ship's first lieutenant, assistant first lieutenant, and deck division officers are responsible to the commanding officer of the ship for these details.

Figure II-5. General Duties of the Combat Cargo Officer

Refer to Appendix D, "Duties of the Combat Cargo Officer," and MCRP 4-11C, Combat Cargo Operations Handbook, for more information on the tasks, duties, and responsibilities of combat cargo personnel.

CHAPTER III PLANNING

“Ensure that both plan and disposition are flexible-adaptable to circumstances. Your plan should foresee and provide for a next step in case of success or failure, or partial success, which is the most common case in war. Your dispositions (or formation) should be such as to allow this exploitation or adaptation in the shortest possible time.”

**Captain Sir Basil Liddell Hart,
Strategy, 1954**

SECTION A. AMPHIBIOUS EMBARKATION PLANNING

1. General

Amphibious embarkation planning is a dynamic process where AF operational and individual unit requirements compete in a resource-constrained environment. **The goal is the timely and effective loading of ATF assets starting on E-day.** Key to the success of this effort is the close working relationship which must exist between LF operations and logistics officers and their naval counterparts. **The LF operations officer produces the landing plan and OE&AS;** these two documents provide the operational direction the embarkation and combat cargo planners require in order to arrive at a load planning solution. Other processes, such as determining overall shipping requirements and embarkation schedules, also figure prominently in arriving at a workable load plan. **Amphibious embarkation planning must begin early and proceed concurrently with all other planning; this cannot be overemphasized.** It requires detailed knowledge of the characteristics, capabilities, and limitations of ships and their relationship to the personnel, supplies, and equipment to be embarked. It is important to note that the NSE and other embarking organizations are considered part of the LF with the exception of the embarking naval staff. These organizations may impact berthing, cargo, and vehicle storage, and should be considered in embarkation planning. As such, **the CLF is responsible for working all requirements into the embarkation plan.** A summary of AF commander’s planning responsibilities is shown in Figure III-1.

2. Principles of Amphibious Embarkation Planning

The following three principles drive embarkation planning:

a. **Support the Tactical Plan.** Loading plans must support the scheme of maneuver ashore. Specifically, this normally includes the landing plan and the plan for landing supplies. Personnel, supplies, and equipment must be loaded in such a manner that they can be unloaded at the time and in the sequence required to support operations ashore. Therefore, the ship should be loaded in the reverse order specified in the landing plan. That is, the first equipment loaded is the last off-loaded, and the last equipment loaded is the first off-loaded.

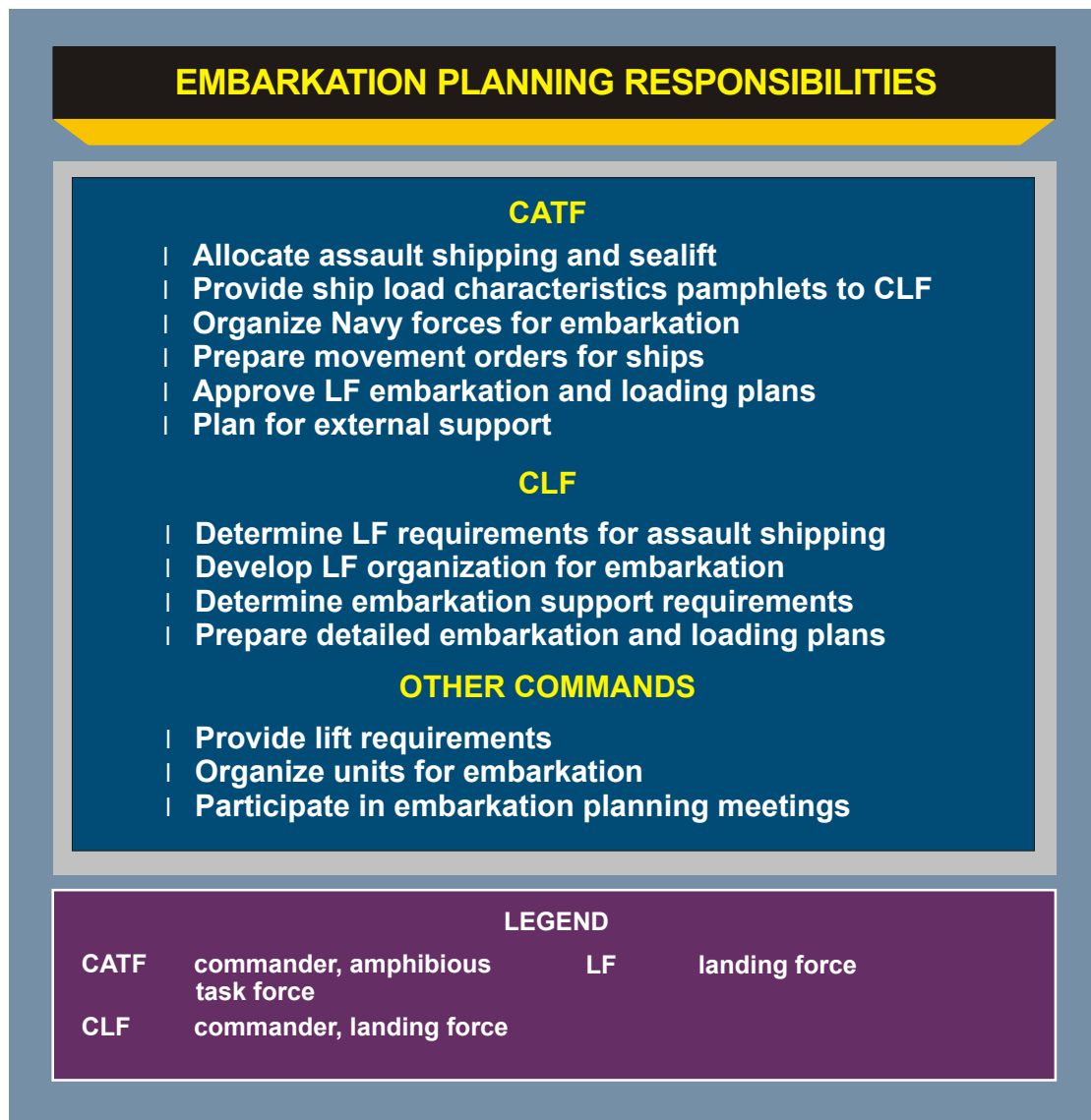


Figure III-1. Embarkation Planning Responsibilities

b. **Provide for Unit Self-Sufficiency.** Loading plans must provide for the highest possible degree of unit self-sufficiency.

(1) Personnel should not be separated from their combat equipment and supplies. Thus, weapon crews should be embarked in the same ship as their weapons, radio operators with their radios, drivers with their vehicles, and commanders and staff with their units.

(2) In addition, each unit should be embarked with sufficient combat supplies (prescribed and basic load), such as ammunition; petroleum, oils, and lubricants (POL); water; rations; medical supplies; radio batteries; etc., to sustain its combat operations during the initial period ashore.

c. **Provide for Dispersion.** Loading plans must provide for dispersion of critical units and supplies.

(1) At echelons above elements, this can be achieved by dispersing critical units and supplies among several ships. This militates against the loss of one ship or a relatively few ships which could result in a loss of combat capability that might seriously jeopardize the overall AF mission.

(2) At the individual ship level, this can be achieved by dispersing critical supplies among several stowage compartments that do not share the same debarkation route. Individual ship dispersion militates against the loss of one debarkation route (e.g., crane, elevator), which might seriously endanger the ship's capability to provide timely embarkation of critical supplies.

(3) Unit dispersion across several ships enables units to be off-loaded more quickly than if the unit is on one ship. This is because only one landing craft can load at a time per ship. Dispersion allows combat power to be loaded in parallel channels and to be built up more quickly ashore.

3. Planning Considerations

The scheme of maneuver ashore is the central plan that drives the development of all other CATF and CLF plans. Embarkation is a result of the tactical plan (i.e., the scheme of maneuver ashore). **Planning for embarkation is objective focused and developed by a reverse planning process; from objective to beach or landing zone to ship to POE.** In planning for embarkation, consideration must be given to the following, which will affect both landing plans and embarkation plans.

a. **Mission of the AF. The organization for embarkation must support the mission of the AF.** It is dependent on the earliest promulgation of those parts of the OPLAN/OPORD impacting amphibious operations. This does not mean that embarkation planners must wait for supporting plans to be completely developed. Embarkation planning must proceed concurrently with other planning.

b. **Limiting dates of the embarkation, rehearsal, movement, and action phases.** The timeframes for these phases as reflected in the TPFDD establish dates against which embarkation planning and execution must proceed. The determination of the date for E-day is a critical starting point for embarkation planning.

c. **Size and characteristics of the forces involved, both LF and naval, to include availability and characteristics of shipping and quantity and types of materiel to be embarked.** Use of the minimum number of ships necessary to meet the requirements is an objective of embarkation planning. Units of the LF not required initially in the assault phases, or whose employment is deferred, should be loaded and dispatched so

that arrival in the objective area is scheduled to coincide with their contemplated employment. In the event there is insufficient amphibious lift, planners must make a decision based on the amphibious operation on what equipment can be left behind and not deploy from the unit's home base. This equipment is known as remain-behind equipment (normally associated with MEUs) or, in some cases, as cargo left on the pier.

For more information on types of loading, refer to Chapter III, "Planning," Section B, "Ship Loading," paragraph 17, "Types of Loading."

d. Availability of ship-to-shore movement assets, including manning, must be considered. Ship-to-shore movement assets include the following:

- (1) Displacement landing craft, e.g., landing, craft utility (LCU).
- (2) Nondisplacement landing craft, e.g., landing craft, air cushion (LCAC).
- (3) Helicopters. Throughout this publication, helicopters will be used for helicopters and tilt-rotor A/C that land in the helicopter mode (e.g., MV-22 Osprey).
- (4) Both landing craft and well decks normally have one crew each. Thus, the landing plan must anticipate when the crews will come off station.
- (5) Assets may also be available from APS or other locations geographically situated near the operational requirement to support ship-to-shore movement.

e. LF commanders and their staffs should be embarked in the same ships as corresponding naval commanders. Many commands will want to be collocated with CATF and CLF. Every effort should be made to collocate staffs to facilitate mission planning and execution. However, the following planning considerations and issues must be addressed and prioritized:

- (1) Availability of sufficient office space onboard ship to support several large staffs.
- (2) Adequate berthing space and habitability support to include required onboard life-saving equipment, such as life jackets and abandon ship rafts/boats for embarked personnel.
- (3) Required bandwidth for communications.
- (4) Dispersion of staffs to ensure continuity of operations if one ship is lost in combat.
- (5) Requirements for staffs to be collocated to plan an operation.

(6) Requirements for staffs to be collocated to execute an operation.

f. **Embarkation areas and points must be selected.** Selection is influenced by:

(1) Available space on docks, piers, and beach loading areas.

(2) Time available for loading.

(3) Availability of suitable storage facilities.

(4) Adequacy of road and railway networks and space available for processing supplies and equipment brought into the embarkation areas.

(5) Availability of harbor services and other usable facilities, such as cranes, special slings and rigs for cranes, MHE, and pier ramps for stern gate loading.

(6) Availability of a suitably protected anchorage or roadstead.

(7) Suitability of beaches for the beaching of landing craft and for the operation of amphibious vehicles.

(8) Availability of adequate airfield facilities adjacent to, or within a reasonable distance of, the embarkation area.

(9) Availability of landing craft to support embarkation aboard ships at anchor or not otherwise accessible to pierside loading facilities.

(10) Availability or suitability of embarkation point to support staging, movement, and loading of ammunition, fuel products, and/or other hazardous or dangerous materiel.

(11) Adequacy of harbor size/type, entrance restrictions, channel depth, anchorage depth, and maximum size of vessel.

(12) Cost of embarking at pier versus loading over the beach as well as weather considerations during the loading period.

g. **Marshalling areas may be required when bivouac or camp areas are so located that movement to embarkation areas cannot be accomplished without interruption.** To facilitate final movement to embarkation areas, the CLF selects sites for embarking units close to the embarkation areas.

(1) A marshalling area must provide adequate space and facilities to accommodate designated units. Consideration must be given to the dispersion of marshalling areas to avoid vulnerable concentrations. To preserve combat readiness

when marshalling areas are used, schedule deploying units' arrival to keep them in these areas for a minimum length of time consistent with transportation, security, and maintenance requirements. This may require the maintenance of a marshalling area organization after the principal elements of the force sail.

(2) Organization of a marshalling area will also facilitate the accommodation of those LF echelons that may proceed to the objective area in later increments. An embarkation task organization should be used during marshalling so that a final check of personnel and equipment may be made and deficiencies corrected.

h. The feasibility and desirability of **embarking personnel and equipment using helicopters** must consider the following factors:

(1) Suitable area ashore, either in base camp, marshalling area, or embarkation areas, to satisfy requirements for flight operations (takeoff, landing, fueling, maintenance), cargo operations (assembly in accordance with loading plans, movement to loading points), and personnel operations (assembly, forming helicopter teams, movement to loading points).

(2) **Time available for loading.** This is influenced by the number and type of helicopters available for loading, their lift capability, the distance to be traversed, speed, and number of personnel and amount of cargo to be loaded. Further, the variables introduced by weather or other factors that affect optimum flight operations may require more time than if embarkation is accomplished at dockside.

4. Sequence of Planning

Following receipt of the initiating directive for the amphibious operation, **LF embarkation planning begins at all echelons and proceeds concurrently.** Major steps will overlap but are usually accomplished in the following general sequence:

a. Liaison between the corresponding Navy, LF, and other forces (if so organized) is established by the CATF and CLF.

b. Lift requirements from LF subordinate units are obtained by the CLF. These lift requirements are used to establish the LF shipping requirements.

c. The CATF obtains, from the naval forces and other forces that will be embarked in LF spaces, lift requirements (e.g., personnel, supplies, and equipment) and provides these requirements, with recommended locations, to the CLF for inclusion in the LF assignment to shipping.

d. Shipping requirements to support the force echelonment (AE and AFOE) are determined by the CLF, and are then submitted to the CATF.

- e. The CATF allocates shipping to the LF and organizes this shipping to satisfy the LF's organization for embarkation. Then the CLF allocates the shipping to subordinate embarkation echelons. Allocation of shipping is published as an OE&AS worksheet.
- f. SLCPs are distributed by the CATF to the CLF.
- g. The LF organization (to include attached naval units) for embarkation is established by the CLF in coordination with the CATF.
- h. The Navy organization for embarkation is established by the CATF in coordination with the CLF.
- i. Embarkation areas are selected and prepared by the CATF and CLF.
- j. The LF (to include attached naval units) marshalling areas are selected and prepared by the CLF.
- k. The control, security, communications, facilities, and MHE requirements for the embarkation phase (with consideration for FP) are determined by the CATF and CLF.
- l. The BALS is jointly developed and promulgated by the CATF and CLF.
- m. Movement schedules for LF (to include attached naval units) personnel, supplies, and equipment to the embarkation areas are developed by the CLF.
- n. Embarkation plans and detailed loading plans are prepared, reviewed, approved, and promulgated by the CATF and CLF.
- o. External logistic support needed for loading/off-loading of embarked forces assets is coordinated by the CLF in conjunction with the CATF.

5. Echeloning of Forces

- a. Under ideal conditions, the AF would reach the operational area with the preponderance of LF forces embarked aboard amphibious shipping. LF fixed-wing tactical aviation would deploy into bases within striking distance of the objective area. This ideal situation, however, is unlikely to exist except for relatively small-scale operations. **In the majority of amphibious assaults, the forces that must be projected onto a hostile shore and sustained in battle for an extended duration will require significant intertheater and intratheater airlift and sealift.** Further, the ATF will, in many cases, be in competition for limited transportation resources with other forces during the deployment.
- b. During deployment planning, decisions are reached to provide for a time-phased echelon of personnel and supplies into the objective area as reflected in the TPFDD.

Echelonning is required not only because of the limited availability of airlift and sealift but also for control purposes to ensure the orderly buildup of forces and sustainment. Normally, three separate transportation echelons are required for the amphibious assault: AE, AFOE, and follow-up.

c. Assault Echelon. The AE is the element of a force that is scheduled for initial assault on the objective area and is transported in amphibious shipping. The AE includes the elements that arrive in the operational area on, or in some cases, before D-day aboard amphibious assault shipping; air-transported units such as airborne forces that are scheduled for the initial assault; self-deploying A/C; and AMC air-transported support units required for the initial assault.

d. Assault Follow-On Echelon. The AFOE is the echelon of the assault troops, vehicles, A/C equipment, and supplies that, though not needed to initiate the assault, are required to support and sustain the assault. To accomplish its purpose, it is normally required in the objective area no later than five days after commencement of the assault landing. When sufficient amphibious assault shipping is not available, a portion or all of the AFOE may be transported in MSC-provided shipping. AFOE shipping may arrive on a time schedule, with some elements required as early as D-day, or remain in a specified operating area until called forward by the CATF as requested by the CLF. Planning for the AFOE must be done concurrently with planning for the AE and the follow-up. Some AFOE planning considerations include:

(1) The portion that arrives by air is delivered to an airfield for subsequent introduction into the operation. Because an airfield may not be available in the objective area, these units, vehicles, A/C, equipment, and supplies may be required to fly in at any time.

(2) Embarkation challenges associated with the loading of MSC-provided ships include the following:

(a) Limited advance information concerning the ships' loading characteristics (deck diagrams, trim and stability tables, etc.).

(b) Problems associated with commercial charters (especially foreign-flagged charters).

(c) Ship's masters and crews unfamiliar with military cargo (especially munitions).

(d) Ship owners, masters, and crews not willing to sail into a hostile area. The owners, masters, and crews of both US- and foreign-flagged ships may accept the charter but have second thoughts of sailing in harm's way into an operational area once hostilities commence.

(e) Ships not structurally designed to carry heavy, outsized cargo like tanks, etc. (e.g., pure car/truck carriers).

(f) Ships not having an instream off-load capability. All MSC-provided ships should be capable of: instream (offshore) off-load via causeways, and/or landing craft, or the capability to augment their instream off-load must be organic to the force (e.g., T-ACS).

(g) Acceptability of commercial charters (Coast Guard inspections).

(h) The type of charter and its stipulations.

(3) Because of the problems associated with the use of commercial chartered ships as AFOE shipping, MSC-provided ships should be selected with the following priority from the sources noted:

(a) Ships owned by the US Government (MSC fleet, RRF, etc.).

(b) US-flagged commercial ships.

(c) As a last resort, foreign-flagged commercial ships.

e. Follow-Up. In amphibious operations, follow-up is the landing of reinforcements and stores after the AE and AFOE have been landed. Follow-up provides the logistic pipeline to sustain the LF. In addition, the follow-up echelon may provide forces for base development and tactical forces for subsequent operations ashore. Follow-up forces and the sealift or airlift carrying these forces are not a part of the ATF.

6. Assault Shipping Requirements

Assault shipping carries the LF to the objective area and includes the ships that carry the AE and AFOE. **Assault shipping requirements must be determined as early as possible in the planning phase** so all echelons of the LF may proceed with detailed planning. Initially, tentative requirements are determined, and as planning proceeds and more specific information becomes available, requirements are refined and shipping requirements confirmed. A checklist giving the step-by-step procedures for determining assault-shipping requirements is contained in Appendix A, "Determination of Shipping Requirements."

7. Allocation of Shipping

a. The CATF allocates shipping to the LF and organizes this shipping to satisfy the LF's organization for embarkation. Then the CLF allocates the shipping to subordinate embarkation echelons. The allocation is published in the form of an

OE&AS worksheet (see Paragraph 12, “Organization for Embarkation and Assignment to Shipping”). This allocation of shipping can be done by two methods:

(1) Allocate the shipping to embarkation groups, which would, in turn, allocate the shipping to subordinate embarkation echelons and so on down to the embarkation team level.

(2) Allocate to all embarkation echelons down to and including the embarkation teams. Detailed allocation of shipping may be necessary at the LF level when compositing a MAGTF, joint, or multinational LF. Only the LF level has all the information concerning the entire force.

b. Early publication of the OE&AS and landing plan is required to support load-planning efforts. Detailed load planning cannot proceed until embarkation echelons have their shipping allocations and understand the commander’s intent relative to the scheme of maneuver and anticipated landing sequence. Time constraints may require the OE&AS worksheet to be published by message, with the date-time group (DTG) referenced in the actual OPLAN/OPORD.

c. All echelons must be kept informed as to the exact composition of assigned shipping, date of arrival in the embarkation area, and time of availability for loading. As planning proceeds, subordinate units must also be kept informed as to any changes in assigned shipping and, in turn, must state promptly any changes in requirements brought about by changes in the tactical data.

8. Amphibious Transport Group and Embarkation Group Planning

a. Embarkation Group Commander. After receiving the allocation of shipping, the embarkation group commander proceeds to:

(1) Determine the number of embarkation units to be formed. This determination is based primarily on the following:

(a) The task organization for landing.

(b) Basic concepts of the landing plan, including the means of landing (surface and/or air).

(c) Requirements for phasing units, supplies, and equipment to the objective area. This latter consideration, when coupled with shipping limitations and turnaround time to the objective area, may reveal a need for using assault shipping in a turnaround capacity.

(d) The geographic locations of the POEs and the LF units.

(2) Determine the personnel and materiel to be assigned to the respective embarkation units. This step requires close inter-staff coordination and is based largely on the recommendations of principal subordinate commanders. The composition of the respective embarkation units and the shipping assigned to each is recorded on the OE&AS worksheet.

b. **Amphibious Transport Group Commander.** Based on the assignment of shipping and the embarkation group's requirements, the amphibious transport group commander specifies the composition of the transport organization to lift the embarkation group.

c. **Limited Revisions.** The actions of the embarkation group commander must be accomplished early in the planning phase. This is mandatory so that lower echelons can accomplish detailed planning that takes into account shipping and the many facets of the landing plan. As this planning proceeds, limited revisions to the initial draft of the OE&AS worksheet will invariably occur.

9. Embarkation Unit or Element Planning/Transport Unit or Element Planning

a. **Embarkation Unit or Element Planning.** The embarkation group's OE&AS worksheet provides an embarkation unit or element commander with information concerning the composition of units and the shipping assigned for their lift. **Embarkation planning at the unit or element level involves the breakdown of the embarkation unit or element into teams.** Staff procedures and considerations at the unit and element level parallel those at the embarkation groups except they are smaller in scope.

b. **Transport Unit or Element Planning.** Like staff procedures and considerations at the embarkation unit or element level, those of the transport unit or element commander parallel the amphibious transport groups except they are smaller in scope.

10. Embarkation Team Planning

Effective embarkation planning by the embarkation team is dependent on the early receipt of information from higher authority. Detailed planning begins with determination of team composition and ship assignment. The following is included in the embarkation planning of the team:

a. Designation of the TEO.

b. Establishment and maintenance of close and continuous liaison with the ship through the appropriate ship representative (e.g., CCO).

c. Establishment and maintenance of close and continuous liaison with group, unit, and element embarkation officers and the organizations assigned to the embarkation team.

d. Receipt of the necessary embarkation planning data (force lists) from the units assigned to the embarkation team. If the units assigned to the embarkation team have a different (especially larger) lift requirement than allocated in the group, unit, or element, OE&AS worksheet, the embarkation team must seek resolution from the embarkation group, unit, or element.

e. Preparation of the detailed loading plan and approval by the ship's commanding officer and the commanding officer of troops (COT).

f. Preparation of the embarkation plan in conjunction with the group, unit, or element embarkation officer.

g. Identification of shipboard augmentation requirements (e.g., ship's platoon, laundry detail, billeting, mess, and guard).

h. Establishment of liaison with the embarkation control officer in the embarkation area.

i. Input to the embarkation group, unit, or element as to the schedule for movement of the embarkation team's personnel, supplies, and equipment to the ship's staging area.

j. Coordination and preparation of plans with the embarkation control officer (in charge of the embarkation area) and the units assigned to the embarkation team for security for the embarkation team's cargo.

11. Loading Plans and Embarkation Plans

a. **Loading Plan.** A detailed ship loading plan is prepared by the embarkation team for their designated ship. This load plan must be approved by the ship's commanding officer and COT. **No changes can be made to a signed, detailed load plan without the approval of both parties.**

b. **Embarkation Plan.** The embarkation group, unit, or element prepares embarkation plans; see Appendix B, "Sample Embarkation Plan."

12. Organization for Embarkation and Assignment to Shipping

The OE&AS worksheet is normally published at the LF and/or embarkation group level, but it may also be published at the embarkation unit and/or element levels as appropriate. **The OE&AS worksheet includes LFs, naval, and other forces that are embarking on ships (AE and AFOE), self-deploying A/C, and AMC airlift.** The

OE&AS worksheet is part of the embarkation plan and is normally prepared in two mediums:

a. The first is in the form of a worksheet (spreadsheet). This facilitates allocation of units and supplies to assigned shipping.

(1) Figure III-2 provides an example of an OE&AS worksheet (spreadsheet) used by the LF level when there is more than one embarkation group (e.g., AE, AFOE, self-deploying A/C, AMC airlift). An embarkation group and unit could also apply the format of Figure III-2 when there is more than one embarkation unit or element (e.g., AE and/or AFOE embarking from multiple seaports, AMC airlift embarking from multiple aerial ports).

(2) Figure III-3 provides an example of an OE&AS worksheet (spreadsheet) used by the LF and/or embarkation group, unit, or element when there is only one embarkation group, unit, or element. It provides allocation directly to the embarkation team level.

(3) Except for the different embarkation organization (group, unit, element, or team) listed at the top of the worksheet, the format for the OE&AS is basically the same.

(a) The capacity of assigned shipping is listed under the embarkation organization. Each ship's capacity is obtained from the information contained in its SLCP. Naval Surface Force Commanders Pacific and Atlantic publish the format for an SLCP. Embarkation officers (LF, group, unit, element, and team) study the SLCP to determine berthing capacities, landing craft and A/C capacities, square and cubic foot capacities, hazardous materiel capacities (including ammunition), and fuel. Broken stowage factors are applied as appropriate. Not all the square footage will be available due to having to allow room between vehicles for movement of personnel, vehicles, and cargo not being able to physically fit in all the available space, requirement to gripe down vehicles, etc. Thus, the broken stowage factor is a percentage of the total space that is available. Appendix A, "Determination of Shipping Requirements," has more information on broken stowage factors.

(b) Embarking units with their lift requirements are listed down the side of the worksheet.

(c) The OE&AS worksheet totals at the bottom show the number of personnel, supplies, and equipment planned for lift in the embarkation organization (group, unit, element, or team). This total cannot exceed the amphibious transport group, unit, element, or ship capacity.

ORGANIZATION FOR EMBARKATION AND ASSIGNMENT TO SHIPPING WORKSHEET (Data used in worksheet is illustrative only)											
EMBARKATION GROUP EMBARKATION GROUP COMMANDER GROUP EMBARKATION OFFICER			ALPHA LTCOL CAPT		BRAVO LTCOL CAPT			CHARLIE LTCOL CAPT			
SHIP/NUMBER	TOTAL CAPACITY		SHIP CAPACITIES								
OFFICER	669		LHD-5	LPD-17	LSD-44	LHA-4	LPD-15	LSD-41	24 F/A-18C	6 EA-6B	18 AV-
SSNCO (M/F)	269/27		191	66	34	172	71	34	24 F/A-18D	6 KC-130	8B
E1-E6 (M/F)	6,857/321		64/6	42	21/3	57/6	21/0	21/3			
VEHICLE SQFT	183,493		1,542/66	696	420/30	1,563/96	835/0	420/30			
CARGO CUFT	621,361		29,203	23,163	18,451	35,663	15,824	18,431	REFLECT FLIGHT FERRY		
BULK DFM (GAL)	3,453,335		149,293	185,304	6,665	202,174	48,889	6,691	(IF APPLICABLE)		
BULK MOTOR	47,989		1,854,710	800,602	18,776	0	728,000	31,910			
GASOLINE (MOGAS)	1,841,521		500	330	500	500	23,114	500			
(GAL)			604,915	315,000	50,569	417,009	350,625	53,000			
BULK JP-5 (GAL)											
			LSD-50			LSD-51	LSD-46				
			32			32	35				
			21/3			21/3	22/3				
			420/30			420/30	411/39				
			16,003			16,003	19,067				
			80,816			66,535	6,651				
			30,226			31,828	31,910				
			500			500	500				
			53,230			53,230	53,000				
LIFT CAPABILITY TOTALS BY EMBARKATION GROUP			325			344					
			127/12			142/15					
			3,208/126			3,649/195					
			78,505			104,988					
			290,421			330,940					
			2,629,687			823,648					
			22,675			25,114					
			914,657			926,864					
UNIT LIFT REQUIREMENTS											
ORGANIZATION	LIFT REQUIREMENTS										
	OFFICER										
	SSNCO (Male/Female)										
	E1-E6(Male/Female)										
	VEHICLE SQFT/STons										
	BULK CARGO CUFT/STons										
CMO ELEMENT, 2D MEB	76		63			13					
	21/1		16/1			5/0					
	289/15		215/5			74/10					
	2,776/22.7		2,118/17.3			658/5.4					
	1231/6.2		950/4.8			281/1.4					
EXCERPTS											
VMFA-115	50								50		
	12/2								12/2		
	224/8								224/8		
	9,118/72.3								9,118/72.3		
	11,200/83.7								11,200/83.7		
EXCERPTS											
TOTAL UNIT LIFT REQUIREMENTS	775		303			422			50		
	265/27		117/12			136/13			12/2		
	6,814/297		2,761/120			3,829/169			224/8		
	192,711/5,960.4		95,899/3,075.6			87,694/2,812.5			9,118/72.3		
	402,206/2,128.4		207,810/1,086.7			183,196/958.0			11,200/83.7		
SUPPLY CLASS TYPE	GALLONS	CUFT/STons									
CLASS I											
RATIONS		6,768/106.8	3,511/55.4			3,257/51.4					
CLASS III											
LUBE OIL 30WT		2,256/36.4	1,281/20.7			975/15.7					
LUBE OIL 90WT		336/04	168/0.2			168/0.2					
BULK MOGAS	47,500		23,500			24,000					
CLASS IV											
MULTIPACK		8,648/37.6	5,000/21.7			3,648/15.9					
LFORM PKG		5,620/46.0	2,810/23.0			2,810/23.0					
CLASS VIII											
AMAL		19,488/139.2	11,253/80.4			8,235/58.8					
TOTAL SUPPLIES	47,500	43,116/366.4	24,023/201.4			19,093/165.0					
GRAND TOTALS	47,500	775	303			422			50		
		265/27	117/12			136/13			12/2		
		6,814/297	2,761/120			3,829/169			224/8		
		192,711/5,960.4	95,899/3,075.6			87,694/2,812.5			9,118/72.3		
		445,322/2,494.8	231,833/1,288.1			202,289/1,123.0			11,200/83.7		

Figure III-2. Organization for Embarkation and Assignment to Shipping Worksheet
(Data used in worksheet is illustrative only)

(d) The OE&AS worksheet (spreadsheet) totals at the side show the total amount of personnel, supplies, and equipment required to be lifted by the embarking unit. This total should equal the amounts allocated to each embarkation organization.

ORGANIZATION FOR EMBARKATION AND ASSIGNMENT TO SHIPPING WORKSHEET: EMBARKATION UNIT: ALPHA (Data used in worksheet is illustrative only)					
EMBARKATION TEAM COMMANDING OFFICER OF TROOPS TEAM EMBARKATION OFFICER		ALPHA 1 LTCOL _____ CAPT _____		ALPHA 2 MAJ _____ ISTLT _____	ALPHA 3 MAJ _____ ISTLT _____
SHIP CAPACITIES					
SHIP NAME HULL NO.		USS NASSAU LHA-4	USS Mesa Verde LPD-19	USS TORTUGA LSD-46	
BERTHING CAPACITY:	EMBARK UNIT ALPHA CAPACITY				
OFFICER	286	172	66	35	
SSNCO (Male/Female)	105/9	57/6	42	22/3	
E1-E6 (Male/Female)	2,682/135	1,563/96	696	411/39	
VEHICLES (SQFT)	71,110	35,663	23,163	19,067	
BULK CARGO (CUFT)	256,270	202,174	185,304	6,651	
BULK POL (GALS) DFM/MOGAS/JP5	860,276/24,000/82,009	0/500/417,009	800,602/330/315,00	31,910/500/53,000	
UNIT LIFT REQUIREMENTS					
ORGANIZATION	LIFT REQUIREMENTS OFFICER SSNCO (Male/Female) E1-E6 (Male/Female) VEHICLE SQFT/STons BULK CARGO CUFT/STons				
COMMAND ELEMENT 26 MEU	31 15/0 214/0 3,642/89.8 4,929/75.0	31 15/0 208/0 3,269/79.0 4,365/72.0	0 0/0 6/0 373/10.8 564/3.0		
HMM-365	65 19/0 355/0 0/0.0 2,614/84.6	65 19/0 355/0 0/0.0 2,614/84.6			
BLT 3rd BATTALION 6th MARINES	58 26/0 1,063/0 21,668/1139.6 6,611/76.8	35 16/0 535/0 7,372/242.0 3,392/43.5	8 3/0 191/0 1,560/57.8 1,410/8	15 7/0 337/0 12,736/840 3,078/32.5	
CLB-26	18 17/0 253/0 14,336/751.2 4,303/105.1	6 5/0 81/0 1,992/132.9 1,036/13.3	12 11/0 137/0 8,275/374.3 1,200/12.8	0 1/0 35/0 4,069/244 2,067/79.0	
NAVAL SUPPORT ELEMENT	12 14/0 87/0 2,931/119.2 2,100/27.2	10 9/0 45/0 678/29.0 1,000/16.2	1 1/0 21/0 2,138/87.2 0/0	1 4/0 21/0 115/3.0 1,100/11.0	
DET, HSC-6 (SAR)	8 1/0 21/0 0/0.0 0/0.0	8 1/0 21/0 0/0.0 0/0.0			
TOTAL LIFT REQUIREMENTS	192 92/0 1,993/0 42,577/2099.8 20,557/368.7	155 65/0 1,245/0 13,311/482.9 12,407/229.6	21 15/0 355/0 12,346/529.9 1,905/16.6	16 12/0 393/0 16,920/1087.0 6,245/122.5	
LANDING FORCE SUPPLIES					
SUPPLY CLASS TYPE	GALLONS	CUFT/STons			
CLASS I					
RATIONS		13,160/118.0	8,084/94.0	5,076/24.0	
CLASS III					
PACKAGED LFORM BULK MOGAS LFORM	24,000	3,902/48.0	2,120/40.0	1,782/8.0	
CLASS IV					
MULTIPACK LFORM PKG		850/3.2 2,808/23.0	850/3.2 1,836/18.0	972/5.0	
CLASS V					
Ground Air		35,826/452.0 43,922/409.0	23,000/407.0 40,000/395.0	12,826/45.0 3,922/14.0	
CLASS VIII					
AMAL		1,750/9.4		1,250/6.3	500/3.1
TOTAL SUPPLIES	24000	102,218/1062.6	75,890/957.2	25,828/102.3	500/3.1
GRAND TOTALS	24000	192 92/0 1,993/0 42,577/2,099.8 122,775/1,431.3	155 65/0 1,245/0 13,311/482.9 8,8297/1,186.8	21 15/0 355/0 12,346/529.9 27,733/118.9	16 12/0 393/0 16,920/1,087.0 6,745/125.6

Figure III-3. Organization for Embarkation and Assignment to Shipping Worksheet:
Embarkation Unit: ALPHA
 (Data used in worksheet is illustrative only)

b. The second medium is normally a message that promulgates this information in the embarkation plan. The detailed message format for the OE&AS is published by fleet type commands (Naval Surface Force and Marine Corps Forces).

c. In addition to the assignment of a task designator described in Chapter II, “Organization,” an OE&AS designator will be assigned. Normally, task designators are not available when the OE&AS is published early in the planning phase, and task designators tend to follow a tactical organization rather than an embarkation organization. Figure III-4 provides an example of an OE&AS designator task group, unit, element, and team task designators to use for planning documents.

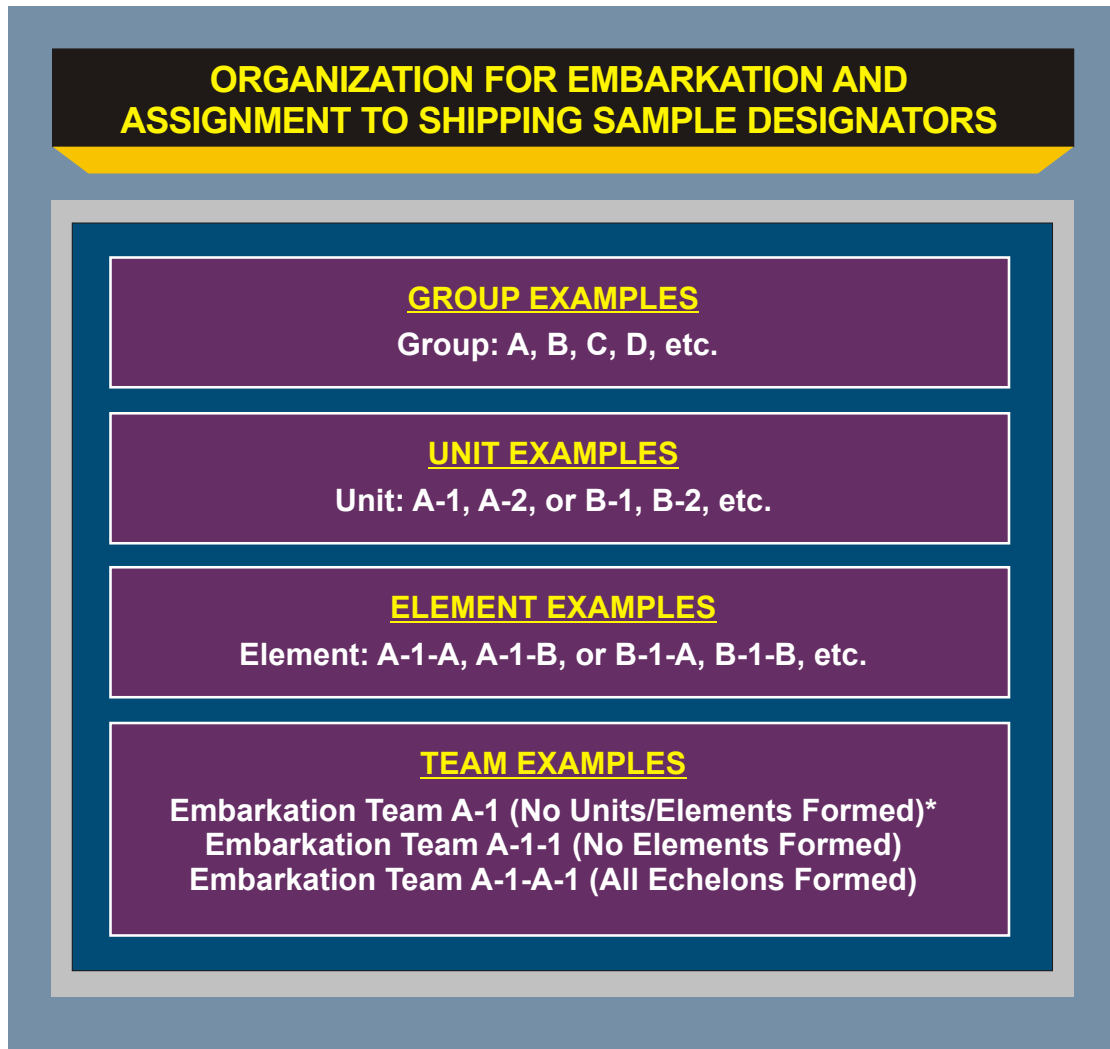


Figure III-4. Organization for Embarkation and Assignment to Shipping Sample Designators

13. Facilities (Administrative, Communications, Billeting, Pier Accommodations, and Staging Areas)

a. **Administrative Facilities.** Spaces are administered via the SLCP as set forth by Naval Sea Systems Command documentation and mutual agreement between the CATF and CLF. Ships provide the LF office space. Additional office spaces may have to be located in staterooms, recreation rooms, or in surge berthing. Besides an administrative

office, space is required for a guard office, message center, and for classified document handling and storage. In addition, space is required for planning, staff work, and conferences. During embarkation planning, the TEO contacts the ship's CCO for procurement of office space, desks, use of reproduction means, and other facilities.

b. Communications Facilities. The embarked LF communications officer, or a designated representative, plans with the ship's communications officer details relative to the following:

- (1) Assistance as required for naval communications guard for embarked LF units.
- (2) Requirement for repair and testing of LF communications equipment.
- (3) Use of the ship's internal telephone system and access to the ship's computer local area network.
- (4) Use of designated communications spaces and facilities.
- (5) Arrangements for cryptographic and authentication systems that must be used jointly.
- (6) Arrangements for the allocation of shipboard radio equipment and antennae for LF use.
- (7) Development of communications security and electronic counter-countermeasures to protect communications from an adversary's detection, interception, deception, and jamming.
- (8) Augmentation of embarked LF personnel to naval communications assets during the movement to the objective area.
- (9) Restoration procedures and priority for Navy and LF communications systems.
- (10) Arrangements for C2 and communications system operational testing prior to rehearsal and embarkation.

c. Billeting Facilities. The ship provides billeting facilities to accommodate LF berthing requirements. These spaces are provided during a scheduled turnover process where the embarking unit signs for the spaces after a joint inspection of the spaces. Once the LF signs for the spaces, they must ensure that the following requirements are satisfied:

(1) The COT is responsible for the cleanliness and security of all billeting spaces, washrooms, heads, and other spaces allotted to embarked units.

(2) Sufficient cleaning details should remain on board during final debarkation, except debarkation for combat, to adequately clean and turn spaces over to the owning ship department.

(3) **Berthing spaces of embarked personnel must be inspected for orderliness, hygiene, and sanitation on a regular basis by troop commanders.** Medical personnel should accompany these inspections. Periodic joint inspections with the ship's leadership provide the opportunity for concerns to be identified or highlighted and resolved in a timely manner.

d. **Pier Accommodations and Staging Areas.** In planning for embarkation, the CATF and CLF need to coordinate with the port facility, and have an understanding of its capabilities. Depending on the location and situation, there could be pier accommodations and local staging areas available to assist in the on load. Many ports have pier side and floating cranes, forklift trucks, and other equipment that could be used or leased. Similarly, many ports may also have large staging areas to facilitate the embarkation, while some may have limited space in which to stage, causing a potential slowdown in the on load. For embarkation, a cargo assembly area and a vehicle assembly area are normally required for staging. More information on cargo and vehicle assembly areas can be found in Chapter IV, "Execution," Section A, "Embarkation, Movement, and Assembly," Paragraph 8, "Assembly of Cargo in the Embarkation Area."

SECTION B. SHIP LOAD PLANNING

14. General

a. **A ship loading plan** is prepared for each embarkation by the ship's TEO assisted by the ship's CCO when possible. Close and continuous liaison between these individuals is desirable to ensure expeditious and successful embarkation planning. Entries in the loading documents must be the actual weight or measurement of that item of cargo as it is to be loaded.

b. **Each ship loading plan must be approved by both the COT and the ship's commanding officer (or master for MSC ships).** The embarkation team commander ensures that the plan supports the tactical and logistic plans of the LF. **The ship's commanding officer (or master for MSC ships) ensures that the plan does not exceed the capabilities of the ship and does not adversely affect the stability, trim, or safety of the ship.** The commanding officer or master is the final approval authority and has the authority to reject the load plan if it violates safety regulations (e.g., cargo or vehicles blocking escape scuttles or fire-lanes that are too narrow or even blocked.)

c. Ship loading plan preparation, using manual methods for documenting the embarkation decisions made by the TEOs, requires the preparation and submission of



Coordination with port facilities is essential.

prescribed forms and tables by all units or detachments' embarking personnel, supplies, or equipment aboard a ship. These units or detachments are identified in the OE&AS. The submitted documents are consolidated by the TEO, detailed ship loading plans are prepared, and additional supporting documents are generated. The documents required for a ship loading plan, and the procedures and methods used in their preparation will be discussed in this section.

15. Unit Loading Documents

Currently, the Services use legacy systems to generate detailed load plans and supporting documentation. However, the ability to generate manual load plans is still required as a back-up load planning capability and may be useful in larger scale amphibious operations involving many organizations and ships.

a. **Automated System Generated Load Plans.** Naval embarkation planners can use the integrated computerized deployment system (ICODES) for ship stow planning. **As a ship load planning software tool, ICODES assists embarkation specialists in the rapid development of cargo stowage plans.** It is a decision-support system that applies the integrated cooperative decision-making framework to the area of ship stow planning and is designed to satisfy the stow planning demand of the US Army and the US Marine Corps. ICODES utilizes artificial intelligence principles and techniques to assist embarkation specialists in the rapid development of cargo stow plans. ICODES incorporates computer software that contains information concerning cargo placement, hazardous materials handling, ship's trim and stability impact, and accessibility. It evaluates the user's input and provides recommended loading alternatives. Equipment

locations and team embarkation assignments are synchronized between ICODES load plans and MDSS II (MAGTF Deployment Support System II), which is the unit embarkation database, through a data sharing capability. The system also allows for the use of automated information technology (AIT) scanners to electronically update the ICODES database of physical locations. AIT includes a variety of devices, such as bar codes, magnetic strips, optical memory cards, and radio frequency tags for marking or “tagging” individual items, multi-packs, equipment, air pallets, or containers.

b. **Manually Generated Load Plans.** When preparing manual load planning documents, each unit or detachment embarking personnel, equipment, or supplies aboard a ship prepares **three loading documents: a cargo and loading analysis table (C&LAT), a vehicle summary and priority table (VS&PT), and a unit personnel and tonnage table (UP&TT).** These documents are submitted to the embarkation team commander for consolidation during preparation of the detailed loading plan by the TEO. Detailed information on the process, forms, and steps for preparing a manually generated load plan are in Appendix H, “Manual Loading Plan.”

16. Assembly of Automated System Generated Load Plans

a. The automated process for assembling ICODES generated load plans is much simpler than the manual process discussed in Appendix H, “Manual Loading Plan,” as the automated systems generate and plot the deck diagrams in the prescribed scale. The appropriate scale for cargo, vehicle, and well deck stowage locations is 1/8 inch equals 1 foot. The appropriate scale for flight deck/weather deck stowage locations is 1/20 inch equals 1 inch. The automated system also generates the required reports for the load planner.

b. The required reports and accepted sequence for assembling an automated system generated load plan is:

- (1) Loading plan cover page.
- (2) UP&TT.
- (3) Hazardous cargo manifest.
- (4) Stowage diagrams and supporting cargo manifest.
- (5) Profile loading diagram (for cargo ships only).

17. Types of Loading

The general types of loading in amphibious operations are as follows:

a. **Administrative Loading.** Administrative loading is a loading method that gives primary consideration to achieving maximum use of billeting and cargo space without regard to tactical considerations. Equipment and supplies must be unloaded and sorted before they can be used. **Administrative loading is not suitable for amphibious assault operations.**

(1) **Commodity Loading.** A method of loading in which various types of cargoes are loaded together, such as ammunition, rations, or boxed vehicles, in order that each commodity can be discharged without disturbing the others.

(2) **Selective Loading.** The arrangement and stowage of equipment and supplies aboard ship in a manner designed to facilitate issues to units.

b. **Combat Loading.** Combat loading is a loading method that gives primary consideration to the facility with which troops, equipment, and supplies can be unloaded ready for combat rather than to economical use of ship space. **Combat loading is the arrangement of personnel and the stowage of equipment and supplies in a manner designed to conform to the anticipated tactical operation of the organization embarked.** Each individual item of equipment and supply must be stowed aboard the ship so it can be unloaded at the time and in the sequence that will most effectively support the planned scheme of maneuver ashore. Whenever possible, each ship must be loaded to provide maximum flexibility to meet changes in the tactical plan and facilitate discharge of cargo to meet emergency calls for equipment or supplies. Three methods of combat loading may be employed, depending on the mission, organization, types of equipment assigned to the force (including ships), and the planned tactical employment of the force. These methods are as follows:

(1) **Combat Unit Loading.** Combat unit loading is the loading of an assault element of the LF, with its essential combat equipment and supplies, in a single ship, in such a manner that it will be available to support the tactical plan on debarkation. Combat unit loading provides maximum flexibility to meet changes in the tactical plan and is the most common type of combat loading in embarkation load planning.

(2) **Combat Organizational Loading.** Combat organizational loading differs from combat unit loading in that it is conducted without regard to tactical considerations on debarkation. It permits debarkation of complete units and equipment that will be available for tactical employment after assembly ashore. This method is more economical in ship space than combat unit loading.

(3) **Combat Spread Loading.** Combat spread loading is one method by which the desired dispersion of LF personnel, equipment, and supplies among various ships is achieved. This method is commonly used when loading organizations are equipped with numerous vehicles and/or large amounts of heavy equipment. Combat spread loading also permits maximum flexibility and a rapid buildup ashore.

18. Types of Cargo

Cargo to be loaded aboard ship is divided into four major groupings by physical configuration as follows:

a. **Vehicles.** Includes all wheeled or tracked vehicles (whether self-propelled or towed) and certain non-vehicular equipment, such as skid-mounted generators that require square foot stowage and cannot be stacked.

b. **Standard Cargo.** Includes individual items of equipment and cargo packaged in boxes and crates, which can be carried, stacked, and otherwise handled without MHE. Size and weight of each individual package or item is normally limited to a two-person lift.

c. **Unitized Cargo.** Consists of items of equipment or supplies that have been grouped into larger packages to facilitate loading, off-loading, and transporting using available MHE such as forklifts, pallet jacks, cranes, and container handlers. There are basically two methods of unitizing: palletizing and containerizing.

(1) **Palletizing.** The most common form of palletizing is banding similar items (e.g., rations, ammunition) to a standard 40-inch by 48-inch or 32-inch by 40-inch pallet. Normally, supplies and equipment are palletized to permit stacking.

(2) **Containerizing.** Containerizing is the loading of containers such as joint modular intermodal containers (JMICs), pallet containers (PALCONs), quadruple containers (QUADCONs), and container express (CONEX) boxes with supplies and equipment. Larger containers (e.g., military van [containers] [MILVANs], and International Organization for Standardization [ISO] containers) are often loaded with palletized cargo (e.g., ammunition, rations). Because amphibious ships are not equipped to handle MILVANs and ISO containers, they are unsuitable for AE operations and should only be embarked when they are mobile loaded on trucks or trailers. Containers cannot be embarked without prior coordination with the ship.

d. **Bulk Petroleum, Oils, and Lubricants.** Bulk POL includes JP-5 (stored in the ship's tanks) and motor gasoline (MOGAS) (ship configuration dependent for amount and availability) to be pumped into LF vehicles, A/C, and equipment aboard ship; into intermediate carriers (such as collapsible bladders in landing craft) for transportation ashore; or directly ashore (via bottom laid or floating pipeline) to the LF bulk fuel system. If gasoline is carried onboard, it is normally stowed only in small quantities on external jettisonable racks in 55 gallon drums. Any gasoline brought onboard must be coordinated with the CATF. Navy ships do not carry JP-8. Navy ships use naval diesel fuel (F-76 designation in NATO) stored in ship's tanks for main propulsion and electrical power, and, if required, may be available for use.

19. Loading and Stowage Considerations

Although not an inclusive list, some of the specific loading and stowage considerations can be broken down into methods of stowage, non-vehicle cargo stowage planning, vehicle stowage planning, factors to consider in combat loading, landing serials, and the preparation of supplies and equipment.

a. **Methods of Stowage.** Stowage is the method of placing cargo into a single hold or compartment of a ship to prevent damage or shifting. There are several methods by which equipment, supplies, and materials required in amphibious operations are stowed. These methods are designed to afford quick and immediate access to, and off-loading of, cargo in order to make it available in the planned sequence in support of the LF. They also provide the necessary flexibility to meet contingencies as they arise. Normally, a combination of stowage methods could be used in combat loading of a single ship.

(1) **Horizontal Stowage.** When used in connection with the entire ship, the term horizontal stowage means the fore and aft distribution of unit equipment and supplies. Horizontal stowage allows for similar items to be simultaneously unloaded from two or more holds or compartments. When the term is applied to a single hold, it means the distribution of like items in horizontal layers throughout the hold or compartment. Horizontal stowage of a single hold permits the best discharge rate of like items, and normally results in better use of space. However, it limits selectivity of discharge and should be employed only after careful consideration of the requirements for items so loaded during the assault phase of an amphibious operation.

(2) **Vertical Stowage.** Vertical stowage of unit equipment or a given class of supplies is a method of stowage within a single compartment by which the loaded items are continually accessible for off-loading, and the off-loading can be completed without corresponding changes or prior off-loading of other cargo. Like items are loaded in vertical columns throughout the compartment so that items are available at any stage of the off-loading.

(3) **Block Stowage Loading.** Block stowage is a method of loading by which cargo for a specific destination is stowed together. The purpose is to facilitate rapid off-load at the destination with the least possible disturbance of cargo intended for other points.

b. **Non-Vehicle Cargo Stowage Planning.** Based on specific load planning factors, non-vehicle cargo may be categorized as follows with associated stowage and loading considerations:

(1) **D-1 Cargo.** D-1 cargo consists of those supplies and equipment issued to embarked forces prior to going ashore. They may be loaded as standard or unitized cargo and may include weapons, rations, ammunition, medical supplies, or specialized equipment. The key considerations in planning the stowage of D-1 cargo are

accessibility and the ability to break down larger packages into individual issue unit loads for distribution.

(2) **Critical Supplies.** The CLF designates those supplies for which an immediate need ashore is anticipated. These supplies are usually grouped into packages containing various commodities (e.g., ammunition, medical supplies, and batteries). Critical supplies may be pre-staged aboard ships for immediate transport by air or surface means.

(3) **Ammunition.** When planning the stowage of ammunition, special planning and safety considerations apply. Ammunition, both air and ground, is normally packaged as unitized cargo and can only be stowed in compartments that have been specially designed for that purpose. Special ammunition for units attached to the CATF should be considered when the CLF has the responsibility for Class V stowage. When planning the stowage of ammunition, consideration for the compatibility of stowage among various types of ammunition must be made in accordance with current regulations. Certain ammunition, for instance, may require the fuze and the projectile, and the powder charge to be stored in separate magazines. Limited magazine stowage, such as on the LSD 41 class, may require some of the ammunition to be stored on other ships, creating a situation in which the artillery is on one ship and the ammunition is on another ship.

(4) **Petroleum, Oils, and Lubricants.** Like ammunition, stowage of POL is normally restricted to specially configured compartments designed for that purpose. POL may be packaged (as either standard or unitized cargo) or may be handled as bulk POL and stowed in ship's tanks. The stowage must provide accessibility to ensure expedient transfer to the supported weapon system (e.g., tanks, artillery) before debarkation. Gasoline may not be loaded without prior coordination with the ship.

(5) **Other Hazardous Cargo.** Hazardous cargo, other than ammunition or POL, also requires special stowage considerations. Hazardous cargo or materials include, but are not limited to, compressed gas, trioxane, and lithium batteries. Stowage of all hazardous cargo must be coordinated with the ship and comply with current shipboard stowage regulations.

(6) **Vital Supplies.** Vital supplies are those supplies, designated by the CLF, that are vital to the success of the mission. These normally include, but are not limited to, water, ammunition, rations, and medical supplies. These supplies are normally horizontally stowed-split between two or more compartments that do not share the same debarkation route. Vital supplies are also normally stowed with constant accessibility to the debarkation means (accessible stowage).

(7) **General Cargo.** General cargo consists of all LF cargo not otherwise categorized (i.e., other cargo). General cargo may be packaged either as standard cargo or unitized cargo. It includes organizational equipment, repair parts, field fortifications,

and other items of cargo for which special stowage is not required. It is normally stowed in designated cargo holds but may be stowed in the same compartments with vehicles.

(8) **Troop Space Cargo.** Troop space cargo includes all cargo planned for stowage in those spaces designated for billeting and working aboard the ship. It includes individual baggage, essential records, office equipment, manuals, tools, repair parts, and other items that must be accessible to the LF after embarkation and off-loading in the objective area. Because of space limitations aboard ship, troop space cargo must be kept to a minimum. MHE servicing and billeting space limitations aboard ship require that troop space cargo be packaged as standard cargo and hand-carried.

(9) **Mobile-Loaded Cargo.** Mobile-loaded cargo consists of items that are preloaded in LF vehicles before embarkation. Planning stowage of mobile-loaded cargo is accomplished concurrently with planning the load of the vehicles concerned. However, embarkation planners must ensure that vehicle stowage makes adequate allowance for the increased weight and possible change to external configuration resulting from each vehicle's mobile load.

c. **Vehicle Stowage Planning.** The proper stowage and loading of vehicles requires precise planning and exacting attention to detail to ensure that vehicles will be unloaded rapidly and in such a manner as to support the plan for landing.

(1) Many details must be considered in planning the stowage of vehicles including size, shape, weight, off-load priority, and serial grouping. Negotiating vehicle ramps having inclines of 10 degrees or more must be considered during loading. Since vehicles and cargo may be loaded in the same compartment and vehicles normally have higher priority for off-loading, space available for cargo cannot be accurately determined until vehicle stowage planning is complete. The following specific rules apply when planning vehicle stowage:

- (a) Each vehicle occupies deck space of specific size and shape.
- (b) Overhead hatches must be large enough and/or ramp clearances must be sufficient to allow passage of vehicles.
- (c) Overhead clearances within assigned spaces must be sufficient to permit movement to and from the stowage location.
- (d) If off-loading is to be by boom, crane, or helicopters, they must have sufficient capacity to lift the vehicle with its load of cargo.
- (e) Each vehicle must be stowed to ensure that it can be unloaded in accordance with its assigned priority number.

(f) A marriage (i.e., a towed vehicle and its prime mover) must be stowed in the same compartment to ensure that they will not be separated during debarkation.

(g) Stowage must be planned so that vehicles can be moved to the ramp, access doors, or the space under the overhead hatch square without excessive maneuvering.

(h) Vehicles must usually be stowed fore and aft to preclude loosening of lashing caused by the side-to-side movement (roll) of the ship. Individual SLCPs and/or the CCO can be consulted for exceptions to this general rule.

(i) Space permitting, vehicles in the same serial should not be stowed on different deck levels of the same hold. This would result in excessive off-load times because of the requirement to open the between deck hatch.

(j) Vehicles must be stowed in accordance with shipboard fire lane requirements as delineated in the SLCP (a fire lane is a minimum of 24 inches wide).

(k) Stowage must account for tie-downs.

(l) Stowage must account for the weight of vehicles. For example, tanks must be spread out, and tanks can only go on certain spots.

(m) The landing plan must also take into account the ship's center of gravity and stability and should not cause the ship to list.

(2) As part of stowage considerations, vehicles must have routine first and second echelon maintenance accomplished while embarked on assault shipping. Vehicles should be started periodically, whether stowed on the weather decks or in designated vehicle stowage locations below decks. When starting vehicles in confined spaces, permission must first be obtained from the ship's commanding officer or the designated representative. The use of the ship's blowers or installed ventilation systems and other safety precautions to ensure adequate ventilation and protection against carbon monoxide poisoning are mandatory. Frequent inspections of all embarked vehicles and their secondary loads should also be conducted to ensure they are operable when debarked in the objective area. The inspections also ensure that the vehicles and equipment remain properly secured/lashed and the ship's load remains safe. Whenever possible these inspections should be conducted jointly by the embarked LF ship's platoon augments and ship's company personnel. The inspections should include an inspection of the vehicle's waterproofing, fluid (e.g., gas, oil) leaks, battery, deterioration due to dampness or seawater exposure, and tire condition and pressure.

d. Factors to Consider in Combat Loading. For combat loading, the following considerations need to be taken into account:

(1) Assault vehicles and critical supplies must be loaded in such a manner that no other cargo interferes with their accessibility and off-loading priority.

(2) In stowing vehicles and cargo, a percentage of space is invariably lost between boxes, vehicles, around stanchions, and over cargo. Collectively, these losses are expressed in terms of percentages known as a broken stowage loss. The factor will fluctuate depending on the type and size of vehicles, type and size of general cargo, training and experience of loading personnel, type of loading, method of stowage, and configuration of the compartment. Thus, a broken stowage factor of 60 percent, for example, means that 40 percent of the square footage is not available.

(3) All holds of a ship are loaded and unloaded simultaneously for MPF and MSC ships, if possible. This permits the most efficient use of ship facilities and reduces loading and off-loading time. Loading and off-loading timetables, maintained by ship's personnel and based on past experience, provide a basis for planning balanced hold loads. Off-loading priorities and space limitations may result in one hold being loaded entirely with vehicles or heavy lifts. In this case, the fewer number of lifts would result in a shorter off-loading time.

e. **Landing Serials.** Serial compositions and their sequence for landing must be considered in preparing loading plans. Serial numbers are used to identify all elements of the LF and are loaded to support the planned sequence for landing. Serial numbers (which are a means of identification, not a statement of priority) are published in the serial assignment table that forms part of the landing plan. The planned order for landing serials is published in the landing sequence table, which also forms part of the landing plan.

(1) **Serial Assignment.** A single serial number is assigned to each unit or grouping, including its equipment (except floating dumps), which for tactical and logistic reasons is to be:

- (a) Embarked entirely in one ship.
- (b) Landed as a unit at one beach or landing zone.
- (c) Landed at approximately the same time.

(2) **Simultaneous Off-loading.** To be effective, each serial must be loaded in a way that permits its simultaneous off-loading. This increases the difficulty of planning, loading, and stowage. To achieve simultaneous off-loading of all elements of a serial, the embarkation officer must spread the serial throughout the various holds of the ship. Serials, therefore, must be realistically composed. The planners who organize the serials must avoid the following:

(a) **Assigning too many items to one serial.** This results in either the means of landing being held up until the entire serial is unloaded or in sending the serial ashore in increments. Either case results in inefficient use of the landing means. The first eventuality can cause serial delay in overall off-loading time. The second defeats one of the major purposes of serialization control.

(b) **Assigning too many items requiring the same off-loading device (landing means).** Because all these items must then be stowed in the same hold, off-loading will be time-consuming.

f. **Preparation of Supplies and Equipment.** Preparation includes packing, crating, unitizing, and marking supplies and equipment, and preparing vehicles for loading (including provision of special slings if required). **The preparation of supplies and equipment for embarkation is an LF responsibility.** Normally, the various Services or HQ of higher echelons of the LF will publish SOPs or regulations that prescribe techniques for preparation of supplies and equipment for embarkation.

(1) **Packing and Crating.** Adherence to the following rules for packing and crating will save space and lessen damage to cargo.

(a) To the maximum degree possible, maintain uniformity in crate, box, and other container sizes to facilitate stowage and handling and preparation of loading plans.

(b) Pack types of supplies, such as ordnance, electronic or signal, motor transport, and general supply separately to facilitate identification and control. Only related items should be packed in the same box or crate.

(c) Pad and reinforce containers when necessary to ensure protection of fragile items and prevent damage to the container and its contents.

(d) Waterproof boxes or crates containing items subject to moisture damage or deterioration.

(e) Apply corrosion-preventive materials or other appropriate preservatives to items requiring such protection.

For additional information on packing see Field Manual (FM) 38-701/Marine Corps Order (MCO) P4030.21D/Navy Supply Systems Command (NAVSUP) Publication 503/Air Force Pamphlet (Inter-Service) 24-209/Defense Logistics Agency Instruction 4145.2, Packaging of Material.

(2) **Unitizing**



Beach off-loads must be as well planned as embarkation.

(a) Pallets and containers provide several advantages in loading and stowage. They provide for faster off-loading of ships, landing craft, and A/C (but only when compatible MHE is available afloat and ashore). They permit compact packaging of items otherwise difficult to handle (e.g., barbed wire). They eliminate extra handling and reduce the number of personnel required for cargo handling afloat and ashore. Pallets can also be used for dunnage after supplies are removed, and containers reduce pilferage and protect supplies from weather. In terms of disadvantages, pallets and containers are costly in construction, labor, time, and material, and they require special handling equipment, both aboard ship and ashore. The following factors must be considered in determining the percentage of cargo to be unitized:

1. Beach and landing zone conditions, including surf, gradient, exits, and trafficability.
2. Type and quantity of mechanical loading and off-loading equipment available to the ships and to troops ashore.
3. Availability of pallets and containers.
4. Difficulties imposed by transfer of cargo at transfer lines if they are employed.
5. Amount and types of supplies to be embarked.

(b) Stowage of unitized cargo involves many of the same considerations as stowage of vehicles. This is particularly true for MHE lifts of unitized cargo that exceed 6,000 pounds and any single item of unitized cargo, except vehicles, that exceeds 72 inches in any dimension. The size, shape, and construction of various items of unitized cargo along with the availability and lift capacities of MHE (e.g., forklifts, pallet jacks, pallet transporters) are the primary considerations for proper stowage planning. Allocation of specific deck space (square feet) must be made. Some items can be stacked and others cannot because of their size, shape, strength, or weight. The stowage of pallets and other items of unitized cargo should be planned for under or near the overhead hatch square where they can be reached by the cargo hook. The following rules or guidelines apply:

1. Do not stow unitized cargo on top of standard cargo.
2. Do not stack pallets more than three high without specific approval of the ship CCO or first lieutenant (or similar person) and due consideration for the ability of the bottom pallets to support the combined load of the stack.
3. When forklifts or pallet jacks are not available, plan to stack pallets no more than three high directly under the hatch square, two high adjacent to the hatch square, and one high elsewhere in the compartment.
4. Stowage location of pallets and other unitized cargo containing hazardous material (e.g., high explosives, pyrotechnics, POL, and sulfuric acid electrolyte solution) will be determined by the special shipboard stowage compatibility restrictions that apply.
5. Pallets and other items of unitized cargo may be used to restrain standard cargo stowed in the same compartment, thereby reducing shoring requirements.

(3) **Markings.** A marking system indicates organizational ownership, contents, stowage location, size, and, when required, source and destination of the JMIC, PALCON, QUADCON, CONEX, MILVAN, ISO container, or vehicle. Markings will be in accordance with parent-Service directives, but must include the general markings listed in subsection (b) through (h).

(a) **NATO Markings.** Marking instructions for movement of NATO military cargo for international movement by all international means of transport, except where the move is national in character and handled exclusively by US shipping, is covered in NATO STANAG 4281, *NATO Standard Marking for Shipment and Storage*.

(b) **Stowage Designators.** Stowage designators indicate whether cargo is to be stowed in troop spaces or in hold stowage. Two different colored disks are painted on cargo and used as stowage designation. **A yellow disk designates troop space cargo** that must be accessible to unit personnel during the voyage. **A white disk designates**

unit equipment and supplies in the ship's hold stowage that must be on the same ship as the unit but need not be readily accessible during the voyage. Each disk, regardless of color, serves as a visual cue which assists forklift operators, hatch teams, and embarkation personnel in segregating cargo by hold stow and troop stow.

(c) **Box Number.** The box number enables each embarking unit to have some means of identifying and locating its boxes. The box number typically consists of a unit assigned four-digit consecutive number stenciled in the upper left-hand corner of each box next to the stowage designator. However, each Service may specify some other numbering system currently in use by the Service. Whatever system is used within a unit, measures will be taken to ensure that box numbers are not duplicated.

(d) **Weight.** The weight, in pounds, is placed on each box, crate, and container.

(e) **Unit Identification Code (UIC).** All supplies and equipment should be marked with the UIC on at least three sides to facilitate staging by unit and for ease in identification during actual onload or off-load execution.

(f) **ISO Markings for Containers and QUADCONs.** ISO Standard 6346, *Freight Containers Coding, Identification, and Marking*, and ISO Standard 1496-1, *Series I Freight Containers – Specifications and Testing, Part 1*, should be consulted for ISO container marking requirements.

(g) **Barcode Labels.** These scannable encoded labels provide an automated means of constructing databases, generating inventory listings, and providing deployment intransit visibility. The specific data represented on the barcode label will be in accordance with current Service policy. All supplies and equipment will have barcode labels affixed so that they are easily scanned from the four sides or top of the cargo item. Cargo stowage designators can also be determined by scanning barcode labels, or reading radio frequency identification tags. This is often used as an alternative to yellow disk or white disk designators painted on cargo.

(h) **Hazardous Material Labeling.** Hazardous material markings will be in accordance with Title 49, Code of Federal Regulations, *Transportation*, and the *International Maritime Dangerous Goods (IMDG) Code*.

(i) **Administrative Markings.** Administrative markings may be required by unit SOPs. They supply amplifying data such as source, content, and destination of the container.

(j) **Security.** Units may desire to cover markings to preclude unauthorized personnel gaining knowledge of unit identification during movement. Normally, this will be accomplished when security of movement is a prime consideration.

For additional information on markings see Military Standard (MIL-STD) 129P, Military Marking for Shipment and Storage.

(4) **Vehicle Preparation.** Preparation of vehicles for loading includes inspections to ensure the presence and satisfactory condition of all required vehicle equipment, spares, tools, and lifting fixtures (shackles). Vehicles should be marked on each side of the bumpers, on each vehicle side (usually on doors), and on the hood top to indicate the ship's hull number, hold level in which the vehicle will be stowed, off-loading priority number, and landing serial number. Instructions for preparation of vehicles for loading are normally prescribed in SOPs. Examples of these instructions are:

(a) Fuel tanks filled not to exceed three-fourths capacity and a reserve supply of fuel and lubricants in 5-gallon cans secured to vehicles.

(b) Fuel, lubricating, cooling, and ignition systems checks and tires inflated to the specified loading pressure.

(c) Vehicles should be free of leakage of brake fluid and other hazardous material. Vehicles shall not be transported to the ship with mobile loaded hazardous material (i.e., batteries, cleaning solvents) unless previously approved by the ship's commanding officer or master.

(d) Vehicles to be landed across the beach should be waterproofed.

(e) When required, cargo compartment bows should be removed, secured together, and attached to the body of the vehicle. Canvas tops should be folded and placed in the vehicle.

(f) Cargo loaded in vehicles should be securely cross-lashed. Careful consideration must be given to overhead clearance when mobile-loading cargo.

SECTION C. EMBARKATION-PERSONNEL PLANNING

20. General Considerations

The personnel embarkation plan must give consideration to priority for debarkation, the tactical grouping of personnel as dictated by the landing plan, and an assigned debarkation station on the ship. Further, it must provide for control of personnel and permit accomplishment of required administrative and training functions during the voyage. A good personnel embarkation plan contributes to the comfort of personnel and prevents unnecessary administrative burdens. More importantly, **it specifically provides for the rapid and orderly debarkation of personnel for landing and entry into combat.** Planning the embarkation of personnel must take into account the following:

- a. Liaison and coordination with the ship in which units are embarking.
- b. Organization of units for embarkation.
- c. Provision and arrangement of administrative requirements.
- d. Personnel accounting and reporting in accordance with established procedures for unit movements.
- e. Maintenance of the health and comfort needs of embarked personnel.
- f. Preparation of training and physical fitness programs for embarked personnel.
- g. Outside services and assistance required for embarkation, (e.g., trucks, buses, or trains) at the port for personnel.
- h. Providing support for messing, cleaning/sanitation, and ship's guard.



Landing craft are essential for the ship-to-shore movement of equipment and personnel.

21. Responsibilities

a. **Commanding Officer of a Ship.** Title 10, US Code, Section 5952, recognizes the paramount authority of the commanding officer of a vessel over the vessel and all persons embarked in it. Further, US Navy regulations charge **the ship's commanding officer with making troop spaces available for embarking units, as designated in**

the ship's booklet of general plans and reflected in the SLCP, in acceptable condition for use. The commanding officer issues ship's regulations governing embarked troops (troop regulation), which relate to the conduct of personnel while embarked and outlines the assistance necessary from embarked units to ensure their health and comfort. In addition other ship's regulations for both the embarked troops and crew should contain precautionary instructions, such as prohibiting open fires or smoking near supplies and equipment, particularly Class III and Class V items.



The large number of personnel in the landing force calls for close coordination to satisfy embarkation, reception, and ship-board living familiarization training requirements.

b. **Embarkation Team Commander.** The embarkation team commander is responsible for the preparation and organization of the team for embarkation. The embarkation team commander must plan for and provide personnel to accomplish certain tasks while embarked.

c. **Commanding Officer of Troops.** Because personnel of several different organizations may be embarked in the same ship, it is necessary for administrative purposes to designate an officer as commander of all embarked troops. Accordingly, a COT for each ship is designated during the planning phase by the next senior LF echelon. Usually, the senior commander of the organizations embarked is designated. Thus, in many instances, the COT is the same officer who is the embarkation team commander. **While embarked, the COT is responsible for the administration, discipline, and training of all embarked personnel.**

d. **Executive Officer.** The XO is the second-in-command of a warship and is charged with carrying out the policies and orders of the commanding officer, to include administering ship's routine and maintaining daily standards of cleanliness, sanitation, good order, and discipline. As the COT is charged with similar responsibilities for embarked personnel, it is vital that the XO and COT maintain a close working relationship and cooperate to the fullest extent to accomplish day-to-day tasks and synchronize troop activities with the ship's routine.

22. Embarkation Team Advance Party

a. **Composition.** The LF and subordinate echelon embarkation plans prescribe the composition, functions, movement, and other information concerning advance parties. The advance party of an embarkation team is a functional group, normally consisting of the following:

- (1) COT or designated representative.
- (2) Billeting officer.
- (3) Mess officer.
- (4) Communications officer.
- (5) Officer of the day (for first 24 hours).
- (6) Ship's platoon.
- (7) Cooks, messmen, and mess deck master-at-arms augments for mess and galley details.
- (8) Ship's guard.
- (9) Billeting guides.
- (10) Personnel to assist in operation of laundry, barber shop, and ship's store.
- (11) Environmental services and hazardous material issue point augments.

b. **Supervision and Coordination.** The COT or designated representative supervises the activities of the advance party. The COT coordinates and resolves embarkation problems with the ship's XO and CCO when subordinates cannot resolve such problems.

c. **Functions.** The advance party is usually embarked 24 to 48 hours before arrival of the main body. The advance party completes all preparations for embarking the

remainder of the embarkation team. Upon completion of embarkation, advance party personnel continue to function under the cognizance of the COT. Therefore, before embarkation, advance party personnel are involved in planning; once aboard, planning ceases and supervision and activity within the sphere of operations begin.

23. Billeting

The LF commander determines whether embarking personnel will be billeted tactically or administratively. Based on this decision, the billeting officer prepares the billeting plan and assigns troop spaces according to diagrams contained in the SLCP. The billeting officer must coordinate billeting activities with the ship's CCO.

a. **Tactical Billeting.** When forces are billeted tactically, boat and helicopter teams are billeted near their debarkation stations. Those debarking last are billeted in the lower compartments farthest from the debarkation stations. This keeps boat and helicopter teams from moving through crowded compartments to get to their debarkation stations.



Speed in loading and off-loading can be critical in amphibious operations.

b. **Administrative Billeting.** LF units are kept intact in administrative billeting. Each unit is assigned a block of bunks or an entire billeting compartment. If personnel are to remain on board for a lengthy period, or if they are not making an assault landing, administrative billeting is desirable. In an assault landing, this system may make boat or helicopter team assembly and coordination difficult.

c. **Combination of Tactical and Administrative Billeting.** Various combinations or compromises between tactical and administrative billeting may be used to meet particular situations. Thus, administrative unity might be maintained at platoon level with platoons billeted so that the majority of their boat or helicopter teams are nearest their debarkation stations. This would require designation of team assembly areas located in appropriate billeting compartments. Before commencement of debarkation, boat or helicopter team members must be ordered to report to their team assembly areas to be mustered by their team commanders.

d. **Bunk Assignments.** Bunks in each billeting compartment are counted before assignment. Bunks are normally numbered, making assignment easier. Nametags greatly facilitate assignment to specific bunks. Bunks are either assigned to individuals by name or number, or groups of bunks may be assigned to squads or platoons. In the latter case, the squad or platoon leader makes specific bunk assignments.

e. **Billeting Special Details.** Each special detail, such as the ship's platoon, mess, or galley detail, is billeted in a separate compartment or in a specific area of one billeting compartment. This facilitates control and orderly relief of personnel.

f. **Billeting Guides.** The billeting plan provides for billeting guides. Some are designated to supervise compartment billeting; others guide personnel to assigned compartments.

24. Messing

The embarked force mess officer plans and supervises the feeding of embarked personnel. The performance of these duties requires the mess officer to consult with the ship's food service officer and CCO, and review regulations and the SLCP, for information. The mess officer must consider the following in developing a comprehensive mess plan:

- a. Capacity of galley.
- b. Location of mess lines and their control.
- c. Scheduled hours, control procedures, rate of feeding, and the mess bill payment method for the wardroom and chief petty officers' mess.
- d. Size and composition of embarked force details necessary to supplement the ship's mess and galley force.
- e. Flight crew rations and in-flight meal requirements.
- f. Arrangements for messing facilities for enlisted pay grades commensurate with their ranks.

- g. Mid-ration and watch personnel feeding arrangements and scheduling.

25. Cleaning and Sanitation

Embarked unit XOs will be provided information from the ship's XO, first lieutenant, medical department, master-at-arms, and CCO relating to cleaning and sanitation details. The XOs must familiarize themselves with the spaces that the embarked units are responsible for cleaning, source of cleaning gear, and schedule of ship inspections. These spaces include, but are not limited to, billeting spaces, offices, vehicle stowage areas, cargo decks and compartments, and designated ladderwells and passageways. The ship is responsible for providing cleaning supplies.

26. Ship's Guard

Planning for the ship's guard includes the following:

- a. Determining the number of guards required to occupy sentry posts designated by the ship's commanding officer. These requirements are clearly defined in the ship's embarked troop regulations.
- b. Placing a guard detail within the advance party to serve until relieved by personnel from the main body. This includes the sergeant and corporals of the guard and the first officer of the day.
- c. Providing the guard officer with copies of ship's regulations, the appropriate Service interior guard instructions, and special orders.
- d. Providing a copy of special orders at each sentry post.
- e. Providing a copy of rules for use of force and a copy of rules of engagement that are specific to each situation to all sentries.

27. Embarkation Schedule

An embarkation schedule is prepared to control movement to the embarkation point and embarkation. When possible, the arrival of personnel of the first unit coincides with the completion of vehicle and cargo loading, so as not to interfere with loading. As units embark, they are met by guides and led to their compartments. To ease confusion and congestion, these personnel should remain in their assigned compartments until embarkation is completed and a muster taken.

28. Embarkation Rosters

The embarkation team commander is responsible for preparing and submitting an embarkation roster. This roster lists all personnel from the various units that collectively

comprise the embarkation team. Instructions concerning the format, number required, and addresses are contained in embarked unit or higher echelon directives. Embarkation rosters must be accurate; consequently, an early conference of administrative personnel from embarking units aids in achieving uniform preparation and submission. **These rosters are required to be delivered with the advance party.**

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CHAPTER IV EXECUTION

"It cannot be too often repeated that in modern war, and especially in modern naval war, the chief factor in achieving triumph is what has been done in the way of thorough preparation and training before the beginning of war."

President Theodore Roosevelt
US Naval Academy graduation address
June 1902

SECTION A. EMBARKATION, MOVEMENT, AND ASSEMBLY

1. General

The timely and efficient execution of embarkation, movement, and assembly relies principally on jointly developed detailed plans and schedules that fully support approved AF embarkation plans. The key element is a sound staging plan for each ship that incorporates the full range of embarkation planning considerations, as outlined herein and in MCRP 4-11C, *Combat Cargo Operations Handbook*, the load plan requirements for cargo/equipment sequencing, and port loading or staging facility limitations. **The development of detailed and comprehensive embarkation and staging plans is a mutual responsibility of the naval forces, LF, and external supporting agencies.** Several terms used in embarkation requiring familiarity are marshalling, mounting, embarkation areas, and embarkation points. Figure IV-1 illustrates the relationships between these embarkation area segments.

2. Specific Responsibilities

a. Commander, Amphibious Task Force Responsibilities

(1) Exercises overall control and general supervision of the execution of embarkation in accordance with the embarkation schedule and loading plans.

(2) Moves assault shipping to embarkation points in accordance with the embarkation schedule.

(3) Coordinates, with the CLF, control of embarkation and movement to embarkation points.

(4) Provides communication facilities required afloat, including adequate CI and security measures.

(5) Coordinates with port authorities or host nation (HN) and the LF to develop an integrated FP plan for security of the ATF in the embarkation area.

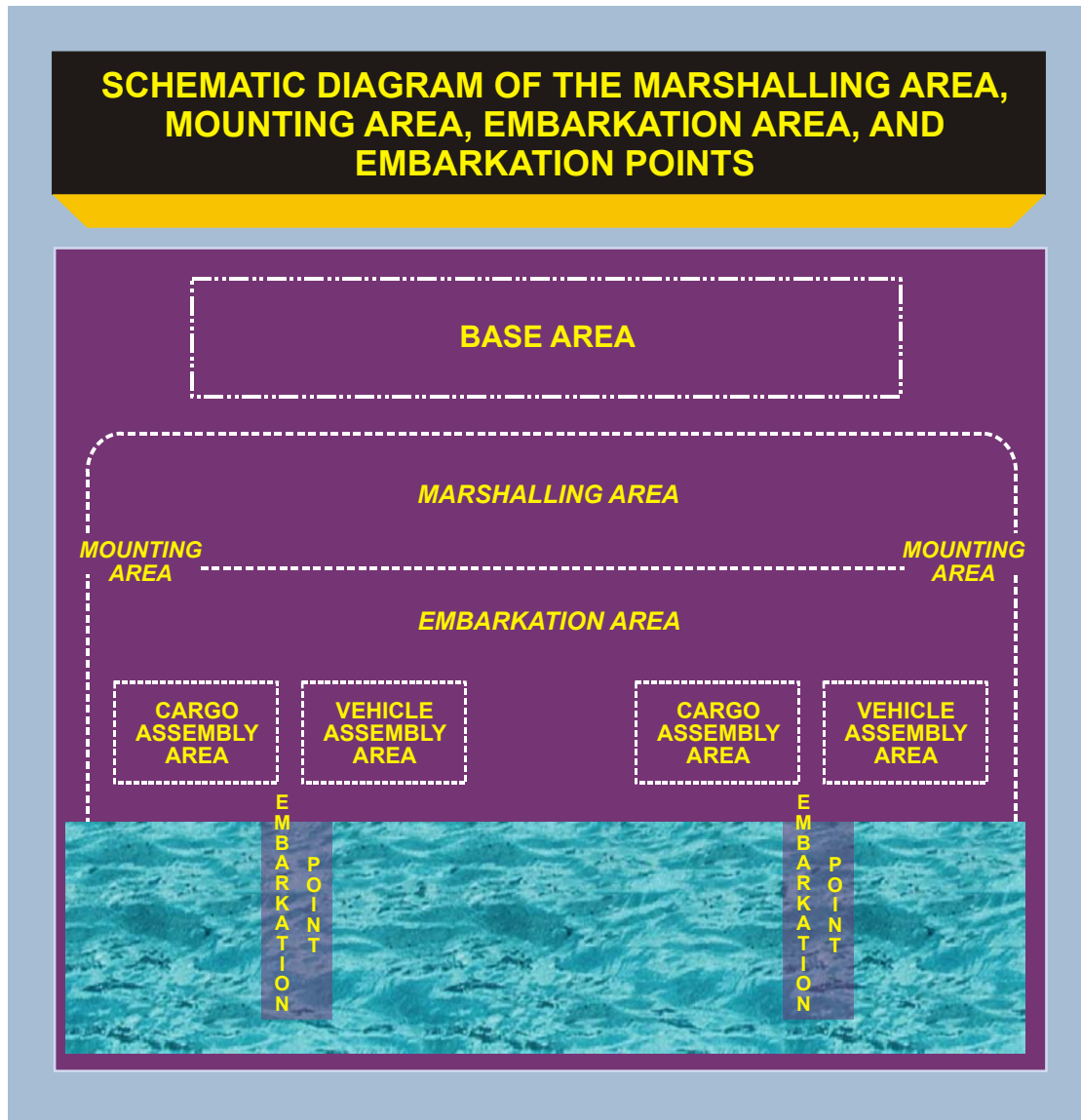


Figure IV-1. Schematic Diagram of the Marshalling Area, Mounting Area, Embarkation Area, and Embarkation Points

(6) Coordinates for provision of lighterage and/or landing craft from agencies external to ATF and LF.

b. Commander, Landing Force Responsibilities

(1) Prepares the LF for embarkation.

(2) Requests any loading assistance required from forces afloat.

(3) Moves embarkation components to and within embarkation areas, and assembles cargo and personnel on shore in accordance with the embarkation schedule and loading plans.

(4) Coordinates with the CATF and external agencies as prescribed by higher authority to provide FP and CI within the embarkation area.

(5) Provides an embarkation control officer ashore for coordination and control of embarkation evolutions with the CATF, ship representatives, and/or outside agencies.

(6) Provides for communications ashore in the embarkation area, including adequate communications security measures. To conserve organic LF communications equipment to be embarked, additional equipment should be available for use in the embarkation area. Where possible, arrangements should be made with the commander of the area in which embarkation is to take place to provide for shore communications requirements.

c. **External Agencies.** Agencies external to the ATF and LF may be given responsibilities by higher authority. Such responsibilities may include:

(1) Specifying and making available required marshalling areas, mounting areas, embarkation areas, and embarkation points, and developing and operating facilities therein.

(2) Providing authorized supplies and services to the ATF, including supplies to be loaded and communications facilities for use during embarkation.

(3) Coordinating and controlling administrative movements within the embarkation areas.

(4) Providing FP support and developing foreign CI information for embarkation areas.

(5) Providing the proper dock loading equipment, dunnage, technical assistance, stevedores, and other loading aids for each embarkation point.

d. Individual Ship's Commanding Officer's Responsibilities

(1) Ensures all troop spaces are ready for use and are configured in accordance with the ship's booklet of general plans, ship's characteristics card, authorized ship's alterations, and the SLCP.

(2) Handles, secures, and stows cargo in accordance with approved loading plans. A commanding officer's responsibility for cargo commences with the actual lifting or movement of each piece of cargo by ship's personnel. When transported, lifted, or loaded by personnel not under the commanding officer's control, responsibility begins when the cargo is safely stowed on board and accepted.

(3) Coordinates with CATF, port facility, HN, and CLF to develop FP plan.

(4) Makes provisions for winchmen, hatch tenders, hatch officers, and other personnel for handling cargo, except for the ship's platoon, which is provided by the LF.

(5) Coordinates with the CATF for provision of lighterage and landing craft requirements beyond the ship's organic or embarked craft.

(6) Provides cargo handling and lashing gear, to include slings, lowering lines, and guidelines, as prescribed by ship's allowances and as contained in the SLCP.

(7) Billets and feeds personnel of the advance party.

(8) If feasible, provides a ship's representative at the POE 24 hours before embarkation to verify that designated equipment and material are properly prepared for embarkation and staged to support the ship's approved loading plan and coordinate any last minute details with the LF representatives.

e. Embarkation Team Commander Responsibilities

(1) Ensures that personnel, equipment, and supplies are ready for embarkation in accordance with the loading plan for the embarkation team. This includes preparation of equipment and supplies, such as filling fuel tanks three-fourths full, loading prescribed loads in trucks and tanks, waterproofing vehicles, marking supplies and equipment, crating, packaging, and properly identifying any hazardous material required for embarkation.

(2) Provides an advance party for the assigned ship to arrive at the embarkation point before the commencement of loading. (For typical composition of an advance party, see Chapter III, "Planning," Section C, "Embarkation – Personnel Planning," Paragraph 22, "Embarkation Team Advance Party.")

(3) Organizes and operates an embarkation team control office at the embarkation point.

(4) Provides shoring and dunnage material.

(5) Provides slings and lashing gear required in excess of that furnished by the ship.

(6) Ensures that work details required ashore for pier or beach working parties and for helicopter loading are provided.

3. Embarkation Scheduling and Navy Organization

Two distinct situations govern the execution of the embarkation by the naval echelons: (1) all loading is done in the same port or port complex, or (2) loading is

scheduled for two or more ports or port complexes and movement of ships is necessary to meet embarkation schedules.

a. **Loading at Same Port.** In this situation, the CATF, or a designated representative, will prepare a loading schedule. This schedule generally includes the following:

- (1) Each ship's name and hull number.
- (2) Pier, berth, or beach.
- (3) Port facilities.
- (4) Time of loading.
- (5) Cargo or unit to be embarked.
- (6) Post loading instructions (e.g., movement to rendezvous point, routes to be followed).

b. **Loading at Different Ports.** Where ships are required to move to multiple ports, the CATF will normally organize a loading movement group (unit or element). This task organization is formed to protect and control movement of shipping between ports and rendezvous points. The CATF will establish the loading control group (unit or element) at each port that will coordinate berthing and anchorage assignments and ligherage as required, maintain loading schedules, coordinate/provide FP, and ensure ships are released to their proper task organization at the scheduled time. Neither the loading movement group nor the loading control group relates directly to the LF embarkation organization, but, generally, the embarkation group will parallel the loading control group.

4. Preparation of the Embarkation Point

a. **General.** Higher echelon directives designate embarkation areas to be used. Embarkation areas and embarkation points within the areas are subsequently assigned to various embarkation groups. **An embarkation point is the place, pier, or beach where a ship or landing craft are loaded from.** A point is assigned for use by an embarkation team. However, a single embarkation point may be used, at different times, by more than one embarkation team. In addition to the embarkation point, cargo assembly and vehicle staging areas are assigned for use by embarkation teams.

b. **Improvements.** The TEO and designated CATF personnel make a preliminary survey of the assigned embarkation point, cargo assembly area, and vehicle staging areas. This survey determines if facilities are adequate or if improvements are necessary. The following improvements should be considered:

- (1) Clearing and leveling cargo assembly and vehicle staging areas.
- (2) Constructing earthen finger ramps for loading of landing craft, if loading from a beach embarkation point and soft beach or hard ramp capable of receiving assigned landing craft is not available.
- (3) Constructing embarkation control facilities.
- (4) Perfecting communication facilities.

5. Embarkation Control Offices

Embarkation group, unit (element if formed), and team embarkation control offices should be established and functioning during both marshalling and embarkation (see Figure IV-2). The embarkation team control office is usually located near the head of the pier or on the out-loading beach. The group control office and the unit control offices should be centrally located in the embarkation areas. Personnel in these offices furnish direction and information for orderly embarkation. The embarkation unit or embarkation TEO is usually the officer in charge (OIC) of the organization's control office. A representative from each unit's logistics/embarkation office should be at the organization's control office at all times to assist in preparing unit supplies and equipment for embarkation and to correct identified discrepancies.

6. Embarkation Communications Facilities

Communications facilities are arranged for or provided by the LF for use:

- a. Between embarkation areas and base camp, or intermediate staging area if employed.
- b. Between the embarkation area and the forces afloat concerned with loading.
- c. Within the embarkation area between control offices, cargo assembly areas, and vehicle staging areas.

7. Movement to Embarkation Area

a. **Considerations.** The time of arrival of cargo and personnel at the embarkation area is dependent on the following:

- (1) **Distances.** Distances between base camp, marshalling areas if employed, and the embarkation area.

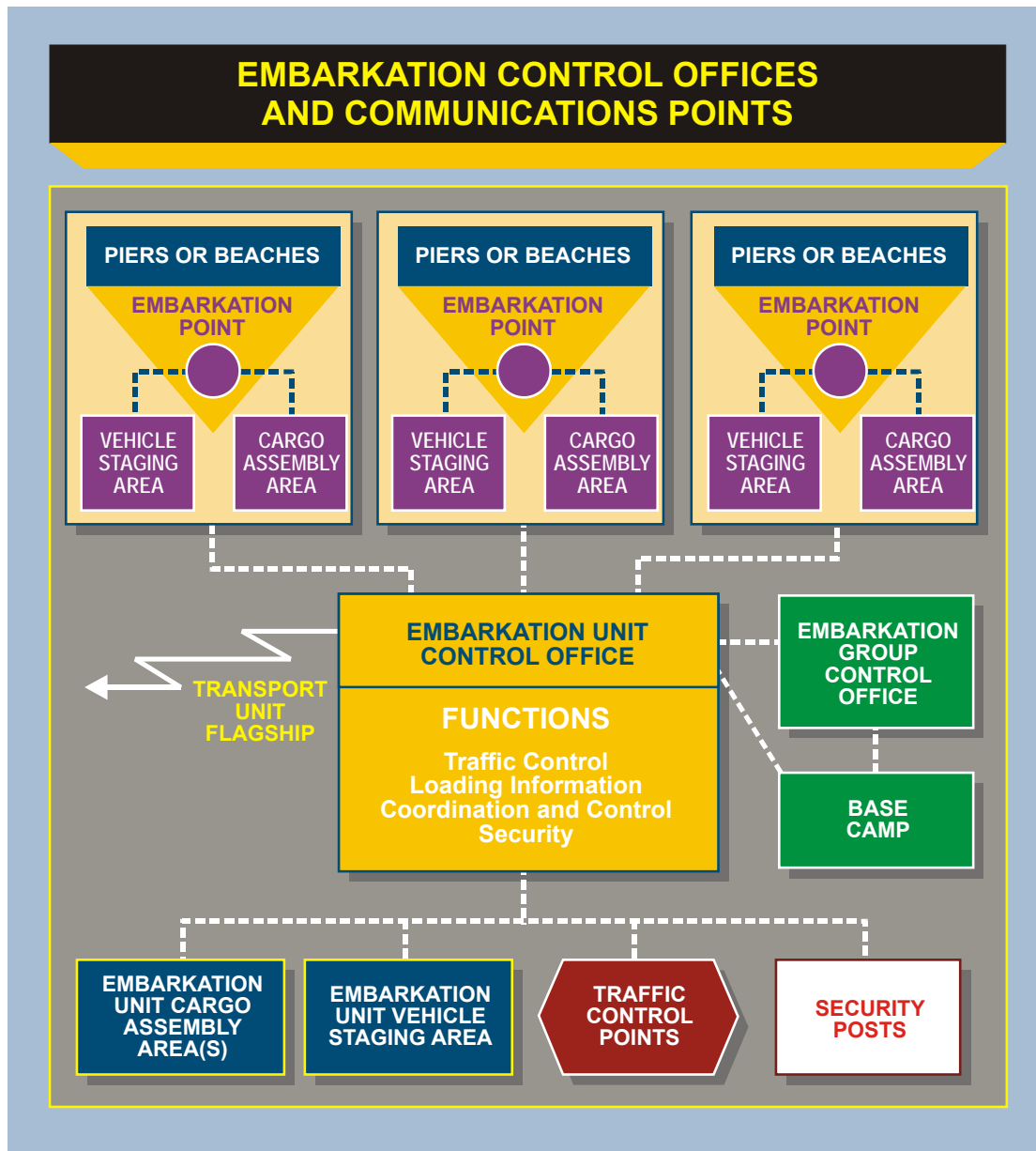


Figure IV-2. Embarkation Control Offices and Communications Points

(2) **Time.** Time necessary to assemble cargo in the embarkation area for loading.

(3) **Transportation.** Transportation availability and the distance to the embarkation area determine the mode of transportation and the time required to execute movement. Truck movement is usually more economical for distances less than 50 miles while rail movement is faster and more economical for greater distances.

(4) **Availability.** Availability of the embarkation area, points, cargo assembly, and vehicle staging areas.

b. **Cargo.** Based on the above considerations, nonorganizational supplies and equipment are normally delivered to the embarkation area from 24 to 72 hours prior to loading. Organizational supplies, equipment, and vehicles usually arrive at the embarkation area 24 to 48 hours before loading.

c. **Personnel.** Advance parties should arrive for embarkation at least 24 to 48 hours before commencement of any loading. Arrival of the main body of the embarkation team should be coordinated so as not to interfere with completion of cargo loading. Otherwise, arrival of the first unit of the main body should coincide, whenever practical, with completion of loading so that personnel can immediately embark. As units embark, guides should meet them to lead them to assigned billeting compartment.

8. Assembly of Cargo in the Embarkation Area

Based on the approved loading plan, the TEO makes preparations for placing the team's cargo in assigned assembly and staging areas.

a. **Cargo Assembly Area.** The cargo assembly area is divided into sections corresponding to stowage location and compatibility of materials. As cargo arrives, it is grouped according to holds, deck level within each hold, and other designated cargo stowage areas. Appropriate allowances will be made for necessary separation among various types of cargo if required. The section of the assembly area closest to the shoreline, at the most accessible place on the pier or closest to helicopter loading points, contains that cargo to be loaded in lower holds. Cargo to be loaded last is placed in a section farthest from the shoreline, pier, or helicopter loading points. **Normally, ammunition and POL will be staged in areas physically removed from each other and separated by general cargo or a safe distance.**

b. **Vehicle Assembly Area.** Vehicles are parked in the assigned vehicle assembly area according to vehicle stowage areas or the holds and hold levels in which they are to be loaded. They are parked so that the vehicle with the lowest landing priority is first in line and thus the first vehicle loaded into the ship. The last vehicle to be loaded has the highest landing priority.

9. Force Protection and Security

a. Ships at embarkation points and supplies and equipment stored in the embarkation area are subject to sabotage and pilferage. Sentry posts should be established in accordance with the AF FP plan. In addition, port facilities or HN may provide personnel to support the FP plan. The FP plan, in concert with published orders or regulations, outlines the duties of personnel assigned for security duty. Orders or regulations should also contain precautionary instructions, such as prohibiting open fires or smoking near supplies and equipment, particularly Class III and Class V items.

b. CI personnel should be consulted for specific guidance concerning OPSEC issues affecting movement; countersabotage measures, foreign CI activity, and related FP issues arising during embarkation.

10. Loading Details and Working Parties

Loading will be expedited if all persons concerned are well indoctrinated in cargo handling and stowage procedures. Complete familiarity with the loading plan by all supervisory personnel is essential.

a. **Ship's Platoon.** This platoon is part of the advance party and comprises the working detail to assist ship's company in loading and off-loading the ship. The size of the platoon varies, depending upon the type of ship, the number of vehicle stowage areas or holds to be loaded, the type of cargo to be handled, the size and configuration of the holds, and the loading schedule. Where stevedores do loading, members of the ship's platoon should be stationed in the holds to observe and check the stevedores' work, because ultimately, the ship's platoon will be required to unload the same cargo at the objective area. Ship's platoon personnel should be identified early in planning and depending where they are assigned may require specialized training (i.e., flight deck, operations, and combat cargo manifesting) and physical examinations.

b. **Assistants to Team Embarkation Officer.** A noncommissioned officer and other assistants should be assigned from each embarking unit. They assist the TEO in planning loads, identifying, preparing, and inspecting cargo.

c. **Work Details Ashore.** The embarkation team moves its cargo from cargo assembly and vehicle staging areas to shipside when loading at a pier. When loading a ship at anchor, the team moves cargo to the embarkation point and into landing craft. When employing helicopter for embarking air-capable ships, it moves cargo from cargo assembly areas to helicopter loading points. The embarkation team provides personnel ashore at the embarkation point to perform these tasks.

d. AE and AFOE shipping may require the support of military stevedores, crane operators, hatch teams, or other support personnel. This military onload/off-load support may be provided by an NCHB, Navy expeditionary logistics regiment (NELR), or US Army Transportation Cargo Transfer Company personnel. Refer to Appendix E, "Navy Expeditionary Logistics Regiments and Navy Cargo Handling Battalions," and Appendix F, "Army Cargo Handling Units," respectively, for additional information on these organizations.



Embarkation of troops can be done by a variety of means.

11. Cargo Handling Gear

Various types of cargo handling gear are used in ship loading. Persons concerned with loading must be familiar with the types of equipment used. Some of the equipment is described below:

a. **Forklift or Pallet Jacks.** This is a wheeled or tracked vehicle with a two-prong lifting device fitted to the front end. It moves pallets, containers, or heavy boxes on a pier or beach and aboard ship.

b. **Tractors and Trailers.** Warehouse trailers are small, low, four-wheeled trailers for moving cargo from storage areas to shipside. They are pulled, in tandem, by tractors.

c. **Cargo Nets and Slings.** These devices are used for lifting loose cargo and pallets into the ship.

d. **Vehicle Lifting Slings and Spreader Bars.** Standard lifting slings are provided by the ship to load and unload vehicles. The LF, if required, provides special slings. Spreader bars are used in conjunction with the slings to minimize damage to vehicles. Slings must be properly attached to vehicle lifting points to ensure a smooth, even lift of the vehicle. Spreader bars are positioned on the slings to prevent their bearing against and damaging the vehicle sides and fenders. To determine sling availability, the embarking unit must refer to the SLCP or the ship's automated equipment list.

SECTION B. DEBARKATION

12. General

a. **The CATF is responsible for expeditious off-loading in the objective area in the planned order or priority, and to the proper beaches or landing zones.** The CATF may delegate control and coordination of off-loading operations to subordinate commanders. Thus, the commander of each Navy echelon, including the commanding officer of each ship, is responsible for off-loading personnel and cargo.

b. **Types of Off-loading.** The types of off-loading in amphibious operations are the following:

(1) **Initial (Combat) Off-loading.** Initial off-loading normally occurs during the initial unloading period of the ship-to-shore movement in which unloading is primarily tactical in character, and must be instantly responsive to LF requirements. All elements intended to land are usually serialized, and have been combat loaded in accordance with the plan for landing. Selective unloading is tactical in nature and used to satisfy immediate support requirements when a full general unloading period is unnecessary or not feasible. Selective unloading is normally associated with the landing of nonscheduled units during the initial unloading of the ship-to-shore movement.

(2) **General (Administrative) Off-loading.** General off-loading occurs during the general unloading period and is that part of the ship-to-shore movement in which off-loading is primarily logistic in character. General off-loading emphasizes speed and volume of unloading operations. It allows for personnel, supplies, and equipment to be sent ashore without regard to tactical considerations, and it encompasses the unloading of units and cargo from the ships as rapidly as facilities on the beach permit. General unloading proceeds without regard to class, type, or priority of cargo, as permitted by cargo handling facilities ashore.

(3) **Selective Off-loading.** Selective off-loading is the ability to access and off-load vehicles, supplies, and equipment without having to conduct a major reconfiguration or total off-load. Selective off-loading is not the same as selective unloading. It may occur during the initial unloading period, the general unloading period, or any other type of unloading period. Selective off-load capability is driven by the number and types of ships allocated, and the space made available for the embarkation of the LF.

13. Landing Force Debarkation Officer

The TEO or designated assistant is usually assigned the duties as the LF debarkation officer for the ship on which embarked. Acting for the COT, the TEO states the requirements for off-loading to the debarkation control officer (DCO) and is the LF representative to debarkation control during off-loading operations. The TEO assists

and advises the DCO as required and coordinates with the CCO for the assignment of a cargo checker at each debarkation station. This allows the LF and ship to maintain a running record of cargo unloaded and the beaches or landing zones to which they were distributed.

14. Debarkation Control Officer

The ship's DCO is normally the ship's XO. The ship's commanding officer shall also designate one or more qualified officers or chief petty officers to serve as the DCO when the ship is operating in restricted waters and the executive officer is required to supervise the safe navigation of the ship. The CCO assists/advises the DCO as required. Acting for the commanding officer, the DCO responsibilities include the following:



Landing craft, utility provides for movement of equipment and cargo ashore.

- a. Debarking personnel in accordance with the debarkation schedule and off-loading personnel, supplies, and equipment in accordance with the published off-loading or landing plan.
- b. Ensuring that the proper landing craft are at the designated debarkation stations when required.
- c. Maintaining voice communications with well deck control, primary flight control, the bridge, combat information center, TACLOG group, and other shipboard C2 centers, as may be required.

d. Maintaining a record of landing craft and A/C being loaded, their destination, what is loaded in each, and the time each departs the ship.

More detailed information may be found in MCRP 4-11C, Combat Cargo Operations Handbook.

15. Well Deck Control

a. **Well Deck Control Officer.** The ship's first lieutenant, assistant first lieutenant, or the ship's boatswain, serving as the well deck control officer (WDCO), supervises all well deck operations and is responsible for the safe handling, embarkation, and debarkation of all boats, vehicles, and landing craft in the well deck.

b. **Ramp Marshal.** The ramp marshal/petty OIC assists in supervising operations within the well deck and is responsible for carrying out the instructions of the WDCO.

16. Flight Deck Control

a. The **flight deck officer** is responsible for the safe handling, embarkation, and debarkation of all A/C on or about the flight deck of an aviation-capable ship.

b. The **landing signal officer/enlisted** is the ramp marshal equivalent for the flight deck.

17. Off-loading Plan

Cargo and vehicles must be loaded in reverse order to support the off-load sequence as defined in the landing plan. The LF debarkation officer prepares the detailed off-load plan taking into consideration the framework established by the embarkation team commander. The LF debarkation officer will ensure rehearsals are conducted and designated personnel are thoroughly indoctrinated in debarkation procedures (i.e., muster areas, personnel accountability, and timelines). An off-load plan has no standard form, but should include the following:

a. **Necessary information to ensure that off-load priorities, established by the embarkation team commander, are followed.** This is easily accomplished once the following landing plan documents are assembled and distributed:

- (1) Landing priority table.
- (2) LF sequence table.
- (3) Assault schedule.
- (4) LF serial assignment table.



Landing craft move the majority of vehicles and equipment ashore.

- (5) Heliteam wave and serial assignment table.
- (6) Helicopter employment and assault table.
- b. A list of names, ranks, and duties of ship's platoon personnel.
- c. Special instructions peculiar to off-loading.
- d. Types and quantity of cargo in each hold or level.
- e. Landing craft required for off-loading vehicles and cargo and the desired reporting sequence.
- f. **Passenger manifests for all surface and air serials.** These manifests should include the name, rank, last four digits of the social security number, unit, blood type, and landing serial for all personnel.

18. Transporting Personnel, Vehicles, and Cargo Ashore

The transportation modes used to move personnel, supplies, and equipment ashore include landing craft, amphibious vehicles, pontoon barges, and helicopters.

a. **Landing Craft.** Vehicles and the majority of equipment and supplies from transport and cargo ships are usually transported ashore by landing craft. Amphibious ships embark the landing craft in their well deck. MCRP 3-31B, *Amphibious Ships and Landing Craft Data Book* can be used in planning where generalized capabilities and

measurements are required. In planning where exact capabilities and figures are required, the individual SLCP must be consulted.

(1) Displacement Landing Craft

(a) **Landing Craft, Mechanized (LCM).** LCMs are not organic to amphibious ships and, although they may be available for surge operations, they would primarily be used for MPF support to amphibious operations. The LCM-8 has a capacity of 60 tons or 200 personnel.



Landing craft air cushion combines the heavy lift capacity required in a surface assault with the high speed of the vertical lift portion of an amphibious assault.

(b) **Landing Craft, Utility (LCU)-1600.** The LCU-1600 is used to land heavy vehicles, equipment, personnel, and cargo in an amphibious assault and is normally carried in the well deck of an amphibious ship. It has a capacity of 143 short tons, can hold a maximum of 400 personnel, and is owned and operated by US Navy assault craft units. The number of troops that the craft can carry may be lower if they are fully combat-ready and equipped with their personal gear. The LCU can operate independent of the amphibious ships in which it is embarked. It has the capability of sustained independent at-sea operations for approximately 10 days.

(c) **LCU-2000.** The LCU-2000 is owned and operated by US Army transportation units, has a capacity of 350 short tons, and can hold a maximum of 550 personnel. The number of troops that the craft can carry may be lower if they are fully combat-ready and equipped with their personal gear. Troop transport is constrained by requirements for embarked passengers to have individual floatation devices. The craft

operates independently of the amphibious ships and has a range of 9,200 nautical miles (nm) at 12 knots (no load) and 6,500 nm at 10 knots (fully loaded). It has the capability of sustained independent at-sea operations for approximately 30 days.

(d) **Logistic Support Vessel.** The LSV has a payload of 2,000 short tons with a cargo area of 10,500 square feet. It is owned and operated by US Army transportation units and is self-deployable from strategic distances with a range of 8,200 nm (no load) at 12.5 knots and 6,500 nm (fully loaded) at 11.5 knots. The LSV is capable of sustained independent at-sea operations for approximately 45 days.

(2) **Nondisplacement Landing Craft.** The LCAC is a shipborne, high-speed (35+knots), OTH, ship-to-shore, or ship-to-objective amphibious landing vehicle capable of carrying a 60-ton payload and 24 personnel. The LCAC is designed to lift all equipment organic to the MAGTF in an amphibious operation. An LCAC can be converted into a personnel carrier through the installation of a personnel transport module (PTM) kit. The purpose of the PTM is to transport up to 180 troops (120 or less, if combat equipped) to or from amphibious ships. Secondary functions are casualty evacuation and personnel movements during NEOs.

b. **Amphibious Vehicles.** Amphibious vehicles can be used to move cargo ashore when transfer of cargo at the beach is not desired or when surf conditions, reefs, or other hydrographic conditions prohibit beaching of landing crafts.

(1) **Amphibious Assault Vehicle (AAV).** The AAV is primarily used as an assault vehicle. It is an armored full-tracked landing vehicle, which is useful for transporting personnel and cargo directly to units or inland dumps and carrying on-call supplies (critical supplies) to units ashore.

(2) **Lighter, Amphibious Resupply, Cargo (LARC).** LARCs are capable of transporting 5 tons of cargo in over-the-beach operations from ships to inland transfer. However, recently, they have been mainly employed to provide surf zone salvage support.

c. **Modular Systems (Navy-Improved Navy Lighterage System [INLS], Army-Modular Causeway System)**

(1) Powered and non-powered causeway and ramp module sections lock together like building blocks to create a variety of floating structures, and can be used to support LF off-loads either as a causeway pier, roll-on/roll-off (RO/RO) discharge facilities, or causeway ferries. INLS is normally used to support MPF in-stream on load/off-load, and is transported as part of the MPF equipment set. The Army modular causeway systems are similar in function to the INLS; however, they are multi-modal by configuring into ISO compliant modules. These unit sets are pre-positioned for use in contingency and continental-United States based.

(2) Causeway ferry operations may be augmented with the elevated causeway system to support the AFOE. The elevated causeway system is usually carried to the operational area aboard MSC-owned or chartered vessels.

For more information on lighterage and causeway operations, refer to JP 4-01.6, Joint Logistics Over-the-Shore.

d. **Helicopters.** The chief employment is to unload personnel and cargo from air-capable ships. When employed in off-loading amphibious ships, rotary-wing and tilt-rotor A/C supplement the landing craft by off-loading limited amounts of high priority and emergency resupply items. They provide a rapid means by which to conduct the ship-to-shore movement of personnel, cargo, and equipment via external lift.



The MV-22 Osprey tilt-rotor aircraft supports ship-to-shore movement.

19. Debarkation

The debarkation of the LF is in accordance with the debarkation schedule or landing plan prepared by the LF commander. To ensure that personnel debark in an orderly and safe manner, units are assigned to debarkation stations by boat or helicopter teams. Individuals should remain in their berthing compartments or assembly areas until the ship's debarkation officer calls their landing serial number.

Detailed debarkation procedures and checklists are provided in MCRP 4-11C, Combat Cargo Operations Handbook.

20. Breakbulk/Bulk Cargo Off-load

Strategic sealift resources may be required to augment amphibious shipping in order to meet LF AFOE and follow up lift requirements. These MSC-controlled or leased assets may be combined with Navy ALEP assets. The following paragraphs highlight some of the key off-load personnel requirements.

a. **Hatch Officer.** A hatch officer (Navy commissioned officer or petty officer) supervises the off-loading of cargo from the hold into each landing craft. Besides these duties, the hatch officer informs the ship's DCO when:

- (1) Ready to load a landing craft.
- (2) Landing craft is nearly loaded.
- (3) Landing craft clears the station.
- (4) There is a delay in off-loading.

b. **Hatch Talker.** A hatch talker operates the telephone and relays all messages between the hatch officer and the ship's DCO.

c. **Winchmen, Hatch Tenders, and Boatswain's Mate.** The ship furnishes a detail of winchmen, hatch tenders, and boatswain's mates for each hatch on the ship. Two complete details for each hatch are trained and available so that cargo off-loading can continue uninterrupted.

d. **Hatch Off-loading Detail.** The hatch off-loading detail is part of the ship's platoon and is responsible for loading or off-loading the hold. The OIC supervises the activities of all hatch details and divides the details into shifts, arranges for meals, and ensures that the off-loading schedule is followed. A noncommissioned officer is in charge of each hatch detail, working under the direct supervision of the Navy hatch officer, ensures that cargo off-loading priorities are followed, that the detail is ready for work when required, and that the hatch checker is recording supplies and equipment unloaded.

(1) The hatch off-loading detail loads cargo nets, attaches vehicle slings, fastens steady lines to vehicles, and signals the hatch tender when the load is ready for hoisting.

(2) The size of a hatch off-loading detail varies according to the type of hold and cargo. The OIC and the DCO determine its actual size and composition.

21. Receipt of Debarked Material

For debarked material loaded in amphibious shipping, there is no required receipt since the debarked material is loaded by and remains with the attached units. However, in MSC and MPF operations in support of amphibious operations, there may be a requirement for units to sign for debarked material during the arrival, assembly, and off-load phases of the operation.

22. Debarkation Staging Area

The availability and necessity for staging areas depend upon the amphibious operation, and upon how well the load plan was developed. In most cases, staging areas, especially during an amphibious assault, will be limited to both onboard ship and on shore. Once fully loaded, there is minimal space onboard amphibious shipping for staging to support debarkation. Due to potential staging limitations, the development of an effective embarkation loading plan is critical.

23. Pier Accommodations

If the amphibious operation allows for the use of port facilities for off-load, the same pier accommodation considerations that were discussed for embarkation in Chapter III, “Planning,” Section A, “Amphibious Embarkation Planning,” Paragraph 13. “Facilities (Administrative, Communications, Billeting, Pier Accommodations, and Staging Areas)” apply.

24. Operations in Chemical, Biological, Radiological, and Nuclear Environments

The employment or threat of use of CBRN weapons, including the intentional or accidental release of toxic industrial materials, poses unique challenges when conducting amphibious operations. Recent improvements in missile technology, which have increased the range and precision of weapons capable of carrying bulk CBRN materials, together with the use of mines and barriers to canalize or impede the AF, have amplified our potential vulnerability to a CBRN attack. CBRN environments may impact debarkation in that the LF and ATF personnel manning flight decks, well decks, landing craft, as well as operating ashore (such as beachmaster units), require individual protective equipment and must be capable of operating in MOPP (mission-oriented protective posture) levels commensurate to the threat.

For more information, refer to JP 3-11, Operations in Chemical, Biological, Radiological, and Nuclear (CBRN) Environments.

25. Seabasing

Seabasing may impact off-loading in that not all capabilities, such as C2, intelligence, administration, etc., may be required to be disembarked and will remain aboard ship. Moreover, the logistical tail to support operations may also remain at sea. Seabasing is the deployment, assembly, command, projection, reconstitution, and reemployment of joint power from the sea without the reliance on land bases within the operational area. It provides operational maneuver for ship-to-shore movement and assured access to the joint force during the action phase of amphibious operations while significantly reducing the footprint ashore and minimizing the permissions required to operate from HNs.

SECTION C. RE-EMBARKATION

26. Debarked Washdown Requirements

If an ATF or MSC/MPS off-load occurs outside the United States and redeployment will be to a location within the United States, all off-loaded cargoes must be washed and inspected. Special precautions prevent introducing harmful public health or agricultural agents from entering the United States on military equipment. The US Army Regulation 40-12, *Quarantine Regulations of the Armed Forces*, and the Office of the Chief of Naval Operations Instruction 6210.2, *Quarantine Regulations of the Navy*, describes support for the United States Public Health Service and the Animal and Plant Inspection Service, which has recently been moved from the United States Department of Agriculture to the United States Department of Homeland Security (DHS) to prevent such introductions. This reference prohibits backloading of vehicles and cargo in a foreign country unless they are free of animal, pest, and soil contamination. Inspections include a US Customs/DHS post-washdown inspection and a USCG hull-certification inspection. Additional information can be found in the Defense Transportation Regulation, Part V, DOD 4500.9-R, *DOD Customs and Border Clearance Policies and Procedures*.

a. **Planning and Execution.** Washdowns and associated inspections require planning to ensure proper execution. Coordination and liaison may be required between Services, agencies, units, and an HN. Detailed attention and forethought must be given to the issue of washdown supply procurement and receipt. This can be critical for both the LF and the individual ships of the ATF. Sufficient quantities of cleaning solvents, brooms, rags, brushes, wet-and-dry vacuums, high pressure hoses, and other cleaning materials must be available. A joint approach for developing letters of instruction is highly recommended. Such plans should provide the purpose, sequence of events, and include a detailed assignment of responsibilities for all parties. Details must be presented in a forum where all ships' department heads, required division officers, and embarked LF unit commanders are required to attend. Another useful tool for disseminating information is the plan of the day notes or the ship's closed circuit television system, if available. For amphibious ships, water for washdown is limited.

Vehicles and other cargo should be washed down prior to loading or pierside. Typically, the ship's CCO will oversee and coordinate shipboard washdown preparations and execution.

b. **Documentation.** Agricultural washdown operations require documentation. The COT must provide the ship's commanding officer with a detailed list of non-contaminated supplies and equipment. This list should be in the form of an official letter and identify by compartment number, the box number, vehicle serial number, or other identifying number for the noncontaminated items. This letter forms the basis for the preparation of a joint "certification of noncontaminated spaces/cargo" letter to the medical entomologist. The ship must also identify ship specific spaces and equipment that are included in the noncontaminated spaces/cargo letter.

27. Reconstitution

a. Reconstitution is a process used to restore units to a desired level of combat effectiveness commensurate with mission requirements and available resources. Due to the limited space aboard amphibious ships, most reconstitution aboard ship will be limited to fresh water washdowns, preventative maintenance, and selected replacement of parts for vehicles and equipment. Replenishment, a key part of the process, is constrained by available stowage and access to the supply chain in the operational area. Whenever possible, reconstitution and major replenishment of critical supplies will be conducted ashore in the operational area or an alternate geographic location. The following factors contribute to a location decision:

- (1) If a washdown is required (e.g., redeployment to the US or anticipated off-load in a foreign country).
- (2) If the ships will be reconstituted in the same configuration or will be altered to accommodate changes in operational requirements and capabilities.
- (3) Possibility of CBRN attack or decontamination requirements.
- (4) The availability of maintenance and access to sea and airport facilities.
- (5) The anticipated condition of ships and availability of replacements.
- (6) Time considerations and allowances to accomplish reconstitution.
- (7) A ship certification schedule.
- (8) Retrograde plans.
- (9) Future operational commitments.

b. **Recovery Aboard Amphibious Shipping.** When reconstitution conducted ashore has been maximized to the extent possible within the parameters of time, space for maintenance, and spare parts available, the recovery and/or reconfiguration will commence.

c. **Maritime Prepositioning Force Reconstitution.** Reconstitution for MPF operations focuses on those efforts in-theater to rebuild the MPF capability with in-theater resources for a specific time (normally not exceeding six months) and may include limited replenishment from the US or its territories to achieve the combatant commander's and readiness objectives. A SPOE in the joint operations area is necessary to reconstitute an MPF. A special purpose MAGTF or logistics combat element will perform the functions to reconstitute the maritime pre-positioning equipment and supplies (MPE/S) to their preconflict status or a designated operational readiness status. Essentially, reconstitution for an individual item of MPE/S follows the same process as for amphibious ships; however, for the MPF, planning and execution is much broader in scope and requires more time. Reconstitution of the MPF cannot be accomplished at sea as it requires shore based support facilities. The extensive replenishment and regeneration of MPE/S will primarily take place in the continental US during the MPF maintenance cycle process.

For more information, refer to NTTP 3-02.3M/MCWP 3-32, Maritime Prepositioning Force Operations.

CHAPTER V

ADMINISTRATIVE MOVEMENT

"You Call... We Haul."

Motto: USS Tioga County, LST 1158

1. General

Normally, administrative movements are used when troops are transported overseas in peacetime or transported in nonassault shipping in combat operations. Billeting of personnel and stowing of cargo according to off-loading priorities for selective discharge are not required. Instead, administrative or commercial loading is employed because it achieves maximum use of billeting and cargo space. Techniques and procedures involved in administrative moves differ somewhat from those involved in tactical moves employing combat loading.

2. Planning

Planning for an administrative move follows the same pattern as planning for a tactical move, namely, maximum utilization of space available.

3. Determining Shipping Requirements

When determining shipping requirements for administrative movement, maximum use and economy of shipping space are the governing factors. UP&TT data are assembled, as in combat loading, and then translated into shipping requirements. The number of personnel, type of organization embarking, cubic feet and square feet of cargo space required, and type of supplies and equipment to be loaded influence the type and amount of shipping required.

4. Shipping Allocation

Allocation of amphibious shipping for administrative movements is accomplished in a manner similar to that for combat loading. Matters pertaining to use of MSC ships are discussed in Chapter III, "Planning," Section A, "Amphibious Embarkation Planning," Paragraph 5, "Echeloning of Forces," and allocation is discussed in Paragraph 7, "Allocation of Shipping," of the same chapter and section.

5. Organization for Embarkation

Generally, an embarking unit, its supplies, and equipment are loaded in the same ship without considering off-loading priorities. Unit integrity is thus maintained. Several embarking organizations may embark in the same ship to permit maximum use of space. This same method of loading is also used when units within the convoy are scheduled to

off-load at different destinations. The embarkation organization establishes and centralizes the responsibility and control necessary for:

- a. Embarkation planning.
- b. Embarkation.
- c. Unit discipline.
- d. Off-loading.

6. Embarkation and Debarkation Procedures

a. **Preparation of Cargo for Loading.** Methods of preparing cargo for an administrative movement are generally the same as those for combat loading. However, because entry into combat is not planned, preparation such as waterproofing vehicles and equipment is not normally required.

b. **Embarkation.** The same general requirements for embarking units for a tactical move apply to an administrative move. The following requirements concern planning and execution:

- (1) Activities of the advance party and special details.
- (2) Billeting.
- (3) Preparation of embarkation rosters.
- (4) Embarkation.

c. **Preparation of Loading Plans and Tables.** Administrative movement on Navy amphibious ships requires the same documentation as for a tactical move. Responsibility for preparing tables remains unchanged. In preparing the personnel, supplies, and equipment reports for an administrative move, each vehicle should be listed individually to permit marriage of prime mover and towed item. This facilitates lighterage usage during off-loading at anchorage and expedites departure from dock or beach areas. If certain vehicles or cargo must be unloaded early, a priority is indicated and stowage planned accordingly.

d. **Debarkation Procedures.** An off-load plan is prepared to coordinate off-loading of personnel, supplies, and equipment with port and transportation facilities. Off-load procedures are usually dictated by the following:

- (1) Requirement for off-loading a maximum number of hatches simultaneously.
- (2) Off-loading facilities available at the anchorage or POD.

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APPENDIX A DETERMINATION OF SHIPPING REQUIREMENTS

1. Development of Shipping Requirements

Shipping requirements for the LF are normally developed by:

a. Receiving their shipping requirements from the major subordinate commands or elements of the LF.

b. Determining, at the LF level, shipping requirements for the entire force, to include units not normally organic to the LF but to be embarked therewith, and all supplies and equipment to be embarked. The 10 categories into which supplies are grouped in order to facilitate supply management and planning are: Class I—rations and gratuitous issue of health, morale, and welfare items; Class II—clothing, individual equipment, tentage, tool sets, and administrative and housekeeping supplies and equipment; Class III—petroleum, oils, and lubricants; Class IV—construction materials; Class V—ammunition; Class VI—personal demand items; Class VII—major end items including tanks, helicopters, and radios; Class VIII—medical; Class IX—repair parts and components for equipment maintenance; and Class X—nonstandard items to support nonmilitary programs such as agriculture and economic development.

2. Basis for Shipping Requirements

AE shipping requirements are driven by the landing plan, the scheme of maneuver ashore, and the plan for landing supplies. Requirements development is based on the below metrics, or five fingerprints of lift plus weight and height, not only for the AE, but for the AFOE as well.

a. **Troop Berthing.** This is the total number of personnel to be embarked (consideration must be given to gender):

(1) Officer.

(2) Senior enlisted (E-7 to E-9).

(3) Junior enlisted (E-1 to E-6).

(4) Civilian personnel (to include US Government civil service and contractors).

b. **Square Feet.** The total square feet of vehicles and equipment to be embarked that require square foot stowage consideration (e.g., wheeled vehicles, tracked vehicles, skid-mounted equipment, MILVANS, ISO containers, some of which may be stackable), less mobile-loaded and/or preloaded items in landing craft.

c. **Cubic Feet.** The total cubic feet of stackable cargo (e.g., standard cargo [2-man lift], unitized cargo [pallets], less mobile-loaded items). These items must be further broken down by types for hazardous cargo (e.g., ammunition, both Classes V[A] air delivery and V[W] ground, and packaged POL, both Class III [A] for aircraft and Class III[W] for surface vehicles).

d. **A/C Spots.** The quantity needed to support the planned number of A/C to be embarked. Several factors can influence the quantity of spots, such as operational tempo, ability for day and night operations, and mixture of aircraft among the ships.

e. **Landing Craft Spots.** The quantity necessary for the landing craft required to support the landing plan.

f. **Weight.** The weight, especially for vehicles and equipment, is an essential consideration to assist in the ship allocation process as the ages and classes of platforms may impact what assets can be sourced to support the lift requirement.

g. **Height.** Similar to weight, consideration of the actual heights of vehicles and equipment is essential to ensure maximum utilization of assets can be accomplished.

h. **Additional Considerations**

(1) **Bulk POL.** The total gallons, by type of bulk POL (Classes III [A] and III [W]).

(2) **Support.** Requirement for supporting missions and equipment (e.g., minesweeping, special operations) that are essential to the overall amphibious mission and will reduce the available lift for the LF. For example, an LPD with airborne mine countermeasure helicopters will not be able to embark as many (or any) LF helicopters, and the available LF berthing will also be reduced. The well deck may not have any landing craft due to mine countermeasures or special forces requirements.

3. Determination of Shipping Requirements

The determination of shipping requirements cannot be undertaken until information is available as to the number of personnel, equipment, and supplies that need to be embarked in the AE and the AFOE.

a. It cannot be taken for granted that one or more of the above metrics, such as troop berthing and the square feet of vehicles, are necessarily the controlling factors. The requirements of each of several operations may be so varied that no common denominator or rule of thumb can be deduced. For example, an operation may require such a short sea voyage that overloading the ships beyond their troop berthing capacity may be acceptable.

b. Only after shipping has been allocated to the LF can an accurate final determination of sufficiency be made.

4. Steps for Determining Shipping Requirements

The following is a step-by-step procedure that may be used to determine shipping requirements:

a. Determine the special shipping requirements of the LF.

(1) Apply a 63 percent broken stowage factor to vehicle spaces and a 75 percent broken stowage factor to cargo spaces to determine stowable area aboard any class ship (less well deck space). A broken stowage factor is a factor applied to the available space for embarkation due to the loss between boxes, between vehicles, around stanchions, and over cargo. The factor can vary, depending on the type and size of vehicles, type and size of general cargo, training and experience of loading personnel, type of loading, method of stowage, and configuration of compartments.

(2) Based on the A/C and landing support requirements of the landing plan, determine the number of LHAs and/or LHDs required. Deduct LHA and LHD personnel, vehicle, and cargo capability from the total LF requirements.

(3) Determine LF requirements for special-purpose ships and craft such as an amphibious command ship for LF staff and submarine(s) or other ships for reconnaissance inserts and/or recovery. Deduct their capabilities from the LF requirements.

(4) Determine the type and number of landing craft required to execute the landing plan. The scheme of maneuver will determine the number and type of landing craft. For example, if the operation will be primarily OTH, then more LCACs will be required. If the beach can be closed quickly after the initial waves, then fewer LCACs will be required. For example, an LSD 41 class can carry four LCACs. If the ship can close the beach, perhaps only two LCACs would be carried, and then more of the well deck can be used to carry more vehicles. So there is a trade-off between number of landing craft and the number of vehicles that can be carried.

(5) Determine the availability of joint lighterage from APS or stationed/available from adjacent geographic locations.

(6) Determine the number of LPDs necessary to provide the LF with additional landing platforms for helicopters and to provide the desired flexibility in landing means.

(a) Determine the number of landing craft that can be carried in the LHA, LHD, and/or LPDs as determined above. Deduct this figure from the total landing craft requirements determined above.

(b) Determine which vehicles will be preloaded in these landing craft and deduct them from LF totals.

(c) Using appropriate broken stowage factors, determine the amount of vehicles and other cargo that can be stowed on the LPDs required as determined above.

(d) Deduct the LPDs' personnel, vehicles, and other cargo capacities from the LF totals.

b. Determine the number of LSDs required to transport the remaining landing craft into the objective area.

(1) Determine which vehicles will be preloaded in these landing craft and deduct them from the LF totals.

(2) Adjust vehicle and cargo capacities of the above LSDs by applying the appropriate broken stowage factors.

(3) Deduct personnel and adjust vehicle and cargo capacities from the remaining LF totals.

c. Determine the additional LPDs required based on the number of personnel remaining and the number and type of these ships that can be reasonably expected to be available.

(1) Adjust the vehicle and cargo capacities of the additional LPDs required by applying the appropriate broken stowage factors.

(2) Deduct personnel and adjusted vehicle and cargo capacities from the remaining LF totals.

(3) Review LSD requirements computed above based on the landing craft lift capability of the additional LPD(s).

d. Confirm that the landing craft embarked in LHAs, LHDs, LPDs, and LSDs are sufficient to support the landing plan.

e. Determine if amphibious shipping requirements as computed above contain sufficient special stowage capability to lift total LF requirements for ammunition; Classes V (W) and (A) and POL; Classes III (W) and (A) both bulk and packaged.

f. If LF lift requirements exceed the capabilities of all available amphibious ships, these requirements will be added to the AFOE lift requirement for ALEP, MSC, or commercial ships of appropriate types (e.g., RO/RO, breakbulk, dry cargo, and container

ships, transports, or tankers). Using the metrics and applicable processes above, planners will determine the AFOE shipping requirements.

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APPENDIX B
SAMPLE EMBARKATION PLAN

CLASSIFICATION

Copy no. ____ of ____ copies
Issuing headquarters
Place of issue
Date/time of issue

EMBARKATION PLAN

Ref: (a)
(b)
(c)

Time Zone:

1. () **ORGANIZATION FOR EMBARKATION**

a. () **General.** (The major organization of each embarkation echelon directly subordinate to the issuing HQ is listed. Reference is made to the appropriate annex for the detailed list of units comprising each echelon. A statement concerning the plan for AFOE and/or follow-up shipping may be made here if required.)

b. () **Assignment to Shipping.** (Reference is made to Tab A or the DTG of the OE&AS message. Normally, this is the only entry appearing in this paragraph.)

2. () **MATERIEL TO BE EMBARKED**

a. () **Organic Equipment.** (The quantity of organic equipment to be embarked by the command. Reference may be made to Tab B.)

b. () **Types and Amount of Supplies.** (The quantity of supplies to be embarked, by classes, to include water and medical supplies. Reference may be made to Tab B.)

c. () **Preparation.** (Instructions relative to packing, crating, palletizing, marking, and waterproofing. Reference may be made to Tab B, logistics SOP, embarkation SOP, or other appropriate order.)

d. () **Allocation of Supplies and Equipment.** (Allocation of supplies and equipment, to be embarked by the command as a whole, to the various subordinate embarkation echelons. When this information is detailed, it is usually set forth in tabular form and appended as an annex.)

CLASSIFICATION

CLASSIFICATION

e. () **Movement.** (Instructions concerning coordination and responsibility for movement of materiel, to include schedules and transportation to be used.)

3. () **PERSONNEL**

a. () **Uniform, Equipment, and Baggage.** (Uniform to be worn by embarking personnel, individual equipment to be carried, and baggage allowance for each person.)

b. () **Advance Details.** (Instructions concerning working details and FP and security personnel required in the embarkation areas are set forth, in addition to information concerning the advance party for each assigned ship. Instructions should include information pertaining to provision, composition, functions, movement, billeting, messing, and administration of these advance details.)

c. () **Movement of the Main Body.** (Dates and times of movement and transportation to be used.)

d. () **Embarkation Rosters.** (This subparagraph is prepared by G-1/S-1. It includes instructions relative to format, content, and distribution of embarkation rosters.)

4. () **EMBARKATION AREAS**

a. () **Assignment of Areas and Embarkation Points.** (Instructions are usually set forth in tables, maps, or sketches and are appended as annexes. Instructions regarding liaison to be established with port authorities may also be included. Reference may be made to Tab C.)

b. () **Preparation.** (Responsibility for improvement of assigned areas and for preparation of specific loading points is prescribed. Typical items covered are the construction or widening of roads, clearing of open storage areas, and the improvement of piers, ramps, and beaching slots.)

c. () **Materials Handling Equipment.** (Instructions relative to the provision, allocation, operation, and maintenance of roller conveyers, forklift trucks, tractors, cranes, pallets, and other MHE are set forth.)

CLASSIFICATION

CLASSIFICATION

d. () **Security and Counterintelligence.** (Instructions regarding responsibility for implementation of security measures for assigned embarkation areas and coordination to be effected between security and CI elements with local port authorities. Security measures normally include those required to protect against weather, fire, pilferage, sabotage, and espionage and those required to provide for FP. Instructions should also reference appendix 3 (Counterintelligence) to annex B (Intelligence) and annex L (Operations Security) to the OPLANs.

5. () **EMBARKATION SCHEDULES**

a. () **Limiting Dates.** (The limiting dates with respect to commencement and completion of embarkation are indicated, or a statement is made indicating later announcement.)

b. () **Berthing and Loading Schedules.** (The limiting dates with respect to commencement and completion of embarkation are indicated, or a statement is made indicating later announcement. Reference may be made to Tab D.)

6. () **CONTROL**

a. () **Traffic Circulation and Control.** (Instructions regarding routes, direction of circulation, priorities, speeds, restrictions on lights, and location of traffic control posts within assigned embarkation areas. Availability of military police may also be included.)

b. () **Embarkation Control Office.** (Instructions relative to responsibility for establishment, locations, times of opening and closing, and functions. An embarkation office is normally established by each embarkation echelon before the arrival of the first supplies at the embarkation areas, and it continues to function until embarkation is complete.)

c. () **Communications.** (Instructions regarding communication circuits between embarkation points, embarkation areas, base camps or barracks, naval agencies, embarkation control offices, security posts, and traffic control posts as appropriate.)

7. () **MISCELLANEOUS**

a. () **Loading Plans.** (Any specific instructions not covered in unit SOPs or other publications, to be observed in the preparation of loading plans.)

b. () **Loading Reports.** (Instructions concerning format, content, and frequency of submission of loading reports.)

CLASSIFICATION

CLASSIFICATION

c. () **Other Embarkation Instructions.** (Included in this paragraph are any instructions not provided for elsewhere in the plan or order. Normally, the last entry under this subparagraph pertains to the effective date of the plan.)

BY COMMAND OF...Rank and Name

//Signature//

Name

Rank and Service

Chief of Staff

CLASSIFICATION

CLASSIFICATION

ACKNOWLEDGMENT INSTRUCTIONS. (This instruction is included if necessary and may be amplified to indicate the method by which receipt is to be acknowledged.)

TABS:

- A—Organization for Embarkation and Assignment to Shipping (Omitted)
- B—Allocation of Supplies and Equipment
- C—Assignment of Embarkation Areas
- D—Berthing and Loading Schedule

(Page number)

CLASSIFICATION

Format For Allocation of Supplies and Equipment Annex

CLASSIFICATION

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Date/time of issue

TAB B (ALLOCATION OF SUPPLIES AND EQUIPMENT) TO EMBARKATION PLAN

Ref: (a)
(b)
(c)

Time Zone:

EMBARKATION GROUP (UNIT, TEAM)

CLASS	QUANTITY	CU FT	WEIGHT (LBS)
-------	----------	-------	--------------

EMBARKATION GROUP (UNIT, TEAM)

CLASS	QUANTITY	CU FT	WEIGHT (LBS)
-------	----------	-------	--------------

EMBARKATION GROUP (UNIT, TEAM)

CLASS	QUANTITY	CU FT	WEIGHT (LBS)
-------	----------	-------	--------------

BY COMMAND OF...Rank and Name
//Signature//
Name
Rank and Service
Chief of Staff

(Page number)
CLASSIFICATION

Format for Assignment to Embarkation Areas Annex

CLASSIFICATION

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Place of issue
Date/time of issue

TAB C (ASSIGNMENT OF EMBARKATION AREAS) TO EMBARKATION PLAN

Ref: (a)
(b)

Time Zone:

EMBARKATION AREA	PORT OR BEACH	VEHICLE	CARGO	ORGANIZATION
---------------------	------------------	---------	-------	--------------

BY COMMAND OF...Rank and Name
//Signature//
Name
Rank and Service
Chief of Staff

APPENDIXES: (Omitted)
C-1—Sketch of Embarkation Area
C-2—Sketch of Embarkation Area
C-3—Sketch of Embarkation Area

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CLASSIFICATION

Format for Berthing and Loading Schedule Annex

CLASSIFICATION

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Issuing headquarters

Place of issue

Date/time of issue

TAB D (BERTHING AND LOADING SCHEDULE) TO EMBARKATION PLAN

Ref: (a)
(b)
(c)

Time Zone:

DATE/TIME

EVENT

PLACE/POE

FROM
TO

BY COMMAND OF...Rank and Name

//Signature//

Name

Rank and Service

Chief of Staff

DISTRIBUTION:

(Page number)

CLASSIFICATION

APPENDIX C

DUTIES OF THE TEAM EMBARKATION OFFICER

1. General Duties During the Planning Phase

- a. Becomes familiar with the OPORD, landing plan, and appropriate SOPs.
- b. Obtains an SLCP from the unit or group embarkation officer; verifies the accuracy of the pamphlet with the ship's CCO.
- c. Holds conferences with appropriate representatives of the units comprising the embarkation team regarding the preparation of loading documentation; checks the accuracy of the loading documentation submitted to the embarkation team commander by the several components of the team and consolidates them; and completes other required documentation.
- d. Prepares the tentative loading plan, assisted by the ship's CCO.
- e. Submits the completed loading plan to the embarkation team commander and ship's commanding officer for approval.
- f. Coordinates with the COT to ensure billeting spaces are adequate and inspects cargo spaces in the ship when it arrives in the embarkation area to determine that they are clean and available for use (see Chapter IV, "Execution").
- g. Coordinates with the responsible agency preparation of the embarkation point, to include assembly area(s) and vehicle staging area(s).
- h. Supervises and coordinates the scheduling and movement of equipment and supplies to the cargo assembly area(s) and vehicle staging area(s).
- i. Directs the placement of supplies and equipment in the embarkation area to conform to plans for stowing the cargo in the ship.
- j. Arranges with the ship's CCO for the stowage of troop space cargo and any special stowage of equipment and supplies.
- k. Inspects LFORM to determine condition and verifies the accuracy of inventory furnished by ship's CCO.
- l. Arranges for adequate MHE at the beach or pier area.
- m. Advises the embarkation team commander of security and CI requirements for protection of supplies and equipment at the embarkation area.

- n. Ensures that the ship's platoon and the OIC in charge of pier or beach details have copies and are familiar with approved loading plans.
- o. Arranges for the advance party to embark, whenever possible, within 24 to 48 hours before loading.
- p. Makes periodic reports to the embarkation team commander of actions and progress during the planning phase.
- q. Coordinates with the LF communications officer for communications requirements between the base camp, marshalling areas, embarkation areas, and with the embarkation team commander for special equipment necessary for embarkation, such as lighting equipment for night loading.
- r. Ensures that vehicles, equipment, and supplies are marked properly for stowage location, priority of discharge, and according to SOPs.
- s. Distributes copies of the approved loading plan to necessary personnel.
- t. Ensures that labor and material for lashing, storing, and chocking are provided by embarking units.
- u. Ensures that special cargo handling equipment such as special slings (not provided by the ship), is made available by embarking units.

2. General Duties During Embarkation and Rehearsal Phases

- a. Continues liaison activities.
- b. Supervises closely the activities of working parties in the staging area and embarkation area.
- c. Coordinates ship's platoon support with the CCO to ensure that loading of the ship proceeds according to the approved plan.
- d. Ensures, by frequent inspections, that shoring, chocking, and lashing of supplies and equipment are in accordance with existing instructions. This is coordinated with the ship's CCO and performed under the supervision of the ship's first lieutenant.
- e. Maintains a record of all approved changes in loading and off-loading plans. After completion of loading, changes in the plan will be incorporated in the corrected loading plan.
- f. Distributes the corrected loading plan in accordance with fleet and unit distribution lists.

3. General Duties During Movement to the Objective Phase

- a. Continues liaison activities.
- b. Completes and distributes corrected loading plan if time was not previously available.
- c. Makes daily inspections of cargo with ship representatives for evidence of pilferage and condition of cargo and to ensure that lashing, shoring, and chocking remain intact; arranges with the ship's CCO for personnel to enter holds to check vehicles for waterproofing, gas and oil leaks, tire inflation, and condition of batteries.
- d. Ensures that drivers and assistants are briefed on vehicle off-load procedures and that they inspect vehicles frequently for proper functioning.
- e. Instructs off-load personnel in their duties and lessons learned during rehearsals; changes off-load plan to correct defects found during rehearsals.
- f. Directs responsible personnel to conduct final checks before off-loading, to determine that vehicles will start, that each is waterproofed correctly, and that their combat loads are secure. This is especially important during LCAC operations to prevent foreign object damage to craft, vehicles, and personnel.

4. General Duties During the Action Phase

- a. Works with the ship's CCO to supervise the debarkation of personnel and off-loading of cargo.
- b. Advises the COT, when required, of the percentage of off-loading accomplished.
- c. Assists the ship's CCO as necessary in locating and off-loading cargo requested on a priority basis.
- d. Conducts a visual inspection, upon completion of off-loading, to ensure that cargo and billeting compartments are clear of personnel, equipment, and supplies, and that these compartments are policed.
- e. Ensures that all concerned know to whom they are to report for further orders or instructions upon their arrival ashore.

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APPENDIX D

DUTIES OF THE COMBAT CARGO OFFICER

1. General

a. **The duties of CCOs differ based on the Navy commands to which they are assigned.** The primary duties for CCOs assigned to the Navy's TYCOM chain of command, otherwise known as the Navy's administrative chain of command, include ensuring that amphibious ships are staffed, trained, equipped, maintained, and modernized in support of LF requirements. The primary duties of CCOs assigned to PHIBRONs or ships include: coordinating, planning, and obtaining information from the embarking forces before actual embarkation and debarkation. Additionally, ships' CCOs fulfill the role of inspector and advisor to the commanding officer to ensure the maintenance and modernization of LF spaces, habitability, and shipboard systems which support LF operations and logistics requirements.

b. Combat cargo personnel are under the administrative control of Expeditionary Warfare Training Group Pacific on the west coast; Marine Corps Forces Command on the east coast; or Marine Corps Air Station, Iwakuni/Marine Corps Bases, Japan, for combat cargo personnel assigned to the forward deployed naval forces in White Beach and Sasebo, Japan.

2. Duties at Command Levels

The duties at various command levels are as follows.

a. **CCO/Force Marine Officer.** The CCO/force Marine officer is a staff member of the Atlantic and Pacific Fleet surface vessel TYCOM. The CCO/force Marine officer is responsible for the following:

(1) Acts as the staff advisor for all matters pertaining to loading and off-loading LF personnel, supplies, and equipment.

(2) Monitors the LFORM program.

(3) Monitors amphibious ship building, overhaul, and conversion programs through close liaison and coordination with the appropriate assistant chief of staff.

(4) Is the principal advisor for characteristics of amphibious ships, landing craft, amphibious vehicles, and their loading and off-loading characteristics.

(5) Exercises staff supervision over all assigned CCOs and their enlisted assistants across the surface warfare enterprise.

(6) Maintains liaison with higher, adjacent, and subordinate commands on force plan development and maintenance for expeditionary operations.

(7) Maintains liaison with amphibious type desk managers regarding LF spaces.

(8) Conducts review of operation plans and orders associated with LF and amphibious matters.

(9) Monitors and makes recommendations for preparation for overseas movement initiatives pertaining to amphibious ships and landing craft.

(10) Conducts review of the force task organization, missions, tasks, functions, and command relationships of amphibious commands.

(11) Represents the TYCOM at amphibious planning conferences.

(12) Serves as the TYCOM representative via the billets located in two components of Commander, Naval Surface Forces Command, Commander, Naval Surface Force, Atlantic, and Commander, Naval Surface Force, Pacific, for amphibious matters during inspections and crew certifications.

(13) Coordinates opportune lift requirements as specified in Commander, Naval Surface Force Instruction 4600 series.

b. Amphibious Class Squadrons (CLASSRONs). Combat cargo department responsibilities are:

(1) Advises the CLASSRON commander on all matters concerning manning, training, and logistics/material support directly related to the mission of amphibious shipping.

(2) Collates and evaluates lessons learned and other data related to planning and execution of combat cargo operations, ship-to-shore movement, and LF requirements of CLASSRON ships.

(3) Distributes applicable lessons learned information to ship and staff CCOs.

(4) Acts as an advisor and advocate to the CLASSRON commander in the development of SOPs/applicable standing orders, ship design, and ship modernization related to loading ships for amphibious operations.

(5) Assists with evaluation of ship practices regarding the loading, stowage, and special handling of special handling cargo (hazardous cargo, dangerous goods, and classified or unique equipment).

(6) When requested, provides assistance in the evaluation and review of load plans of assigned CLASSRON ships.

(7) Reviews proposed changes to SOPs related to preparing LF and NSE personnel, supplies, and equipment for embarkation.

(8) Advises the CLASSRON commander with regard to the acceptability of the proposed changes.

(9) When requested, provides support for the inspection team evaluation of training and material issues related shipboard combat cargo operations.

c. Amphibious Squadron. The PHIBRON CCO is responsible for:

(1) Advises and assists the commander on all matters pertaining to the loading and off-loading of LF personnel, supplies, and equipment.

(2) Acts as liaison officer between the commander and the corresponding embarking troop commander.

(3) Maintains an SLCP file for those ships within the squadron.

(4) Advises/coordinates the activities of assigned ship combat cargo personnel as they pertain to operational and embark/debark requirements.

(5) Assists in making all on load/off-load plans.

(6) Maintains a copy of all load plans of ships in the transport unit.

(7) Compiles and transmits periodic reports to higher authority during loading and off-loading.

d. Ship's Combat Cargo Officer

(1) **Assignment.** The ship CCO is typically a limited duty officer or warrant officer qualified in the field of embarkation. **The CCO is a member of ship's company. The CCO is a department head reporting to the commanding officer via the XO.** All amphibious ships (except LSD 41 class) have a Marine Corps CCO assigned. On the LSD 41 class, the first lieutenant is the CCO.

(2) **Assistants.** The LHA/LHD CCO is assigned three CCAs; the LPD 17 CCO is assigned two CCAs; all other CCOs have one CCA assigned. The CCA is a noncommissioned officer and, like the CCO, is a member of the ship's complement.

(3) **General Duties.** General duties of the CCO include:

- (a) Acting as direct representative of the ship's commanding officer.
- (b) Maintaining liaison with the TEO.
- (c) Assisting the TEO in preparing detailed loading plans for the ship.
- (d) Coordinating and supervising execution of the loading plan.
- (e) Assisting in the planning for and execution of the off-load.
- (f) Managing, loading, and tracking the LFORM account.
- (g) Duties during an amphibious operation. A checklist of the general duties of the CCO, during each phase of the amphibious operation, is shown in Figure D-1.

GENERAL DUTIES OF THE COMBAT CARGO OFFICER

DUTIES DURING THE PLANNING PHASE

- | Advise ship's commanding officer on plans for loading and off-loading cargo and plans for embarking, billeting, and messing.
- | Prepare, correct, maintain, and distribute the ship's loading characteristics pamphlet.
- | Establish and maintain liaison with the team embarkation officer.
- | Advise/assist team embarkation officer in preparation of loading and off-loading plans.
- | Provide embarkation team commander with a current inventory of US Marine Corps (USMC) landing force operational reserve material (LFORM) and mission load allowance (MLA).

DUTIES DURING THE EMBARKATION AND REHEARSAL PHASES

- | Maintain continuous liaison with embarkation team commander through the team embarkation officer.
- | Ensure loading plan is being followed.
- | Ensure a hatch or compartment list is maintained at each hatch or compartment.
- | Keep ship's commanding officer informed of progress of loading/embarkation.
- | Advise ship's commanding officer and embarkation team commander of problem areas encountered during rehearsal phase and recommend corrective action.
- | Coordinate with first lieutenant and weapons officer to ensure USMC LFORM and MLA are not inadvertently off-loaded with other landing force material during training exercises or operations.
- | Inspect USMC LFORM and MLA to ensure serviceability and accountability.

DUTIES DURING UNLOADING

- | Conduct inspections to ensure that off-loading is proceeding according to schedule.
- | Ensure all items of cargo requested on a priority basis are expeditiously located and off-loaded.
- | In cooperation with team embarkation officer, maintain data from which periodic off-loading progress reports are made.
- | Keep record of boat requirements, by number and type, necessary to complete off-loading.

HANDLING CARGO

- | The ship's combat cargo officer is NOT responsible for handling cargo, operating cargo handling equipment, or the cargo's safety and security in the cargo holds. The ship's first lieutenant, assistant first lieutenant, and deck division officers are responsible to the commanding officer of the ship for these details.

Figure D-1. General Duties of the Combat Cargo Officer

Refer to MCRP 4-11C, Combat Cargo Operations Handbook, for more information on the tasks, duties, and responsibilities of combat cargo personnel.

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APPENDIX E

NAVY EXPEDITIONARY LOGISTICS REGIMENTS AND NAVY CARGO HANDLING BATTALIONS

1. Mission

The mission of the NELRs and NCHBs is to provide immediate supervisory cargo-handling and port control capabilities to Navy and Marine Corps component commanders and joint force commanders in support of naval operations worldwide.

2. Discussion

a. Navy Cargo-Handling Battalion ONE (NCHB-1), is the only active duty NCHB composed of active duty personnel, providing a quick response, forward deployable mobile logistic support unit capable of worldwide deployment in its entirety or in functionally tasked detachments. It is organized and trained primarily to provide a nucleus of skilled cargo-handling personnel for use in loading and off-loading Navy and Marine Corps cargo carried in MPS, merchant break-bulk ships, container ocean shipping and military-controlled A/C in all environments. In addition, it can operate an associated limited or expeditionary air or ocean cargo terminal and perform emergency port (ocean) control functions.

b. FIRST Navy Expeditionary Logistics Regiment (1st NELR) is the only active duty NELR, comprised of active duty personnel, primarily from the staff of Commander, Navy Expeditionary Logistics Support Group (COMNAVELSG), providing a quick response, forward deployable mobile command and control organization, supporting NCHB-1 operations.

3. Organization

Two sources of NCHBs are:

a. NCHB-1, under administrative and operational C2 of COMNAVELSG and the 1st NELR, and both are homeported at Cheatham Annex, Williamsburg, Virginia. NCHB-1 has an active duty strength of 11 officers and 270 enlisted, and the 1st NELR has an active duty strength of 14 officers and 13 enlisted.

b. Naval Reserve Cargo-Handling Battalions (NRCHBs). There are nine NRCHBs composed of three active duty personnel and 298 Selected Reserve personnel. NRCHBs are grouped and organized under an administrative and operational command of their respective reserve NELRs.

(1) NRCHBs are organized for multimission tasking, including C2, surface cargo-handling, retail and bulk fuel support, air cargo operations, pier operations, transportation operations, and organic logistics support. NRCHBs are comprised of 18

officers and 283 enlisted personnel, plus basic organic unit equipment required to provide technical and supervisory cargo-handling capability, known as table of allowance.

(2) NRCHBs operate most effectively when employed to conduct ship loading and discharge operations, with their nine-person hatch teams, within their surface cargo companies. An NRCHB can achieve a ship discharge rate of approximately 2,880 metric tons per day pier-side, and approximately 1,920 metric tons per day discharge rate in-stream. If assigned to an Army-operated water terminal, a NCHB would operate automated documentation support equipment. Cargo documentation support is also available in a cargo terminal company.

4. Capabilities

a. The 1st NELR and NCHB-1 has the ability to conduct terminal operations and to provide a C2 element during port cargo operations and functions, which include: removal of freight from one carrier, segregation by destination, document processing, in-transit visibility and storage, load planning, and loading on board a second carrier for delivery to consignee. NCHB-1 is capable of off-loading an MPSRON, with 24-hour operations, which can be conducted over-the-shore (when supplemented by lighterage) or through established port facilities.

b. NCHB-1 has the capability for maintaining an established portable field facility in a forward logistics site.

c. 1st NELR and each of the Reserve Component NELRs are capable of providing administrative and operational C2 over its assigned CHBs.

d. NCHB-1 has 24 hatch teams. Air and ocean cargo terminal operations can be accomplished only with a commensurate reduction in cargo ship manning.

e. Due to the level of manning, each CHB is not staffed with personnel to perform messing functions, compartment cleaning, personnel records maintenance, or other similar duties, while onboard vessels.

5. Supplemental Manning

Strong-back type labor may be required from sources external to NCHB-1, particularly during actual operations when personnel augmentation is not authorized, or an NRCHB cannot support in a timely manner. In such situations, the following minimal needs arise:

a. **Ship Loading and Discharge.** Four to six nonrated or indigenous personnel per crane pedestal per shift, as situation dictates.

b. **Pier Operations.** Sixteen rated logistic specialists, or equivalent rates, plus 10 nonrated personnel per ship per shift.

c. **Air Terminal Operations.** As required by volume of cargo, types of aircraft, and available facilities.

6. Equipment and Material Support

Plans provide for NCHB-1 to have organic resources, either via pre-positioned war reserve stock or organic table of allowance, to outfit and support its active and augmentation personnel with the following:

- a. Essential personnel support items.
- b. Cargo-handling equipment and tools.
- c. Administrative and cargo-handling vehicles.
- d. Organic base camp support facilities for CHBs.

For additional information on terminal/off-loading support units and the Navy's supporting units, refer to JP 4-01.5, Joint Terminal Operations.

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APPENDIX F

ARMY CARGO HANDLING UNITS

SECTION A. CARGO TRANSFER COMPANY

1. Mission

The mission of the cargo transfer company is to discharge, load, and transship cargo at air, rail, or truck terminals; to discharge, load, and transship cargo at water terminals located in fixed ports or in logistics over-the-shore (LOTS) operations; and supplement cargo/supply handling operations at combat service support activities in Army corps and division areas to alleviate cargo backlogs.

2. Assignment

The cargo transfer company is assigned to a transportation composite group when supporting independent corps operations. It is normally attached to an HQ and HQ detachment, transportation terminal battalion, or HQ and HQ detachment, transportation motor transport battalion.

3. Capabilities

a. The cargo transfer company can operate up to four rail, truck, or air terminals on a 24-hour per day basis. The size of the terminal and/or scope of the operation may mean that more than one platoon is required to operate a given terminal. Daily capability is as follows.

(1) In rail or truck terminal operations transship; 820 short tons of breakbulk cargo or 200 containers per terminal for a four terminal total of 3,280 short tons of breakbulk cargo or 800 containers or combination thereof.

(2) In air terminal operations transship; 550 short tons of non-containerized cargo or 160 twenty-foot container equivalents per terminal for a four terminal total of 2,200 short tons of non-containerized cargo or requirements document system 640 twenty-foot container equivalents or a combination thereof.

(3) In a fixed port accomplish one, but not all, of the following:

(a) Given a container ship and pierside cranes, discharge or load 500 containers per day, or a combination thereof.

(b) When augmented by the port operations cargo company, discharge or load 2,500 short tons of breakbulk cargo. In simultaneous operations, move 1,250 short tons in each direction.

(c) With a RO/RO ship, discharge up to 1,000 vehicles or load up to 750 vehicles.

(4) In LOTS operation, augmented by the port operations cargo company, a company can accomplish one, but not all, of the following:

(a) Discharge or load 300 containers. In simultaneous operations, move 150 containers in each direction.

(b) Discharge or load 1,500 short tons of breakbulk cargo. In simultaneous operation, move 750 short tons in each direction.

(c) Discharge or load 350 vehicles from/to a RO/RO ship.

(5) At inland terminals a company can process cargo documentation and redocument diverted or reconsigned cargo.

(6) During container operations, a company can load and unload containers. However, this capability degrades others.

b. The cargo transfer company is dependent upon the following organizations:

(1) Port operations cargo company when operating an ocean terminal.

(2) The automated cargo documentation detachment for processing cargo manifests and cargo disposition instructions when operating ocean and air terminals.

(3) Appropriate transportation movement control elements for cargo diversion and reconsignment orders.

SECTION B. PORT OPERATION CARGO COMPANY

4. Mission

The mission of the port operation cargo company is to perform shipboard terminal service operations to discharge and load containerized/non-containerized cargo and wheeled/tracked vehicles in fixed seaports or in LOTS sites.

5. Assignment

The port operation cargo company is assigned to a transportation command element, normally attached to a transportation terminal battalion.

6. Employment

The port operations cargo company deploys to a theater of operations in conjunction with a cargo transfer company at a seaport or LOTS site.

7. Capabilities

A unit provides ship squads to operate ships equipment on a two-shift, around-the-clock basis. Operating in concert with transportation cargo transfer company in a fixed seaport or LOTS operation. This unit can accomplish one of the following:

Fixed Seaport

500 Containers

2,500 Short Tons Breakbulk

700 Wheeled/Tracked Vehicles

LOTS Operation

300 Containers

1,500 Short Tons Breakbulk

400 Wheeled/Tracked Vehicles

For additional information on terminal/off-loading support units and Army supporting units, refer to JP 4-01.5, Joint Terminal Operations.

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APPENDIX G
EMBARKATION OFFICER CHECKLIST FOR MILITARY SEALIFT
COMMAND SHIPPING

1. Establish early liaison with the ship's CCO to obtain a current SLCP or other planning data (obtained from ship or MSC representative). Check the following:

a. Boom capacity. #1____, #2____, #3____, #4____, #5____, #6____, #7____.

b. Method of rigging. #1____, #2____, #3____, #4____, #5____, #6____, #7____.

c. Hatch measurements of all holds and levels with SLCP or cargo data sheet; note discrepancies.

d. Cargo spaces, noting hold size, location of all obstructions, height of compartments, and any other pertinent data on characteristics pamphlet or other planning data.

e. Vehicle stowage areas, locations of all obstructions, height of overhead, deck or vehicle ramp strength limitations, and any other pertinent data needed for planning.

f. Berthing and messing facilities.

g. Head and shower facilities.

h. Ship's store (e.g., Class VI, personal demand items and laundry).

i. Ship's regulations, fire, man overboard, and other emergency procedures.

2. Make arrangements for all services that cannot be performed by the ship to be handled by other means.

3. Establish through close liaison with the ship's CCO the size and composition of the ship's platoon (drivers, guards, maintenance personnel) that will be embarked during the voyage. Determine at this time if sleeping bags, combat rations, water, and portable heads will be required.

4. Coordinate with NCHBs, US Army Transportation Company (Cargo Transfer), commercial stevedores, or qualified naval personnel for operating the cranes and winches during the loading of the ship.

5. Maintain liaison with higher HQ.

6. Request from group embarkation officer.

- a. Time and date ship will be available to load.
 - b. Staging area in camp showing date and time required.
 - c. Staging area at POE.
 - d. Extra drivers.
 - e. Dunnage and lashing by type.
 - f. Dates and times for convoys to use road net.
 - g. Convoy control plan to include MP, communications, refueler, and wrecker.
 - h. Packaged operational rations as required, to include aboard ship phase.
 - i. Cargo handling equipment (e.g., pallet jacks).
 - j. Ship's platoon.
 - k. Recreational equipment.
 - l. Mess equipment.
 - m. Ration supplement, sundries packs, and ship's store/exchange items required/available.
 - n. Barber kits.
 - o. Flashlights or electric lanterns.
 - p. Fire extinguishers for each hold.
 - q. Computer chests.
 - r. Medical personnel Class VIII supplies as required.
 - s. Portable head facilities, to include toilet paper. In the event shipboard head facilities are not available, temporary head facilities can be constructed from oil drums with salt water fed in one end through a fire hose for continuous flush with drainage through a bulk line on other end that extends over and is secured to the side of ship to some depth below the waterline.
7. Prepare loading plan and submit to embarkation team commander and ship's master for approval.

8. Instruct all personnel in their duties before departing for POE; ensure drivers are familiar with route to destination, loading priorities, holds and levels, staging areas at POE; ensure embarkation rosters are completed.
9. Inspect staging area at POE (ensure that all vehicles and cargo are staged by priority and make liaison with OIC of the CHB detachment [ensure all crews are ready]).
10. Confirm with POE the following are on-hand or established:
 - a. MHE.
 - b. Adequate life jackets.
 - c. Dunnage.
 - d. Lashing.
 - e. Communications.
 - f. Road net and control.
 - g. Fuel.
11. Establish embarkation team control point on pier alongside assigned ship's berthing space.
12. Ensure during the off-load phase in the objective area, that cargo-handling personnel are transferred to their assigned MSC ship(s) to operate the winches and perform other cargo discharge functions.
13. Assign the highest priority to transferring vehicle drivers, maintenance teams, and ships' platoons before off-loading. These personnel are in addition to the ship's platoon already embarked.
14. Be aware that when using MSC ships, it is the responsibility of the LF to provide adequate numbers of lashing, chocking, dunnage, special tools, and special slings (i.e., slings requiring special configuration or those required for heavy lifts in excess of 15 short tons).
15. Estimate the quantity and type of material required for lashing vehicles aboard MSC ships. The following may be used as a guide:

a. Wire Rope, Steel, 1/2 Inch. Sixty feet per vehicle, minimum (four 15-foot lengths to permit cross lashing of vehicles at four points). For vehicles in excess of 17 short tons, double the rope.

b. Turnbuckles, 1/2 Inch. Four per vehicle (one turnbuckle for each length of wire rope used).

c. Thimbles, Rope, Split Oval. Eight per vehicle (two thimbles for each length of wire rope used).

d. Clips, Wire, Rope, U Bolt Type. Twenty-four per vehicle.

16. Keep in mind the Navy is responsible for furnishing cargo nets, pallet slings, vehicle slings, sea painters, debarkation nets and markers, chime hooks, life jackets, fenders, and spreaders.

1. Manual Loading Documents

a. **Cargo and Loading Analysis Table.** The C&LAT is a detailed breakdown of cargo (less vehicles) by type. It shows which cargo is stowed as standard cargo, which is unitized, any heavy lifts, and which cargo is loaded in vehicles (mobile-loaded). Figure H-1 illustrates this table. Entries into the C&LAT are as follows:

[illegible]

Figure H-1. Cargo and Loading Analysis Table

(1) **UP&TT Line Number.** Starting with line 1, UP&TT line numbers, as applicable, are listed in numerical sequence.

(2) **Unit.** This column identifies the unit to which cargo belongs. A unit designation is always shown for cargo listed opposite UP&TT line numbers 3, 4, and 5 because these line numbers include only authorized unit allowances. Cargo listed opposite other UP&TT line numbers does not necessarily require that a unit designation be shown, depending on unit responsibility and/or requirement for the cargo. Cargo allocated to an embarkation organization for loading and transportation only, and any

cargo loaded aboard the ship for equal distribution to all embarked organizations, is identified in the unit column as ALL. Cargo required on landing and cargo loaded in a vehicle is identified as belonging to the organization designated to receive the cargo.

(3) **Description.** This column identifies the cargo. Items are listed individually within each UP&TT line number grouping.

(4) **Number and Type Containers.** This column identifies the number and type of containers. When different types of containers are used to package the same item, each type of container is listed separately.

(5) **Number of Rounds, Gallons, Rations.** This column identifies the number of individual units, such as rounds, gallons, or rations. These are the individual units packed in the containers listed in the “number” and “type” container column.

(6) **Standard Cargo.** This column identifies the volume (cubic feet) and weight (pounds) of standard cargo. Standard cargo, as used here, is defined in Chapter III, “Planning,” Section B, “Ship Load Planning,” Paragraph 18, “Types of Cargo.”

(7) **Heavy Lifts and Unitized Cargo (Pallets and Containers).** This column identifies dimensions (length, width, and height in inches), total square feet, total cubic feet, and total weight (pounds) of unitized cargo and heavy lifts. Palletized, containerized, and heavy-lift cargo is listed separately within this column by unit.

(8) **Mobile-Loaded.** This column identifies the volume and weight of cargo preloaded in vehicles. Mobile-loaded cargo is listed separately from other cargo of the same UP&TT line number on this form and a separate entry for each type of cargo loaded in each vehicle is made.

(9) **Stowage Location.** This column identifies the assigned stowage space for the cargo aboard ship. For standard, unitized, and heavy-lift cargo, the hold number and deck level assigned for stowage of the cargo are entered. The off-loading priority number assigned in the consolidated VS&PT of the vehicle in which the cargo is stowed identifies mobile-loaded cargo in this column.

(10) **UP&TT Line Totals.** As all items are listed for each UP&TT line number, a total is shown. The totals for the particular line item are enclosed in parentheses. If a line item consists of only one entry, there is no line total entry placed on the form. The line total is merely indicated by enclosing all figures of the entry in parentheses. A blank line is used to separate the various line numbers. Line-number totals must correspond to UP&TT line totals.

(11) **Page Totals.** The page totals are achieved by adding all line-number totals appearing on a single page. Entries for a particular line number started on one

c. **Unit Personnel and Tonnage Table.** The UP&TT is a recapitulation of information shown in the C&LAT and VS&PT, plus the number of A/C and a breakdown by number and grade of personnel to be embarked. Figure H-3 illustrates this table and provides an analysis of each line number. The UP&TT is subdivided to reflect the following categories of embarkation data: personnel, subsistence, general cargo, POL, ammunition, and vehicles/aircraft. A detailed analysis of these UP&TT categories is provided in the following subparagraphs:

UNIT PERSONNEL AND TONNAGE TABLE									
PERSONNEL									
OFFICER:	O-10 THRU O-7	0	O-6	0	O-5	0	O-4	0	
	O-3	0	O-2, O-1	0	W-5 THRU W-1	0	TOTAL OFF:	0	
ENLISTED:	E-9 THRU E-7	0	E-6	0	E-5 THRU E-1	0	TOTAL ENL:	0	
							TOTAL PERSONNEL:	0	
SUPPLIES AND EQUIPMENT									
UP&TT LINE #	DESCRIPTION					PALLETS/DRUMS/VEHS	CUBIC FEET	WEIGHT (LBS)	
1	RATIONS								
2	WATER								
--	TOTAL SUBSISTENCE					(0)	(0)	(0)	
3	PERSONNEL BAGGAGE (TROOP STOWED)								
4	ORGANIZATIONAL CARGO (TROOP STOWED)								
5	ORGANIZATIONAL CARGO (HOLD STOWED)								
6	CONSTRUCTION/FIELD FORTIFICATION								
7	NONMILITARY SUPPORT								
8	MEDICAL AND DENTAL								
9	PERSONAL DEMAND ITEMS								
--	TOTAL GENERAL CARGO					(0)	(0)	(0)	
10	BULK FUEL								
11	PACKAGED FUEL								
12	CHEMICALS (NONFLAMMABLE)								
13	CHEMICALS (FLAMMABLE)								
14	COMPRESSED GAS								
15	OTHER PETROLEUM,OILS, AND LUBRICANTS (SPECIAL LUBES AND GREASE)								
--	TOTAL PETROLEUM					(0)	(0)	(0)	
16	SMALL ARMS								
17	HIGH EXPLOSIVES								
18	PYROTECHNICS								
19	NUCLEAR								
20	MISSILES								
21	INERT								
--	TOTAL AMMUNITION					(0)	(0)	(0)	
22	VEHICLES, EQUIPMENT, HEAVY LIFTS								
23	TOTAL SQUARE FEET								
24	AIRCRAFT (OPERATIONAL)								
25	NUMBER OF AIRCRAFT								
TOTAL SUPPLIES AND EQUIPMENT (ADD NUMBERS IN PARENTHESES)						(0)	(0)	(0)	
UNIT PERSONNEL AND TONNAGE TABLE SUMMARY									
MEASUREMENT TONS:		0.00		S/TONS:		0.00			
UNIT NAME:				CERTIFIED:					
SHIP NAME:				DATE:					

Figure H-3. Unit Personnel and Tonnage Table

(1) **Personnel Section.** A recapitulation of personnel by grade to assist in billeting. Entries are self-explanatory.

(2) **Supplies and Equipment Section.** Identification of supplies and equipment by stowage requirements or handling category.

(a) **Line 1, Rations.** The number of pallets, cubic feet, and weight of all type rations, including sundry packs.

(b) **Line 2, Water.** The number of pallets, cubic feet, and weight embarked in cans or drums. This figure does not include water carried in tankers or

trailers. The weight of water carried in tankers or trailers will be included in the gross weight of the vehicle.

(c) **Line 3, Personnel Baggage.** The weight of baggage.

(d) **Line 4, Organizational Cargo (Troop Stowed).** The weight of items to be stowed in offices or billeting spaces for use onboard ship.

(e) **Line 5, Organizational Cargo (Hold Stowed).** The number of pallets, cubic feet, and weight of unit cargo for general stowage.

(f) **Line 6, Construction and Field Fortification.** The number of pallets, cubic feet, and weight of items for construction and field fortifications, including cement, timber, barbed wire, posts, and sandbags.

(g) **Line 7, Nonmilitary Support.** The number of pallets, cubic feet, and weight of items for redevelopment, disaster relief, foreign humanitarian assistance, and civil-military operations.

(h) **Line 8, Medical and Dental.** The number of pallets, cubic feet, and weight of all medical and dental equipment and supplies, and includes mount-out blocks. This figure does not include tents, cots, and related organizational cargo for establishment of aid stations or field hospitals.

(i) **Line 9, Personal Demand Items.** The number of pallets, cubic feet, and weight of items for resale (exchange supplies).

(j) **Line 10, Bulk Fuel.** The weight of all LF fuels carried in ship's tanks. Fuel carried in embarked fuel tankers or trailers will not be shown as line 10. The weight will be included in the vehicle gross weight.

(k) **Line 11, Packaged Fuel.** The number of drums, cubic feet, and weight of all types of drummed or canned fuels that require stowage in authorized fuel stowage areas. This figure does not include fuels preloaded aboard cargo vehicles.

(l) **Line 12, Chemicals (Nonflammable).** The number of pallets, cubic feet, and weight of packaged nonflammable chemicals, and includes water purification materials, water softening materials, fire extinguishing materials.

(m) **Line 13, Chemicals (Flammable).** The number of pallets, cubic feet, and weight of packaged flammable chemicals, and includes cleaning solvents and trioxane.

(n) **Line 14, Compressed Gas.** The number of pallets, cubic feet, and weight of compressed gas cylinders, including oxygen and acetylene.

(o) **Line 15, Other POL (Special Lubes and Grease).** The number of pallets, cubic feet, and weight of all special lubricants and greases, including graphite, gear oil, instrument grease, and waxes.

(p) **Line 16, Small Arms.** The number of pallets, cubic feet, and weight of all small arms ammunition. Generally, this figure consists of ammunition of .50 caliber and less.

(q) **Line 17, High Explosives.** The number of pallets, cubic feet, and weight of high explosive items, including artillery ammunition, demolition materials, and hand grenades.

(r) **Line 18, Pyrotechnics.** The number of pallets, cubic feet, and weight of items that require special handling or stowage because of their sensitivity, such as flares, thermite, and blasting caps.

(s) **Line 19, Nuclear.** The number of pallets, cubic feet, and weight of all nuclear ordnance that requires special handling and stowage.

(t) **Line 20, Missiles.** The number of pallets, cubic feet, and weight of missiles requiring special handling and stowage.

(u) **Line 21, Inert.** The number of pallets, cubic feet, and weight of inert munitions, including training devices.

(v) **Line 22, Vehicles, Equipment, Heavy Lifts.** The number of lifts and gross weight of all items that require square foot stowage. This figure includes vehicles, crated A/C, and items that preclude relocation when placed because of weight or because configuration or characteristics prevent overstay.

(w) **Line 23, Total Square Feet.** The total square feet of the items entered on line 22.

(x) **Line 24, Aircraft (Operational).** The total weight of operational aircraft to be embarked. Only the weight entry is required, as operational and maintenance space requirements are determined separately when computing LF requirements.

(y) **Line 25, Number of Aircraft.** The quantity of operational aircraft from which the line 24 entry is derived.

(3) **UP&TT Summary Section.** Summaries of the preceding entries to provide rapid identification of overall lift requirements.

(4) **Measurement Tons.** Enter result of dividing total cubic feet from the supplies and equipment section by 40.

(5) **Short Tons.** Enter result of dividing total weight from the supplies and equipment section by 2,000.

(6) **Unit Name.** Enter unit name or embarkation unit designation.

(7) **Certified.** Requires signature of unit commander or COT.

(8) **Ship Name.** Enter name of ship if UP&TT is for an embarkation team.

(9) **Date.** Enter date UP&TT is certified as being correct.

2. Loading Plan Documents

Loading plans prepared by the TEO for each ship consist of the documents described in this paragraph. All documents are prepared by TEOs and locally reproduced on 8.5 by 14-inch paper as shown in the appropriate figures. The format for the consolidated UP&TT, C&LAT, and VS&PT are identical to the unit documents with the word “CONSOLIDATED,” added to the document titles.

a. **Loading Plan Cover Page.** The loading plan cover page gives the name of the ship and lists the embarking units. The embarkation team commander indicates approval of the tentative plan by signing the cover page. **The complete plan is then forwarded to both the COT and the ship’s commanding officer who, in turn, indicates approval of the loading plan by signing the cover page. All subsequent changes to the load plan must also have the approval of the ship’s commanding officer and COT.** If the ship’s commanding officer’s approval is qualified and if the embarkation team commander does not concur with the qualifying remarks, the subject is referred to the next higher echelon for resolution. Reproduction and distribution of the approved plan by the embarkation team commander is in accordance with higher echelon SOP or other instructions. Figure H-4 illustrates the format for the loading plan cover page.

b. **Consolidated Embarkation and Tonnage Table.** The consolidated embarkation and tonnage table lists all units embarked in a single ship together with the total personnel, total cubic feet, square feet, and short tons of cargo. It is prepared from information contained in the UP&TTs submitted by each embarking unit or detachment. Figure H-5 illustrates this table. At the top of the form, in the blocks provided, the ship designation, embarkation team designation, and name of embarkation team commander are entered. Under the column “organization,” the designation of each unit that has submitted a UP&TT is entered. Across the page, under appropriate columns, personnel and cargo data pertaining to each unit are entered. Data to be entered are extracted from lines 3 through 9, and 22 through 24, of the UP&TT submitted by each organization.

LOADING PLAN (COVER PAGE)	
Ship	_____
Embarkation Team	_____
Troop Units Embarked:	_____

Prepared by:	_____
Team Embarkation Officer	
APPROVED:	_____
Date	Commanding Officer of Troops
APPROVED:	_____
Date	Commanding Officer USS

Figure H-4. Loading Plan (Cover Page)

After entries pertaining to personnel and cargo of the organizations have been entered, the words “Landing Force Supplies” are entered in the “Organization” column. A one-line entry is made under the cargo columns for the cubic feet and short tons of all subsistence, ammunition, and POL. The entry is derived from combining the entries on the consolidated UP&TT. The column totals for personnel and cargo on the consolidated UP&TT must agree with the personnel and cargo totals of all the embarked units UP&TT on a single ship.

CONSOLIDATED EMBARKATION AND TONNAGE TABLE						
SHIP:						
EMBARKATION TEAM:						
COMMANDING OFFICER OF TROOPS:						
TEAM EMBARKATION OFFICER:						
ORGANIZATION	PERSONNEL			CARGO/VEHICLES		
	OFFICERS	ENLISTED	TOTAL	SQUARE FEET	CUBIC FEET	SHORT TONS
TOTALS						

Figure H-5. Consolidated Embarkation and Tonnage Table

c. **Consolidated Unit Personnel and Tonnage Table.** The consolidated UP&TT is a sum of the individual UP&TTs submitted by each of the embarking units or detachments. The same format is used for the consolidated and individual UP&TTs (see Figure H-3). When completed, the consolidated UP&TT provides the embarkation team commander, ship's commanding officer, and higher echelon commanders with an accurate tabulation of personnel to be embarked and the amount and type of cargo to be loaded. The table is also of value to the embarkation unit, element, or group, and LF embarkation officers in the verification of tables that form part of the embarkation plan.

d. **Consolidated Cargo and Loading Analysis Table.** The consolidated C&LAT is a sum of unit C&LAT (see Figure H-1) and provides the basis for stowage plans. In

its final form, the consolidated C&LAT is a complete listing of detailed stowage information on all cargo except vehicles. It is of vital importance to logistic control personnel during the ship-to-shore movement because it shows the stowage location of all cargo for each ship.

e. **Consolidated Vehicle Summary and Priority Table.** The consolidated VS&PT is a consolidation of unit VS&PT inputs (see Figure H-2) and provides a listing of all vehicles to be embarked in the ship in off-loading priority sequence. The off-loading priority is determined by the embarkation team commander after consideration and reconciliation of the off-loading priorities desired by each embarking unit. The team commander must ensure that priorities are in accordance with the priorities established by the landing plan. The VS&PT is the basis for vehicle stowage plans. It is of value to persons concerned with loading, off-loading, and logistic control during the ship-to-shore movement.

f. **Consolidated Vehicle Table.** The consolidated vehicle table is a summary of all vehicles listed on the consolidated VS&PT by types and by the units to which they belong (see Figure H-6).

g. **Stowage Diagrams.** Stowage diagrams (see Figure H-7), graphically show the placement of cargo aboard ship. These diagrams give the exact location of vehicles and cargo within each cargo compartment. Each vehicle is represented by an individual vehicle template prepared to the same scale as that used in the stowage diagrams. The following information is included on each template (see Figure H-8):

(1) Vehicle priority number (in parentheses). The priority number also indicates the front of the vehicle.

(2) Marriage Designator; the letter “M” followed by the priority number of the other vehicle that constitutes a marriage (if applicable).

(3) Landing serial number.

(4) Vehicle description.

(5) Owning unit/organization (company/battery, battalion, regiment).

(6) Vehicle height (feet and inches).

(7) Gross weight of vehicle (pounds).

[illegible]

Figure H-6. Consolidated Vehicle Table

h. Cargo space diagrams found in the SLCP are used to prepare the individual stowage diagrams. In addition to the graphic presentation on the diagram itself, the items contained in each cargo compartment are listed in manifest form, which is attached to the compartment stowage diagram. These forms also show the following data as obtained from the SLCP:

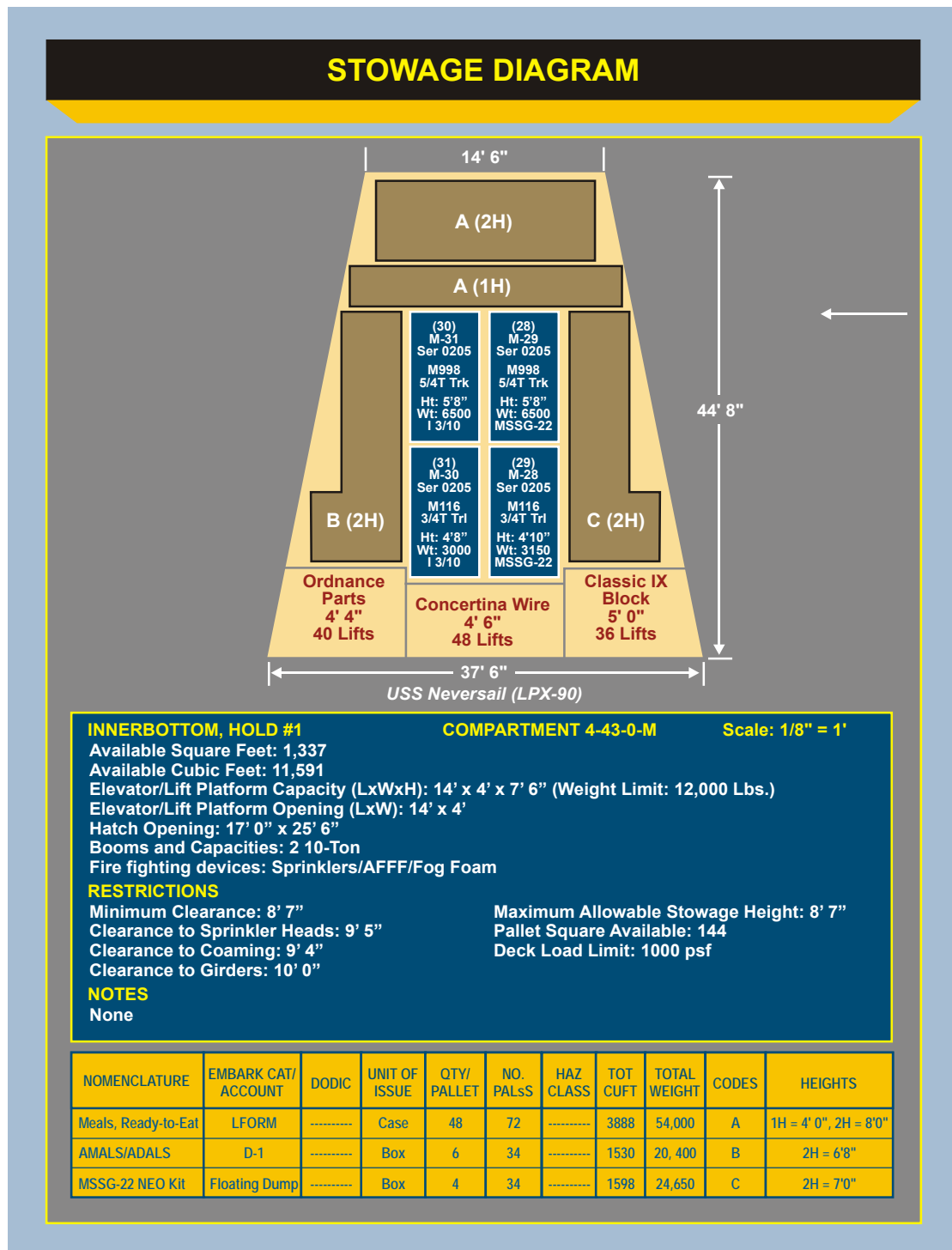


Figure H-7. Stowage Diagram

- (1) Dimensions of compartment.
- (2) Location of obstructions.

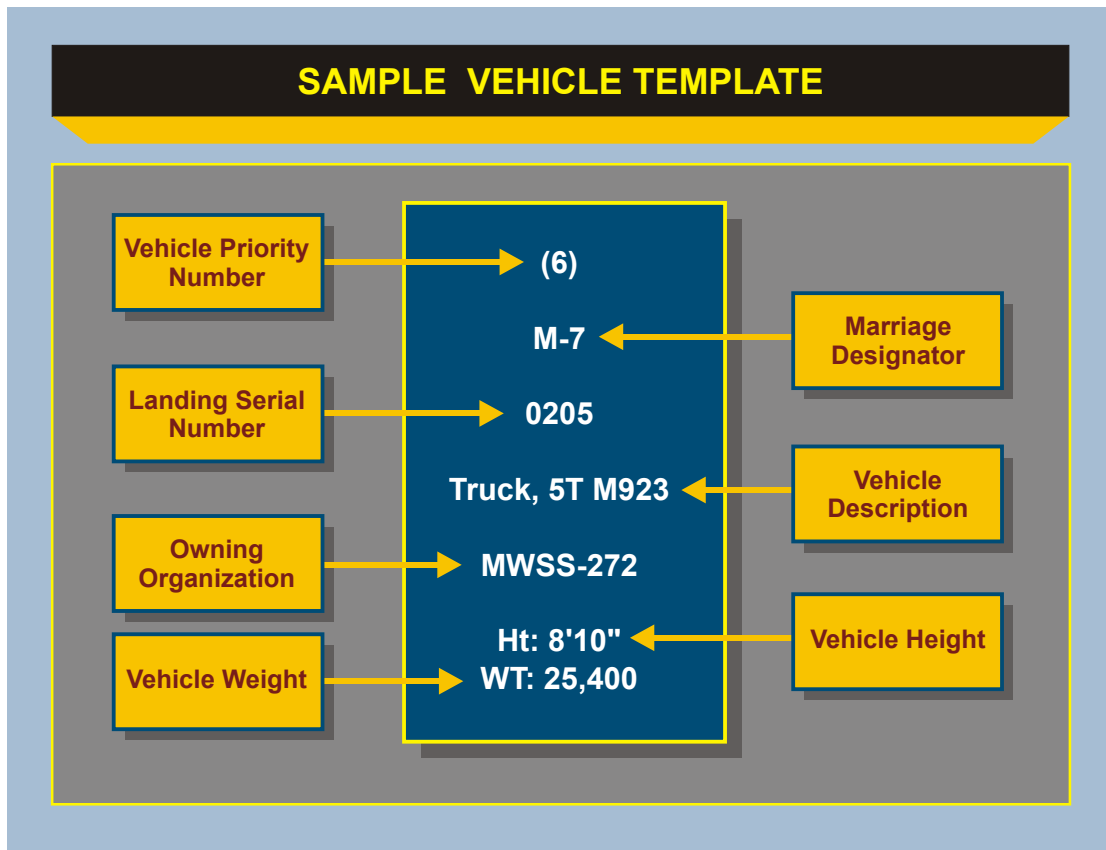


Figure H-8. Sample Vehicle Template

- (3) Dimensions of overhead (hatch) opening.
- (4) Overhead stowage restrictions.
- (5) Deck load limits.
- (6) Square and cubic feet stowage capacities.
- (7) Capacity of booms (if applicable).

i. **Profile-Loading Diagram.** The profile-loading diagram is a distorted profile view of the ship showing cargo compartments in which cargo and LFORM are stowed (see Figure H-9). Profile-loading diagrams are used for MSC, commercial vessel, and RRF amphibious cargo ship assets and are included in the completed loading plan for cargo ships. The form includes an estimate of off-loading time for each hold. Whenever possible, the TEO should be assisted by the CCO, ship's first lieutenant, or first mate, where applicable, when preparing stowage diagrams and profile-loading diagrams. In each cargo space, the number of lifts, nomenclature, vehicle priority numbers, and gross

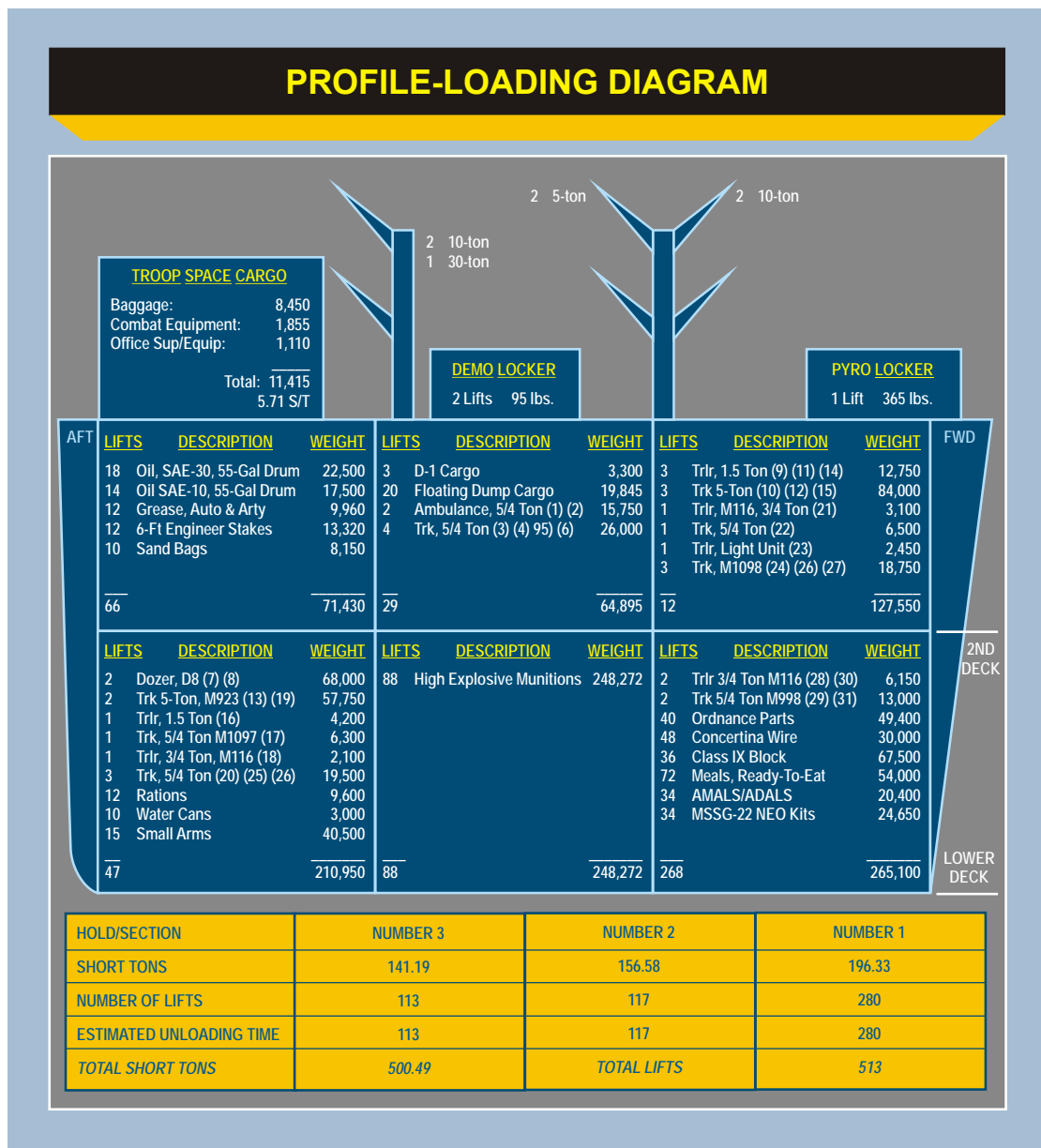


Figure H-9. Profile-Loading Diagram

weight in pounds of each type of vehicle are shown. Cargo of the same type in a compartment is combined, indicating the number of lifts, description, and total weight. Compartment weights are totaled. Bulk cargo averages one short ton per lift, except ammunition, which averages 1.5 tons per lift. Each vehicle, pallet, ISO container, CONEX, or heavy lift is one lift. The lower portion of the profile-loading plan shows the number of short tons, number of lifts, and estimated off-loading time for each section, plus a summary total for short tons and total lifts.

3. Steps in Preparing the Loading Plan

The detailed loading plan of a ship is the consolidation, under one cover, of all required loading forms. Figure H-10 illustrates the sequence of preparation and

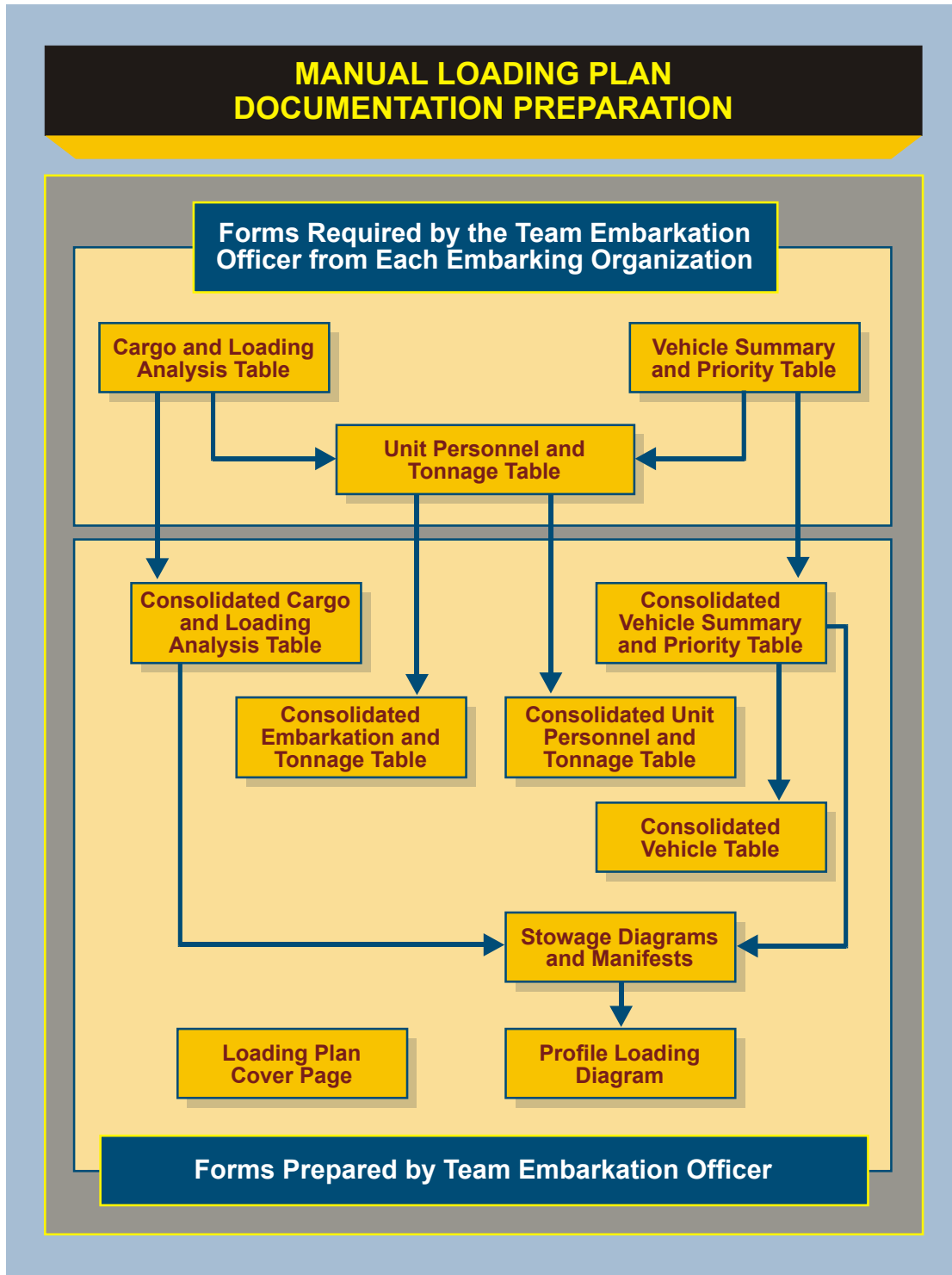


Figure H-10. Manual Loading Plan Documentation Preparation

interrelationship of loading forms comprising the completed loading plan. In preparing the plan, the following steps are accomplished:

- a. Consolidate UP&TTs.
- b. Consolidate C&LATs.
- c. Obtain off-loading priorities and composition of tactical serials from the embarkation team commander via the appropriate landing plan documents.
- d. Consolidate VS&PTs.
- e. Cut vehicle, PALCON, and heavy-lift templates. Mark each vehicle template with its off-loading priority number, marriage designator, landing serial number, vehicle description, owning organization, height, and gross weight. Mark heavy-lift templates with organization, height, gross weight, and content or type. Mark pallet or container templates with height, gross weight, and content. Where it is considered essential to identify pallets by unit title, the organization to which they belong should be indicated on the template.
- f. Lay out stowage diagrams in proper horizontal and vertical order.
- g. Plan stowage of vehicles in accordance with priorities assigned and the tactical serial composition.
- h. Plan stowage of priority cargo designated for early off-loading.
- i. Plan stowage of palletized or containerized cargo.
- j. Plan stowage of heavy lifts.
- k. Plan stowage of ammunition and rations to be issued to troops before debarkation.
- l. Prepare and maintain a time study in order to balance the off-loading time of the holds as nearly as possible.
- m. Plan the stowage of standard cargo.
- n. Complete and manifest the stowage diagrams. Balance the cube and weight of manifest with the UP&TT.
- o. Complete the “where stowed” column of the C&LAT and the VS&PT.

- p. Complete and check the time study. Adjust the stowage plan as required.
- q. Prepare the profile loading plan and balance it against the UP&TT.
- r. Assemble the loading plan in the following order:
 - (1) Loading plan cover page.
 - (2) Consolidated embarkation and tonnage table.
 - (3) Consolidated UP&TT.
 - (4) Consolidated C&LAT.
 - (5) Consolidated VS&PT.
 - (6) Consolidated vehicle table.
 - (7) Stowage diagrams and stowage diagram manifests.
 - (8) Profile loading diagram (for cargo ships only).

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APPENDIX J

REFERENCES

The development of JP 3-02.1 is based upon the following primary references.

1. General Publications

- a. Title 49, CFR, *Department of Transportation Materials Regulation*, October 2001, Parts 100 to 185, 2002.
- b. *IMDG*, Code, Amendment 34, 2008 edition.
- c. MIL-STD 129P, *Military Marking for Shipment and Storage*.

2. Chairman of the Joint Chiefs of Staff

- a. CJCSM 3122.01A, *Joint Operation Planning and Execution System (JOPES), Volume I (Planning Policies and Procedures)*.
- b. CJCSM 3122.02C, *Joint Operation Planning and Execution System (JOPES), Volume III (Crisis Action Time-Phased Force and Deployment Data Development and Deployment Execution)*.
- c. CJCSM 3122.03C, *Joint Operation Planning and Execution System (JOPES), Volume II (Planning Formats)*.

3. Joint Publications

- a. JP 1, *Doctrine for the Armed Forces of the United States*.
- b. JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*.
- c. JP 3-0, *Joint Operations*.
- d. JP 3-02, *Amphibious Operations*.
- e. JP 3-04, *Joint Shipboard Helicopter Operations*.
- f. JP 3-15, *Barriers, Obstacles, and Mine Warfare for Joint Operations*.
- g. JP 3-16, *Multinational Operations*.
- h. JP 3-18, *Joint Forcible Entry Operations*.
- i. JP 3-33, *Joint Task Force Headquarters*.

- j. JP 4-0, *Joint Logistics*.
- k. JP 4-01.2, *Sealift Support to Joint Operations*.
- l. JP 4-01.5, *Joint Terminal Operations*.
- m. JP 4-01.6, *Joint Logistics Over-the-Shore*.
- n. JP 4-08, *Logistic Support of Multinational Operations*.
- o. JP 6-0, *Joint Communications System*.

4. Allied Publications

- a. ATP 8(B), Volume I, *Doctrine for Amphibious Operations*.
- b. ATP 8(B), Volume II, *Tactics, Techniques, and Procedures for Amphibious Operations*.

5. Multi-Service Publication

FM 38-701/MCO P4030.21D/NAVSUP Publication 503/Air Force Joint Pamphlet 24-209/Defense Logistics Agency Instruction 4145.2, *Packaging of Material*.

6. US Army

- a. FM 3-0, *Operations*.
- b. FM 55-1, *Transportation Operations*.
- c. FM 55-50, *Army Water Transport Operations*.
- d. FM 55-60, *Army Terminal Operations*.

7. US Marine Corps

- a. Marine Corps Doctrinal Publication (MCDP) 1, *Warfighting*.
- b. MCDP 3, *Expeditionary Operations*.
- c. MCRP 3-31B, *Amphibious Ships and Landing Craft Data Book*.
- d. MCRP 4-11.3F, *Convoy Operations Handbook*.

- e. MCRP 4-11C, *Combat Cargo Operations Handbook*.
- f. MCWP 3-11.4, *Helicopterborne Operations*.
- g. MCWP 3-13, *Employment of Assault Amphibious Vehicles*.
- h. MCWP 4-11.3, *Transportation Operations*.

8. US Navy

- a. Naval Doctrine Pub 1, *Naval Warfare*.
- b. NWP 3-02.21, *MSC Support of Amphibious Operations*.
- c. NWP 3-20.6 Series, *Amphibious Ships Tactical Manuals*.

9. US Navy – US Marine Corps Dual-Designated

- a. NTTP 3-02.1M/MCWP 3-31.5, *Ship-to-Shore Movement*.
- b. NTTP 3-02.3M/MCWP 3-32, *Maritime Prepositioning Force Operations*.
- c. NTTP 3-02.14, *The Naval Beach Group*.
- d. NWP 3-02.12/MCRP 3-31.1A, *Employment of Landing Craft Air Cushion (LCAC)*.

10. Other Key References

- a. Chief of Naval Operations Instruction 5720.2 (series), *Embarkation in USN Ships*.
- b. Naval Air 00-80T-106, *LHA/LHD Naval Air Training and Operating Procedures Standardization Manual*.

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APPENDIX K ADMINISTRATIVE INSTRUCTIONS

1. User Comments

Users in the field are highly encouraged to submit comments on this publication to: Commander, United States Joint Forces Command, Joint Warfighting Center, ATTN: Joint Doctrine and Education Group, 116 Lake View Parkway, Suffolk, VA 23435-2697. These comments should address content (accuracy, usefulness, consistency, and organization), writing, and appearance.

2. Authorship

The lead agent for this publication is the US Marine Corps. The Joint Staff doctrine sponsor for this publication is the Joint Staff/J-7.

3. Change Recommendations

- a. Recommendations for urgent changes to this publication should be submitted:

TO: CC MCCDC QUANTICO VA//C427//
INFO: JOINT STAFF WASHINGTON DC//J7-JEDD//
CDRUSJFCOM SUFFOLK VA//JT10//

Routine changes should be submitted electronically to Commander, Joint Warfighting Center, Joint Doctrine Group and info the Lead Agent and the Director for Operational Plans and Joint Force Development J-7/JEDD via the CJCS JEL at <http://www.dtic.mil/doctrine>.

- b. When a Joint Staff directorate submits a proposal to the Chairman of the Joint Chiefs of Staff that would change source document information reflected in this publication, that directorate will include a proposed change to this publication as an enclosure to its proposal. The Services and other organizations are requested to notify the Joint Staff/J-7 when changes to source documents reflected in this publication are initiated.

- c. Record of Changes:

CHANGE NUMBER	COPY NUMBER	DATE OF CHANGE	DATE ENTERED	POSTED BY	REMARKS

4. Distribution of Publications

Local reproduction is authorized and access to unclassified publications is unrestricted. However, access to and reproduction authorization for classified joint publications must be in accordance with DOD 5200.1-R, *Information Security Program*.

5. Distribution of Electronic Publications

a. Joint Staff J-7 will not print copies of joint publications for distribution. Electronic versions are available on JDEIS at <https://jdeis.js.mil> (NIPRNET), and <https://jdeis.js.smil.mil> (SIPRNET) and on the JEL at <http://www.dtic.mil/doctrine> (NIPRNET).

b. Only approved joint publications and joint test publications are releasable outside the combatant commands, Services, and Joint Staff. Release of any classified joint publication to foreign governments or foreign nationals must be requested through the local embassy (Defense Attaché Office) to DIA, Defense Foreign Liaison/IE-3, 200 MacDill Blvd., Bolling AFB, Washington, DC 20340-5100.

c. CD-ROM. Upon request of a JDDC member, the Joint Staff J-7 will produce and deliver one CD-ROM with current joint publications.

GLOSSARY

PART I — ABBREVIATIONS AND ACRONYMS

AAV	amphibious assault vehicle
A/C	aircraft
ACB	amphibious construction battalion
AE	assault echelon
AF	amphibious force
AFOE	assault follow-on echelon
AIT	automated information technology
ALEP	amphibious lift enhancement program
AMC	Air Mobility Command
APS	Army pre-positioned stocks
ARG	amphibious ready group
ATF	amphibious task force
ATP	allied tactical publication
BALS	berthing and loading schedule
C2	command and control
C&LAT	cargo and loading analysis table
CATF	commander, amphibious task force
CBRN	chemical, biological, radiological, and nuclear
CCA	combat cargo assistant
CCO	combat cargo officer
CDRUSTRANSCOM	Commander, United States Transportation Command
CHB	cargo-handling battalion
CI	counterintelligence
CJCSM	Chairman of the Joint Chiefs of Staff manual
CLASSRON	class squadron
CLF	commander, landing force
COMNAVELSG	Commander, Navy Expeditionary Logistics Support Group
CONEX	container express
CONOPS	concept of operations
COT	commanding officer of troops
DCO	debarkation control officer
DHS	Department of Homeland Security
DOA	days of ammunition
DOS	days of supply
DTG	date-time group
FM	field manual (Army)
FP	force protection
GCCS	Global Command and Control System

HN	host nation
HQ	headquarters
ICODES	integrated computerized deployment system
IMDG	international maritime dangerous goods (UN)
INLS	Improved Navy Lighterage System
ISB	intermediate staging base
ISO	International Organization for Standardization
JLOTS	joint logistics over-the-shore
JMIC	joint modular intermodal container
JOPEs	Joint Operation Planning and Execution System
JP	joint publication
LARC	lighter, amphibious resupply, cargo
LCAC	landing craft, air cushion
LCM	landing craft, mechanized
LCU	landing craft, utility
LF	landing force
LFORM	landing force operational reserve material
LHA	amphibious assault ship (general purpose)
LHD	amphibious assault ship (multipurpose)
LOTS	logistics over-the-shore
LPD	amphibious transport dock
LSD	dock landing ship
LSV	logistics support vessel
MAGTF	Marine air-ground task force
MARAD	Maritime Administration
MCDP	Marine Corps doctrine publication
MCO	Marine Corps order
MCRP	Marine Corps reference publication
MCWP	Marine Corps warfighting publication
MEB	Marine expeditionary brigade
MEF	Marine expeditionary force
MEU	Marine expeditionary unit
MHE	materials handling equipment
MIL-STD	military standard
MILVAN	military van (container)
MOGAS	motor gasoline
MOVREP	movement report
MPE/S	maritime pre-positioning equipment and supplies
MPF	maritime pre-positioning force
MPS	maritime pre-positioning ship
MPSRON	maritime pre-positioning ships squadron

MSC	Military Sealift Command
NATO	North Atlantic Treaty Organization
NAVSUP	Naval Supply Systems Command
NCHB	Navy cargo-handling battalion
NELR	Navy expeditionary logistics regiment
NEO	noncombatant evacuation operation
nm	nautical mile
NRCHB	Naval Reserve cargo-handling battalion
NSE	Navy support element
NTTP	Navy tactics, techniques, and procedures
NWP	Navy warfare publication
OE&AS	organization for embarkation and assignment to shipping
OIC	officer in charge
OPLAN	operation plan
OPORD	operation order
OPP	off-load preparation party
OPSEC	operations security
OTH	over the horizon
PALCON	pallet container
PHIBRON	amphibious squadron
POD	port of debarkation
POE	port of embarkation
POL	petroleum, oils, and lubricants
PTM	personnel transport module
QUADCON	quadruple container
RO/RO	roll-on/roll-off
ROS	reduced operating status
RRF	Ready Reserve Force
SDDC	Surface Deployment and Distribution Command
SLCP	ship's loading characteristics pamphlet
SOP	standing operating procedure
SPOE	seaport of embarkation
STANAG	standardization agreement (NATO)
TACLOG	tactical-logistical
T-ACS	auxiliary crane ship
T-AH	hospital ship
T-AVB	aviation logistics support ship
TEO	team embarkation officer

TPFDD	time-phased force and deployment data
TYCOM	type commander
UIC	unit identification code
UP&TT	unit personnel and tonnage table
USCG	United States Coast Guard
USMC	United States Marine Corps
USNS	United States Naval Ship
USTRANSCOM	United States Transportation Command
VISA	Voluntary Intermodal Sealift Agreement
VS&PT	vehicle summary and priority table
WDCO	well deck control officer
XO	executive officer

PART II—TERMS AND DEFINITIONS

Unless otherwise annotated, this publication is the proponent for all terms and definitions found in the glossary. Upon approval, JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, will reflect this publication as the source document for these terms and definitions.

administrative loading. A loading method that gives primary consideration to achieving maximum utilization of troop and cargo space without regard to tactical considerations. Equipment and supplies must be unloaded and sorted before they can be used. Also called **commercial loading**. (Approved for incorporation into JP 1-02.)

afloat pre-positioning force. Shipping maintained in full operational status to afloat pre-position military equipment and supplies in support of combatant commanders' operation plans. The afloat pre-positioning force consists of the three maritime pre-positioning ships squadrons, the Army's afloat pre-positioning stocks-3 ships, and the Navy, Defense Logistics Agency, and Air Force ships. Also called **APF**. (JP 1-02. SOURCE: JP 4-01.2)

amphibious assault. The principal type of amphibious operation that involves establishing a force on a hostile or potentially hostile shore. (JP 1-02. SOURCE: JP 3-02)

amphibious assault ship (general purpose). A naval ship designed to embark, deploy, and land elements of a landing force in an assault by helicopters, landing craft, amphibious vehicles, and by combinations of these methods. Also called **LHA**. (JP 1-02. SOURCE: JP 3-04)

amphibious assault ship (multipurpose). A naval ship designed to embark, deploy, and land elements of a landing force in an assault by helicopters, landing craft, amphibious vehicles, and by combinations of these methods. Also called **LHD**. (JP 1-02. SOURCE: JP 3-02)

amphibious force. An amphibious task force and a landing force together with other forces that are trained, organized, and equipped for amphibious operations. Also called **AF**. (JP 1-02. SOURCE: JP 3-02)

amphibious lift. The total capacity of assault shipping utilized in an amphibious operation, expressed in terms of personnel, vehicles, and measurement or weight tons of supplies. (JP 1-02. SOURCE: JP 3-02)

amphibious objective area. A geographical area (delineated for command and control purposes in the initiating directive) within which is located the objective(s) to be secured by the amphibious force. This area must be of sufficient size to ensure accomplishment of the amphibious force's mission and must provide sufficient area

for conducting necessary sea, air, and land operations. Also called **AOA**. (JP 1-02. SOURCE: JP 3-02)

amphibious operation. A military operation launched from the sea by an amphibious force, embarked in ships or craft with the primary purpose of introducing a landing force ashore to accomplish the assigned mission. (JP 1-02. SOURCE: JP 3-02)

amphibious shipping. Organic Navy ships specifically designed to transport, land, and support landing forces in amphibious assault operations and capable of being loaded or unloaded by naval personnel without external assistance in the amphibious objective area. (JP 1-02. SOURCE: JP 3-02)

amphibious squadron. A tactical and administrative organization composed of amphibious assault shipping to transport troops and their equipment for an amphibious assault operation. Also called **PHIBRON**. (JP 1-02. SOURCE: JP 3-02)

amphibious task force. A Navy task organization formed to conduct amphibious operations. The amphibious task force, together with the landing force and other forces, constitutes the amphibious force. Also called **ATF**. (JP 1-02. SOURCE: JP 3-02)

amphibious transport group. A subdivision of an amphibious task force composed primarily of transport ships. The size of the transport group will depend upon the scope of the operation. Ships of the transport group will be combat-loaded to support the landing force scheme of maneuver ashore. A transport unit will usually be formed to embark troops and equipment to be landed over a designated beach or to embark all helicopter-borne troops and equipment. (JP 1-02. SOURCE: JP 3-02)

amphibious vehicle. A wheeled or tracked vehicle capable of operating on both land and water. (JP 1-02. SOURCE: JP 3-02)

assault echelon. In amphibious operations, the element of a force comprised of tailored units and aircraft assigned to conduct the initial assault on the operational area. Also called **AE**. (JP 1-02. SOURCE: JP 3-02)

assault follow-on echelon. In amphibious operations, that echelon of the assault troops, vehicles, aircraft, equipment, and supplies that, though not needed to initiate the assault, is required to support and sustain the assault. In order to accomplish its purpose, it is normally required in the objective area no later than five days after commencement of the assault landing. Also called **AFOE**. (JP 1-02. SOURCE: JP 3-02)

assault shipping. Shipping assigned to the amphibious task force and utilized for transporting assault troops, vehicles, equipment, and supplies to the objective area. (JP 1-02. SOURCE: JP 3-02)

battalion landing team. In an amphibious operation, an infantry battalion normally reinforced by necessary combat and service elements; the basic unit for planning an assault landing. Also called **BLT**. (JP 1-02. SOURCE: JP 3-02)

broken stowage. The space lost in the holds of a vessel because of the contour of the ship and the shape of the cargo. Dunnage, ladders, and stanchions are included in broken stowage. (Approved for inclusion in JP 1-02.)

broken stowage factor. A factor applied to the available space for embarkation due to the loss between boxes, between vehicles, around stanchions, and over cargo. The factor will vary, depending on the type and size of vehicles, type and size of general cargo, training and experience of loading personnel, type of loading, method of stowage, and configuration of compartments. (Approved for inclusion in JP 1-02.)

classes of supply. The ten categories into which supplies are grouped in order to facilitate supply management and planning. I. Rations and gratuitous issue of health, morale, and welfare items. II. Clothing, individual equipment, tentage, tool sets, and administrative and housekeeping supplies and equipment. III. Petroleum, oils, and lubricants. IV. Construction materials. V. Ammunition. VI. Personal demand items. VII. Major end items, including tanks, helicopters, and radios. VIII. Medical. IX. Repair parts and components for equipment maintenance. X. Nonstandard items to support nonmilitary programs such as agriculture and economic development. (JP 1-02. SOURCE: JP 4-09)

combat cargo officer. An embarkation officer assigned to major amphibious ships or naval staffs, functioning primarily as an adviser to and representative of the naval commander in matters pertaining to embarkation and debarkation of troops and their supplies and equipment. Also called **CCO**. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

combat loading. The arrangement of personnel and the stowage of equipment and supplies in a manner designed to conform to the anticipated tactical operation of the organization embarked. Each individual item is stowed so that it can be unloaded at the required time. (JP 1-02. SOURCE: JP 3-02)

combat organizational loading. A method of loading by which a unit with its equipment and initial supplies is loaded into a single ship, together with other units, in such a manner as to be available for unloading in a predetermined order. (Approved for inclusion in JP 1-02.)

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. Also called **CSS**. (JP 1-02. SOURCE: JP 4-0)

combat spread loading. A method of combat loading by which some of the troops, equipment, and initial supplies of a unit are loaded in one ship and the remainder are loaded in one or more others. This method is commonly used for troop units with heavy equipment. (Approved for inclusion in JP 1-02.)

combat unit loading. A method of loading by which all or a part of a combat unit, such as an assault battalion landing team, is completely loaded in a single ship, with essential combat equipment and supplies, in such a manner as to be immediately available to support the tactical plan upon debarkation, and to provide a maximum of flexibility to meet possible changes in the tactical plan. (Approved for inclusion in JP 1-02.)

commander, amphibious task force. The Navy officer designated in the initiating directive as the commander of the amphibious task force. Also called **CATF**. (JP 1-02. SOURCE: JP 3-02)

commander, landing force. The officer designated in the initiating directive as the commander of the landing force for an amphibious operation. Also called **CLF**. (JP 1-02. SOURCE: JP 3-02)

commanding officer of troops. On a ship that has embarked units, a designated officer (usually the senior embarking unit commander) who is responsible for the administration, discipline, and training of all embarked units. Also called **COT**. (JP 1-02. SOURCE: JP 3-02)

commodity loading. A method of loading in which various types of cargoes are loaded together, such as ammunition, rations, or boxed vehicles, in order that each commodity can be discharged without disturbing the others. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

control group. Personnel, ships, and craft designated to control the waterborne ship-to-shore movement. (JP 1-02. SOURCE: JP 3-02)

controlled shipping. Shipping that is controlled by the Military Sealift Command. Included in this category are Military Sealift Command ships (United States Naval Ships), government-owned ships operated under a general agency agreement, and commercial ships under charter to the Military Sealift Command. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

convoy. 1. A number of merchant ships and/or naval auxiliaries usually escorted by warships and/or aircraft—or a single merchant ship or naval auxiliary under surface

escort—assembled and organized for the purpose of passage together. 2. A group of vehicles organized for the purpose of control and orderly movement with or without escort protection that moves over the same route at the same time and under one commander. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

D-day. See times. (JP 1-02. SOURCE: JP 3-02)

debarkation. The unloading of troops, equipment, or supplies from a ship or aircraft. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

debarkation net. None. (Approved for removal from JP 1-02.)

debarkation schedule. A schedule which provides for the timely and orderly debarkation of troops and equipment and emergency supplies for the waterborne ship-to-shore movement. (JP 1-02. SOURCE: JP 3-02.1)

dock landing ship. A ship designed to transport and launch loaded amphibious craft and/or amphibian vehicles with their crews and embarked personnel and/or equipment and to render limited docking and repair services to small ships and craft. Also called **LSD**. (JP 1-02. SOURCE: JP 3-02).

E-day. See times. (Approved for inclusion in JP 1-02.)

embarkation. The process of putting personnel and/or vehicles and their associated stores and equipment into ships and/or aircraft. (Approved for incorporation into JP with JP 3-02.1 as the source JP.)

embarkation area. An area ashore, including a group of embarkation points, in which final preparations for embarkation are completed and through which assigned personnel and loads for craft and ships are called forward to embark. (JP 1-02. SOURCE: JP 3-02.1)

embarkation element. A temporary administrative formation of personnel with supplies and equipment embarking or to be embarked (combat loaded) aboard the ships of one transport element. It is dissolved upon completion of the embarkation. An embarkation element normally consists of two or more embarkation teams. (Approved for inclusion in JP 1-02.)

embarkation element (unit) (group). None. (Approved for removal from JP 1-02.)

embarkation group. A temporary administrative formation of personnel with supplies and equipment embarking or to be embarked (combat loaded) aboard the ships of one transport element group. It is dissolved upon completion of the embarkation. An embarkation group normally consists of two or more embarkation units. (Approved for inclusion in JP 1-02.)

embarkation officer. An officer on the staff of units of the landing force who advises the commander thereof on matters pertaining to embarkation planning and loading ships. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

embarkation order. An order specifying dates, times, routes, loading diagrams, and methods of movement to shipside or aircraft for troops and their equipment (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

embarkation organization. A temporary administrative formation of personnel with supplies and equipment embarking or to be embarked (combat loaded) aboard amphibious shipping. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

embarkation phase. In amphibious operations, the phase which encompasses the orderly assembly of personnel and materiel and their subsequent loading aboard ships and/or aircraft in a sequence designed to meet the requirements of the landing force concept of operations ashore. (JP 1-02. SOURCE: JP 3-02.1)

embarkation plans. The plans prepared by the landing force and appropriate subordinate commanders containing instructions and information concerning the organization for embarkation, assignment to shipping, supplies and equipment to be embarked, location and assignment of embarkation areas, control and communication arrangements, movement schedules and embarkation sequence, and additional pertinent instructions relating to the embarkation of the landing force. (JP 1-02. SOURCE: JP 3-02)

embarkation team. A temporary administrative formation of all personnel with supplies and equipment embarking or to be embarked (combat load) aboard one ship. (JP 1-02. SOURCE: JP 3-02.1)

embarkation unit. A temporary administrative formation of personnel with supplies and equipment embarking or to be embarked (combat loaded) aboard the ships of one transport unit. It is dissolved upon completion of the embarkation. An embarkation unit normally consists of two or more embarkation elements. (Approved for inclusion in JP 1-02.)

fleet. An organization of ships, aircraft, Marine forces, and shore-based fleet activities all under the command of a commander who may exercise operational as well as administrative control. (Approved for incorporation into JP 1-02.)

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. (JP 1-02. SOURCE: JP 3-02)

follow-up. In amphibious operations, the reinforcements and stores carried on transport ships and aircraft (not originally part of the amphibious force) that are off-loaded after the assault and assault follow-on echelons have been landed. (JP 1-02. SOURCE: JP 3-02)

follow-up shipping. Ships not originally a part of the amphibious task force but which deliver troops and supplies to the objective area after the action phase has begun. (JP 1-02. SOURCE: JP 3-02)

force protection. Preventive measures taken to mitigate hostile actions against Department of Defense personnel (to include family members), resources, facilities, and critical information. Force protection does not include actions to defeat the enemy or protect against accidents, weather, or disease. Also called **FP**. (JP 1-02. SOURCE: JP 3-0)

general agency agreement. A contract between the Maritime Administration and a steamship company which, as general agent, exercises administrative control over a government-owned ship for employment by the Military Sealift Command. Also called **GAA**. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

general unloading period. 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. See also initial unloading period. (JP 1-02. SOURCE: JP 3-02)

Global Command and Control System. A deployable command and control system supporting forces for joint and multinational operations across the range of military operations with compatible, interoperable, and integrated communications systems. Also called **GCCS**. (JP 1-02. SOURCE: JP 6-0)

government-owned, contract-operated ships. Those ships to which the US Government holds title and which the Military Sealift Command operates under a contract (i.e., nongovernment-manned). These ships are designated United States Naval Ships and use the prefix “USNS” with the ship name and the letter “T” as a prefix to the ship classification (e.g., T-AKR). (JP 1-02. SOURCE: JP 4-01.2)

government-owned, Military Sealift Command-operated ships. Those ships to which the US Government holds title and which the Military Sealift Command operates with US Government (civil service) employees. These ships are designated United States Naval Ships and use the prefix “USNS” with the ship name and the letter “T” as a prefix to the ship classification (e.g., T-AKR). (JP 1-02. SOURCE: JP 4-01.2)

hazardous cargo. Cargo that includes not only large bulk-type categories such as explosives, pyrotechnics, petroleum, oils, and lubricants, compressed gases, corrosives and batteries, but lesser quantity materials like super-tropical bleach (oxidizer), pesticides, poisons, medicines, specialized medical chemicals and medical waste that can be loaded as cargo. (Approved for inclusion in JP 1-02.)

horizontal stowage. The lateral distribution of unit equipment or categories of supplies so that they can be unloaded simultaneously from two or more holds. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

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. See also general unloading period. (JP 1-02. SOURCE: JP 3-02)

landing craft. A craft employed in amphibious operations, specifically designed for carrying troops and their equipment and for beaching, unloading, and retracting. It is also used for resupply operations. (JP 1-02. SOURCE: JP 3-02)

landing force. A Marine Corps or Army task organization formed to conduct amphibious operations. The landing force, together with the amphibious task force and other forces, constitute the amphibious force. Also called **LF**. (JP 1-02. SOURCE: JP 3-02)

landing force operational reserve material. Package of contingency supplies pre-positioned and maintained onboard selected amphibious ships to enhance reaction time and provide support for the embarked landing force in contingencies. Also called **LFORM**. (Approved for inclusion in JP 1-02.)

landing sequence table. A document that incorporates the detailed plans for ship-to-shore movement of nonscheduled units. (JP 1-02. SOURCE: JP 3-02)

landing ship. An assault ship which is designed for long sea voyages and for rapid unloading over and on to a beach. (JP 1-02. SOURCE: JP 3-02)

lighterage. The process in which small craft are used to transport cargo or personnel from ship to shore. Lighterage may be performed using amphibians, landing craft, discharge lighters, causeways, and barges. (JP 1-02. SOURCE: JP 4-01.6)

loading plan. All of the individually prepared documents which, taken together, present in detail all instructions for the arrangement of personnel, and the loading of equipment for one or more units or other special grouping of personnel or material moving by highway, water, rail, or air transportation. (JP 1-02. SOURCE: JP 3-02.1)

logistics over-the-shore operations. The loading and unloading of ships without the benefit of deep draft-capable, fixed port facilities; or as a means of moving forces closer to tactical assembly areas dependent on threat force capabilities. Also called **LOTS operations.** (JP 1-02. SOURCE: JP 4-01.6)

maritime pre-positioning ships. Civilian-crewed, Military Sealift Command-chartered ships that are organized into three squadrons and are usually forward-deployed. These ships are loaded with pre-positioned equipment and 30 day of supplies to support three Marine expeditionary brigades. Also called **MPSs.** (Approved for incorporation into JP 1-02.)

marshalling. 1. The process by which units participating in an amphibious or airborne operation group together or assemble when feasible or move to temporary camps in the vicinity of embarkation points, complete preparations for combat, or prepare for loading. 2. The process of assembling, holding, and organizing supplies and/or equipment, especially vehicles of transportation, for onward movement. (JP 1-02. SOURCE: JP 3-17)

master. The commanding officer of a United States Naval Ship, a commercial ship, or a government-owned general agency agreement ship operated for the Military Sealift Command by a civilian company to transport Department of Defense cargo. Also called **MA.** (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

Military Sealift Command. A major command of the US Navy reporting to Commander Fleet Forces Command, and the US Transportation Command's component command responsible for designated common-user sealift transportation services to deploy, employ, sustain, and redeploy US forces on a global basis. Also called **MSC.** (JP 1-02. SOURCE: JP 4-01.2)

mounting. 1. All preparations made in areas designated for the purpose, in anticipation of an operation. It includes the assembly in the mounting area, preparation and maintenance within the mounting area, movement to loading points, and subsequent embarkation into ships, craft, or aircraft if applicable. 2. A carriage or stand upon which a weapon is placed. (Approved for incorporation into JP 1-02.)

mounting area. A general locality where assigned forces of an amphibious or airborne operation, with their equipment, are assembled, prepared, and loaded in shipping and/or aircraft preparatory to an assault. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

movement group. Those ships and embarked units that load out and proceed to rendezvous in the objective area. (JP 1-02. SOURCE: JP 3-02)

National Defense Reserve Fleet. 1. Including the Ready Reserve Force, a fleet composed of ships acquired and maintained by the Maritime Administration for use

in mobilization or emergency. 2. Less the Ready Reserve Force, a fleet composed of the older dry cargo ships, tankers, troop transports, and other assets in Maritime Administration's custody that are maintained at a relatively low level of readiness. They are acquired by Maritime Administration from commercial ship operators under the provisions of the Merchant Marine Act of 1936 and are available only on mobilization or congressional declaration of an emergency. Because the ships are maintained in a state of minimum preservation, activation requires 30 to 90 days and extensive shipyard work, for many. Also called **NDRF**. (Approved for incorporation into JP 1-02 with JP 4-01.2 as the source JP.)

Navy cargo-handling battalion. A mobile logistic support unit capable of worldwide deployment in its entirety or in specialized detachments. It is organized, trained, and equipped to: a. load and off-load Navy and Marine Corps cargo carried in maritime pre-positioning ships and merchant breakbulk or container ships in all environments; b. operate an associated temporary ocean cargo terminal; c. load and off-load Navy and Marine Corps cargo carried in military-controlled aircraft; and d. operate an associated expeditionary air cargo terminal. Also called **NCHB or Navy CHB**. (Approved for replacement of "Navy cargo handling battalion" and its definition in JP 1-02.)

Navy support element. The maritime pre-positioning force element that is composed of naval beach group staff and subordinate unit personnel, a detachment of Navy cargo handling force personnel, and other Navy components, as required. It is tasked with conducting the off-load and ship-to-shore movement of maritime pre-positioned equipment and/or supplies. Also called **NSE**. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

organization for embarkation. In amphibious operations, the organization for embarkation consisting of temporary landing force task organizations established by the commander, landing force and a temporary organization of Navy forces established by the commander, amphibious task force for the purpose of simplifying planning and facilitating the execution of embarkation. (JP 1-02. SOURCE: JP 3-02)

plan for landing. In amphibious operations, a collective term referring to all individually prepared naval and landing force documents which, taken together, present in detail all instructions for execution of the ship-to-shore movement. (JP 1-02. SOURCE: JP 3-02)

primary control officer. In amphibious operations, the officer embarked in a primary control ship assigned to control the movement of landing craft, amphibious vehicles, and landing ships to and from a colored beach. Also called **PCO**. (JP 1-02. SOURCE: JP 3-02)

reduced operating status. Applies to the Military Sealift Command ships withdrawn from full operating status because of decreased operational requirements. A ship in

reduced operating status is crewed for a level of ship maintenance and possible future operational requirements, with crew size predetermined contractually. The condition of readiness in terms of calendar days required to attain full operating status is designated by the numeral following the acronym ROS (e.g., ROS-5). Also called **ROS**. (JP 1-02. SOURCE: JP 4-01.6)

remain-behind equipment. Unit equipment left by deploying forces at their bases when they deploy. (JP 1-02. SOURCE: JP 4-05)

selective loading. The arrangement and stowage of equipment and supplies aboard ship in a manner designed to facilitate issues to units. (Approved for incorporation into JP 1-02 with JP 3-02.1 as the source JP.)

selective off-loading. The capability to access and off-load vehicles, supplies, and equipment without having to conduct a major reconfiguration or total off-load; influenced by the number and types of ships allocated, and the space made available for the embarkation of the landing force. (Approved for inclusion in JP 1-02.)

serial. 1. 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. 2. A serial can be a group of people, vehicles, equipment, or supplies and is used in airborne, air assault, amphibious operations, and convoys. (JP 1-02. SOURCE: JP 3-02)

serial assignment table. A table that is used in amphibious operations and shows the serial number, the title of the unit, the approximate number of personnel; the material, vehicles, or equipment in the serial; the number and type of landing craft and/or amphibious vehicles required to boat the serial; and the ship on which the serial is embarked. (JP 1-02. SOURCE: JP 3-02)

ship-to-shore movement. That portion of the action phase of an amphibious operation which includes the deployment of the landing force from the assault shipping to designated landing areas. (JP 1-02; SOURCE: JP 3-02)

special unloading berth. None. (Approved for removal from JP 1-02.)

staging area. 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. Also called **SA**. (JP 1-02. SOURCE: JP 3-35)

stowage. The method of placing cargo into a single hold or compartment of a ship to prevent damage, shifting, etc. (JP 1-02. SOURCE: JP 3-02)

tactical-logistical group. Representatives designated by troop commanders to assist Navy control officers aboard control ships in the ship-to-shore movement of troops, equipment, and supplies. Also called **TACLOG group**. (JP 1-02. SOURCE: JP 3-02)

times. (C-, D-, M-days end at 2400 hours Universal Time [Zulu time] and are assumed to be 24 hours long for planning.) The Chairman of the Joint Chiefs of Staff normally coordinates the proposed date with the commanders of the appropriate unified and specified commands, as well as any recommended changes to C-day. L-hour will be established per plan, crisis, or theater of operations and will apply to both air and surface movements. Normally, L-hour will be established to allow C-day to be a 24- hour day. a. **C-day.** The unnamed day on which a deployment operation commences or is to commence. The deployment may be movement of troops, cargo, weapon systems, or a combination of these elements using any or all types of transport. The letter “C” will be the only one used to denote the above. The highest command or headquarters responsible for coordinating the planning will specify the exact meaning of C-day within the aforementioned definition. The command or headquarters directly responsible for the execution of the operation, if other than the one coordinating the planning, will do so in light of the meaning specified by the highest command or headquarters coordinating the planning. b. **D-day.** The unnamed day on which a particular operation commences or is to commence. (JP 3-02) c. **E-day.** The day landing force personnel, supplies and equipment begin to be embarked aboard amphibious or commercial ships. d. **F-hour.** The effective time of announcement by the Secretary of Defense to the Military Departments of a decision to mobilize Reserve units. e. **H-hour.** The specific hour on D-day at which a particular operation commences. f. **H-hour (amphibious operations).** For amphibious operations, the time the first assault elements are scheduled to touch down on the beach, or a landing zone, and in some cases the commencement of countermine breaching operations. (JP 3-02) g. **L-hour.** The specific hour on C-day at which a deployment operation commences or is to commence. h. **L-hour (amphibious operations).** In amphibious operations, the time at which the first helicopter of the helicopter-borne assault wave touches down in the landing zone. (JP 3-02) i. **M-day.** The term used to designate the unnamed day on which full mobilization commences or is due to commence. j. **N-day.** The unnamed day an active duty unit is notified for deployment or redeployment. k. **R-day.** Redeployment day. The day on which redeployment of major combat, combat support, and combat service support forces begins in an operation. l. **S-day.** The day the President authorizes Selective Reserve callup (not more than 200,000). m. **T-day.** The effective day coincident with Presidential declaration of national emergency and authorization of partial mobilization (not more than 1,000,000 personnel exclusive of the 200,000 callup). n. **W-day.** Declared by the President, W-day is associated with an adversary decision to prepare for war (unambiguous strategic warning). (Approved for incorporation into JP 1-02.)

transport group. An element that directly deploys and supports the landing of the landing force, and is functionally designated as a transport group in the amphibious task force organization. A transport group provides for the embarkation, movement to the objective, landing, and logistic support of the landing force. Transport groups comprise all sealift and airlift in which the landing force is embarked. They are categorized as follows: a. airlifted groups; b. Navy amphibious ship transport groups; and c. strategic sealift shipping groups. (JP 1-02. SOURCE: JP 3-02)

troop space cargo. Cargo such as sea or barracks bags, bedding rolls or hammocks, locker trunks, and office equipment, normally stowed in an accessible place. This cargo will also include normal hand-carried combat equipment and weapons to be carried ashore by the assault troops. (JP 1-02. SOURCE: JP 3-02.1)

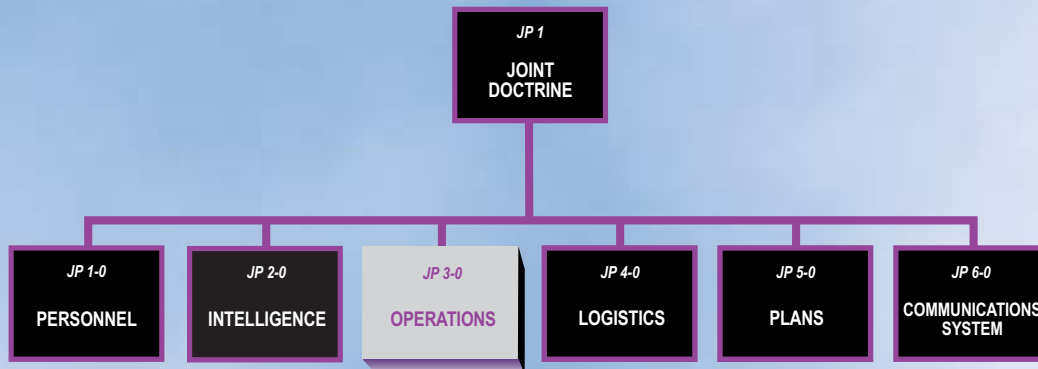
unit personnel and tonnage table. A table included in the loading plan of a combat-loaded ship as a recapitulation of totals of personnel and cargo by type, listing cubic measurements and weight. Also called **UP&TT**. (JP 1-02. SOURCE: JP 3-02.1)

United States Naval Ship. A public vessel of the United States that is in the custody of the Navy and is: a. Operated by the Military Sealift Command and manned by a civil service crew; or b. Operated by a commercial company under contract to the Military Sealift Command and manned by a merchant marine crew. Also called **USNS**. (JP 1-02. SOURCE: JP 4-01.2)

vehicle summary and priority table. A table listing all vehicles by priority of debarkation from a combat-loaded ship. It includes the nomenclature, dimensions, square feet, cubic feet, weight, and stowage location of each vehicle; the cargo loaded in each vehicle; and the name of the unit to which the vehicle belongs. Also called **VS&PT**. (Approved for incorporation into JP 1-02.)

vertical stowage. A method of stowage in depth within a single compartment by which loaded items are continually accessible for unloading, and the unloading can be completed without corresponding changes or prior unloading of other cargo. (Approved for inclusion in JP 1-02.)

JOINT DOCTRINE PUBLICATIONS HIERARCHY



All joint publications are organized into a comprehensive hierarchy as shown in the chart above. **Joint Publication (JP) 3-02.1** is in the **Operations** series of joint doctrine publications. The diagram below illustrates an overview of the development process:

