UNITED STATES MARINE CORPS
Logistics Operations School
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STUDENT OUTLINE

INTRODUCTION TO AMPHIBIOUS EMBARKATION PLANNING

LEARNING OBJECTIVES

a. Terminal Learning Objective: Given an amphibious embarkation situation, with the aid of references, conduct amphibious embarkation planning.(0431.03.02,0430.02.02)

b. Enabling Learning Objectuves. Given a multiple choice examination, with the aid of references, select the:(0431.03.02.5.7, 0430.02.04.1.2)

1. Definition of embarkation.

2. Organizations for embarkation.

3. Principles of embarkation planning.

4. Amphibious embarkation planning considerations.

5. Echelonment of forces.

6. Assault shipping requirements.

7. Three Cargo stowage methods.

REQUIRED RESOURCES:

1. Student Outline C105-1

OUTLINE:

1. **DEFINITION**: Embarkation is defined in Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms, as **"The process of putting personnel and/or vehicles and their associated stores and equipment into ships and/or aircraft"**.

2. **INITIATING DIRECTIVE**

a. The initiating directive is an order to the Commander of an Amphibious Task Force (CATF) to conduct an amphibious operation. It is issued by a combatant commander, sub-unified commander, Service component commander, or joint task force commander (JTF) who is delegated overall responsibility for the operation. Copies of the initiating directive need to be furnished to all major subordinate and supporting commanders.

b. The initiating directive may not be a single comprehensive document. During Crisis Action Planning (CAP) for contingency operations, the information contained in the initiating directive may be found in several orders, such as, the warning order, alert order, planning order, and execute order.

3. **IMPORTANCE OF PROPER EMBARKATION**. A characteristic of successful amphibious operation is the rapid and effective manner in which assault troops establish themselves ashore. The power and size of the landing force (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, build-up of men and materiel, which depends in large measure on the manner in which the ships have been loaded. Proper loading increases the inherent flexibility of the amphibious task force (ATF) and is a key factor in ensuring success. Conversely, improper loading can seriously jeopardize an operation.

4. **EMBARKATION EXECUTION**. Embarkation of the assault echelons (AE) and assault follow-on echelon (AFOE) will be in accordance with the approved operation and embarkation plan and is a mutual responsibility of the CATF, CLF, and external supporting agencies.

a. Mutual Effort. Embarkation is a joint undertaking by both LF and Naval forces. Proper embarkation depends to a large extent on a mutual understanding of the objectives, capabilities, and cooperation in planning and execution. Throughout the planning and execution of the amphibious operation (PHIBOP), LF officers will be working with their Naval counter-parts.

b. Degree of Flexibility. Ideally, troop units embarked for combat should be loaded to allow almost unlimited flexibility in unloading at the objective area. This degree of flexibility in unloading can seldom be attained. However, the organization for embarkation of the LF must be compatible with the plan for ship-to-shore (STS) movement which, in turn must support the scheme of maneuver ashore. Insofar as possible, each ship of the ATF must be loaded to provide maximum flexibility to meet possible changes in the tactical plan and to facilitate discharge of cargo, personnel, equipment and supplies.

5. **EFFECTS OF IMPROVEMENTS IN MOBILITY.** New developments, such as vertical takeoff and landing (VTOL) aircraft, improved amphibious shipping (LHA/LHD/LPD-17/LSD-41/49), and over-the-horizon (OTH) capable craft (LCAC, and MV-22) have, and will continue to have, a pronounced effect on PHIBOPS. These new developments do not change fundamental embarkation procedures, but in some instances, new techniques in planning, organization, and execution must be employed.

a. Use of VTOL Aircraft. PHIBOPs are employing increasing numbers of helicopters in STS movement. Forces are more widely separated during all phases of PHIBOP. Greater flexibility and speed in executing the STS movement of assault troops and subsequent unloading operations are needed. This additional flexibility largely depends on embarkation procedures.

b. Over-the-Horizon Concept. OTH PHIBOPs are operational initiatives launched from beyond visual and radar range of the shoreline. The conduct of landing from OTH is a technique that employs maneuver warfare concepts such as surprise, operational speed and flexibility, and tactical mobility to achieve a tactical advantage over the enemy that can be decisively exploited while minimizing risk to assault shipping.

c. Modernization of Amphibious Type Shipping. Specifically designed ships, such as the multi-purpose amphibious assault ship (LHD and general purpose amphibious assault ship (LHA) are capable of carrying a significant number of helicopters. Other amphibious ships have limited helicopter accommodations, depending on type of helicopters embarked. Limited maintenance support facilities, however, prohibit extended basing. Improved material handling equipment (MHE), redesigned cargo spaces, unitized cargo, and faster landing craft also serve to expedite cargo movement.

d. Maritime Prepositioning. Maritime prepositioning operations and PHIBOPs are complementary capabilities. PHIBOPs provide the means for forcible entry, while maritime

prepositioning permits rapid deployment to areas expected to remain unopposed through the arrival and assembly phase.

6. **GREATER DISPERSION OF SHIPPING**. The vulnerability of the ATF to nuclear attack is decreased by emphasizing speed, surprise, mobility, and dispersion. LF units must be embarked so as to best accomplish the assault while minimizing the effects of possible loss of ships and their embarked units. The concentration of ships in major port areas is reduced by using several separated ports and open beaches for embarkation. Ships, personnel supplies, and equipment are echeloned into embarkation areas to reduce congestion. In the objective area, the sea echelon concept may be employed, which requires ships to disperse and phase into the unloading areas according to prearranged plans or as needed.

7. **SEA ECHELON CONCEPT**. The sea echelon concept of the STS amphibious landing is characterized by dispersion of the ATF to seaward of the landing beach from which assault shipping is phased into the transport area for selective or general offloading by landing craft and/or helicopters. The sea echelon plan is prepared by the CATF. However, the decision to use a sea echelon, and the extent of its use is reached jointly by the CATF and CLF. The decision must be reached early in the planning phase. Employment of a sea echelon concept introduces an additional consideration into embarkation planning; that is the phasing of ships into the unloading areas in proper sequence to support the landing plan. If personnel, supplies and equipment are not correctly assigned to ships, and if ships are not properly phased into the unloading area, disruption in the planned sequence of landing assault units, inadequate logistics support and unacceptable concentration of shipping may result. The following publications contain more information of the sea echelon concept.

a. Joint Pub 3-02, Joint Doctrine for Amphibious Operations

b. FMFM 1-8, Ship-to-Shore Movement

8. **USE OF MILITARY SEALIFT COMMAND (MSC) SHIPPING**. Military Sealift Command (MSC) ships have been, and will continue to be used to support amphibious operations. MSC participation in amphibious operations is a task derived from their mission statement. Because so much of the MSC lift capability of MSC relies on the commercial shipping industry, the notification of MSC of the support shipping requirement is time-sensitive if required early in the planned operation. MSC has contractual shipping under its control. Though fully utilized to meet peacetime requirements, contractual shipping can be reprogrammed to support contingency requirements.

9. **USE OF COMBATANT SHIPS**. Throughout US. Naval history, troops have been required to embark aboard combatant ships such as destroyers, cruisers, and carriers for rapid movement to an objective area. These situations developed under circumstances of great importance and urgency when time was a prime consideration. Accordingly, direct liaison between the embarking unit(s) and the combatant ship(s) should be authorized to ensure mutual understanding and expeditious embarkation.

10. **ORGANIZATION FOR EMBARKATION**. The organization for embarkation consist of a temporary task organization established by the commander landing force (CLF), and a temporary organization of Navy forces established by the commander, amphibious task force (CATF). These task organizations are formed to simplify planning and to facilitate execution of embarkation at all levels of command. No standard landing force (LF), or Navy organization applies to all embarkation situations. For this reason, the task organizations conform to the circumstances of the embarkation and to the requirements of the anticipated tactical situation. Once established, the task organization titles of the various components are used exclusively throughout the embarkation phase. Parent designations are used for administrative purposes only. Upon completion of the embarkation phase, the temporary task organizations dissolve.

a. Organizations for Embarkation.

LANDING FORCE (MARINE CORPS)	AMPHIBIOUS TASK FORCE (NAVY)
Embarkation Group*	Transport Group
Embarkation Unit**	Transport Unit
Embarkation Element**	Transport Element
Embarkation Team	Individual ship

***** When only one embarkation group is formed (e.g., forward deployed MAGTF (MEU)), the landing force embarkation and the embarkation group are one in the same. This also applies to the Navy side of the organization.

****** Formation of the embarkation unit and element depends upon the degree of decentralization of command and control essential to the successful accomplishment of embarkation. This also applies to the Navy side of the organization.

b. The embarkation group and embarkation teams are always formed, since these organizations represent the essential ingredients for embarkation; that is, the group as the major landing force/Navy organization and the team/individual ship as the smallest subordinate echelon capable of planning and executing embarkation.

11. **EMBARKATION PLANNING**. Amphibious embarkation planning involves all those measure necessary to ensure timely and effective loading of the ATF. These measures range from a determination of overall shipping requirements and embarkation schedules and high levels to detailed loading plans for individual ships at the embarkation team level. Embarkation planning must begin early and proceed concurrently with all other planning. It requires constant coordination between all troop and naval command levels, and a mutual understanding of the problems of each. It requires detailed knowledge of the characteristics, capabilities, and limitations of ships, and their relationship to troops, supplies and equipment to be embarked.

a. Principles of Embarkation Planning. It is essential that the following four principles be observed in planning embarkation of landing forces from an amphibious assault:

(1) Support the Landing Plan. Load plans must support the landing plan, scheme of maneuver ashore, and the plan for landing supplies. Personnel, equipment, and supplies must be loaded in such a manner that they can be unloaded at the time and in the sequence required to support operations ashore.

(2) Provide for Unit Self-Sufficiency. Embarkation plans must provide for the highest possible degree of unit self-sufficiency. Troops should not be separated from their combat equipment and supplies. Thus, weapons crews should be embarked in the same ship with their weapons, radio operators with their radios, drivers with vehicles, and commanders and staff with their units. In addition, each unit should be embarked with sufficient combat supplies such as ammunition; petroleum, oil, and lubricants (POL); and radio batteries to sustain its combat operations during the initial period ashore.

(3) Provide for Dispersion. Load plans must provide for dispersion of critical units and supplies. At higher echelons, critical units and supplies should be dispersed among several ships. At the individual ship level, critical supplies should be dispersed among several stowage compartments that do not share the same debarkation route. The danger of not doing so is obvious. At higher echelons, if critical units and supplies are not dispersed, loss of one ship, or a relative few ships,

could result in a loss of combat capability that might seriously jeopardize accomplishment of the mission. At the individual ship level, the loss of one debarkation route (e.g., boom, elevator) might seriously endanger the ship's capability to provide timely debarkation of critical supplies.

b. Planning Considerations

(1) General. Detailed planning for both embarkation and the assault phases cannot be initiated by subordinate echelons until the organization for embarkation, assignment to shipping, and the initial draft of the landing plan have been published. Embarkation is the result of the tactical plans; i.e., the scheme of maneuver ashore. Planning for embarkation is a reverse planning process from objective, to beach, to ship, to POE, etc.

(2) Considerations. Planning for embarkation, consideration must be given to the following:

(a) Mission of the Force. The first and most important planning consideration.

(b) Limiting dates of the embarkation, rehearsal, movement, and assault phases. The time frames for these phases establish dates against which embarkation planning and execution must proceed.

Note: If you need a refresher on the five phases of an amphibious operation, here they are:

Planning

Embarkation

Rehearsal

Movement

Assault

(The first letter of each phase forms the acronym PERMA)

(c) The organization for embarkation of the landing force must support the landing plan. Embark Planners should not wait for the supporting plans to be completely developed. Planning must proceed concurrently with other planning. Overall organization for embarkation is dependent on the earliest promulgation of documents listed below:

1 Organization for landing (landing plan).

2 Organization for combat.

3 Plan for landing supplies.

(d) Size and characteristics of the forces involved, both landing force and naval, including the availability and characteristics of shipping, and quantity and types of materiel to be embarked. Use the minimum number of ships necessary to meet the requirements is an objective of embarkation planning. Units of the landing force 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.

(e) Availability of ship-to-shore movement assets must be considered (e.g., landing ships, landing craft, AAVs and helicopters).

(f) Troop commanders and their staffs should be embarked in the same ship as corresponding Naval commanders.

(g) The selection of embarkation areas and points, which 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 nets and space available for processing supplies and equipment brought into the embarkation areas.

5 Availability of harbor services and other usable facilities.

6 Availability of a suitably protected anchorage or roadstead.

7 Availability of beaches for the beaching of landing craft and ships and for the operation of amphibious vehicles.

8 Availability of adequate airfield facilities adjacent to, or within reasonable distance of the embarkation site.

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

10 Availability and suitability of embarkation point to support staging, moving, and loading of ammunition, POL products, and/or other dangerous material.

(h) Requirement for marshaling areas when bivouac or base camp areas are so located that movement to embarkation areas cannot be accomplished without interruption. To facilitate final movement to embarkation areas, CLF selects sites for embarking units close to the embarkation area. A marshaling area must provide adequate space and facilities to accommodate designated units. Consideration must be given to dispersing marshaling area to avoid vulnerable concentrations. To preserve combat readiness when marshaling areas are used, movements are scheduled to keep them in the marshaling area for a minimum length of time consistent with transportation, security, and maintenance requirements.

(i) The feasibility and desirability of using helicopters to embark personnel and equipment, which requires consideration of the following factors:

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

2 Logistics requirements, such as fuel and maintenance facilities necessary to support helicopter operations during loading.

3 Time available for loading, which is influenced by the number 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 effect optimum flight operations may require more time than if embarkation is accomplished at dockside.

12. **SEQUENCE OF PLANNING.** Following receipt of the initiating directive for an amphibious operation, landing force embarkation planning begins at all echelons and proceeds concurrently. Major steps will overlap but are usually accomplished in the following general sequence.

a. Liaison. Establishment of liaison between corresponding Naval forces, landing force and other forces (if so required).

b. Navy Lift Requirements. CATF obtains from Naval forces and other forces that will be embarked in LF spaces, lift requirements (e.g., personnel, equipment, and supplies) and provides it (with recommended locations to the CLF for inclusion in the LF assignment to shipping.

c. Landing Force Shipping Requirements. Determination by the CLF of the assault and follow-on shipping requirements and the submission of these requirements to the CATF.

d. Allocation of Shipping by CATF. If sufficient shipping to meet stated landing force requirements is not available, consultation is required between interested commanders in order to adjust plans or to justify a request to a higher echelon for additional shipping.

e. SLCP Distribution. Distribution of Ship's Loading Characteristics Pamphlets (SLCP) to CLF by CATF.

f. Landing Force Organization for Embarkation. Establishment of organizations for embarkation by CLF.

g. Amphibious Task Force Organization. Establishment of the organizations for embarkation by CATF.

h. Allocation of Shipping to Subordinate Echelons. Allocation of shipping to subordinate echelons of the landing force by CLF and issuance of the SLCPs. The allocation of shipping is done with the organization for embarkation and assignment to shipping (OE&AS).

i. Selection and Preparation of Embarkation Areas. We will discuss this during the Embarkation Plan lesson.

j. Selection of Marshaling Areas (when required). We will also discuss this during the Embarkation Plan lesson.

k. Determination of Support. Determination of control, security, communication facilities, and material handling equipment (MHE) required during embarkation will also be discussed during the Embarkation Plan lesson.

l. Development of Schedules. Development of berthing and loading schedules and schedules for movement of personnel and material to embarkation areas will be discussed during the embarkation plan lesson.

m. Embarkation and Load Plans. Preparation, review, approval, and promulgation of detailed embark plans and load plans actually begins immediately after the initiating directive is received. This is the final step in the planning sequence.

13. **ECHELONMENT OF FORCES**. The commander landing force (CLF), under ideal conditions, would reach the objective area with the preponderance of the embarked force embarked aboard amphibious shipping. LF fixed-wing tactical aviation would deploy into bases within striking distance of the objective area. This ideal situation is unlikely to exist except for relatively small scale operations. In the majority of amphibious assaults, the forces which must be projected onto a hostile shore and sustained in battle for an extended duration, will require significant strategic and tactical airlift and sealift. Further, the amphibious task force (ATF) will, in many cases, be in competition for limited transportation resources with other forces during deployment.

a. Deployment Planning. During deployment planning, decisions are reached to provide for a time-phased echelonment of troops, equipment, and supplies into the objective area. Echelonment is required not only because of limited availability of airlift and sealift, but also for control purposes, to ensure the orderly buildup of forces and supplies. Normally, three separate transportation echelons are required for the amphibious assault-assault echelon (AE), assault follow-on echelon (AFOE), and follow-up.

b. Assault Echelon. The element of a force that is scheduled for initial assault of the objective area. The landing force assault echelon consists of those assault troops, vehicles, aircraft, equipment, and supplies required to initiate the assault landing. The landing force assault echelon includes those elements which arrive in the amphibious objective area (AOA), 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; and self-deployed aircraft and air transported supported units required for the initial assault.

c. Assault Follow-on Echelon. In order to accomplish its purpose, the assault follow-on echelon (AFOE) is normally

required in the objective area no later than 5 days after commencement of the assault landing. The AFOE may arrive on a time schedule with some elements required in the objective area as early as D-Day to facilitate ship-to-shore movement or remain in a specified area until called forward by CATF as requested by CLF. Planning for the AFOE must be done concurrently with planning for the assault echelon and the follow-up.

(1) That portion of the AFOE that arrives by surface is carried in assault shipping. When sufficient amphibious assault shipping is not available, MSC or commercial shipping may be assigned.

(2) That portion of the AFOE that arrives by air is delivered to an airfield for subsequent introduction into the operation. Since an airfield may not be available in the objective area, these units, vehicles, aircraft, equipment, an supplies may be required to fly in at any time; e.g., pre-D-Day, or post D-Day.

(3) Follow-up. The follow-up personnel, supplies, and equipment are transported to the objective area in follow-up shipping. The follow-up echelon may also provide forces for base development and subsequent operations ashore.

14. **ASSAULT SHIPPING REQUIREMENTS**. Assault shipping carries the LF to the objective area. Assault shipping includes those ships that carry the assault and assault follow-on echelons. Assault shipping requirements must be determined as early as possible in the planning phase so that 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. Development of Requirements. Shipping requirements for the landing force are developed by:

(1) Receiving their shipping requirements from the major ground and air echelons of the landing force.

(2) Determining, at landing force level, shipping requirements for the entire force, to include units not normally organic to the landing force but to be embarked therewith, and all supplies and equipment to be embarked.

b. Basis for Requirements. Shipping requirements are based on the following:

(1) The landing plan (Appendix 3 to Annex R).

(2) The scheme of maneuver ashore (concept of operations).

(3) The plan for landing supplies.

(4) Total number of personnel embarked.

(a) Officer

(b) Senior enlisted (E-7 and above).

(c) Enlisted (E-6 and below).

(5) Total square foot of vehicles and equipment to be embarked that require square foot stowage consideration (e.g., wheeled vehicles, tracked vehicles, skid-mounted equipment, MILVANS, CONEX boxes, and other items that cannot be stacked (less mobile loaded items in landing craft and preloaded items in landing craft.

(6) Total cubic footage of cargo that can be stacked (e.g., standard cargo (2 man lift), unitized cargo, (pallets, etc.) (less mobile loaded items).

(7) Total gallons, by type, of bulk POL (class III (A).

(8) Total number of embarked aircraft (e.g., helicopters and fixed wing).

(9) Total number of landing craft required to support the landing plan.

(10) Total number of AAVs required to support the landing plan.

(11) Requirement for special missions and equipment (e.g., minesweeping, special operations (SOC)).

(12) The amphibious task force commander's initial estimate of the number and types of ships to be available.

c. Determination of Assault Shipping Requirements. The determination of assault shipping requirements cannot be undertaken until information is available as to the number of personnel, equipment, and supplies to be embarked in assault shipping and landing force means required to execute the landing plan.

(1) It cannot be taken for granted that one or more factors, such as the square feet of vehicles or the number of personnel, are necessarily the controlling ones. 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 billeting capacity may be acceptable. Also, the employment of a considerable number of landing ships to lift vehicles will drastically reduce the requirement for other ships to lift vehicles. The examples are only a few of the many variables that can affect the shipping requirements for each operation.

(2) Only after final shipping has been allocated to the landing force can an accurate, final determination of its adequacy be made.

15. **LOAD PLAN**. Before you can plan the load of a ship, you must select the way the ship is to be loaded and unloaded. The manner in which a ship is loaded is based on the order that the forces are to be landed. Task forces are seldom alike, equipment and supplies differ, and the priority in which materiel is required ashore varies with the assigned mission. These factors require detailed planning to determine the best manner of loading in order to support operations ashore. There are two basic methods for loading ships:

a. Administrative Loading. A method that gives primary consideration to achieving maximum utilization 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.

b. Combat Loading. A method that gives primary consideration to the facility with which troops, equipment, and supplies can be unloaded ready for combat rather than to economical utilization of ship space. Embark planners are primarily concerned with this type of load on amphibious ships. 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 item of equipment and supply must be stowed aboard the ship so that it can be unloaded at a time and in a 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 possible changes in the tactical plan and to facilitate discharge of cargo to meet emergency calls for equipment or supplies.

16. **CARGO STOWAGE METHODS**. There are three basic methods used to stow cargo on an amphibious ship.

a. Horizontal Stowage

(1) When used in conjunction with the entire ship, horizontal stowage means the fore and aft distribution of unit equipment and types of supplies so that similar items can be simultaneously unloaded from two or more holds or compartments. This means that a given type of supply (e.g., 5.56mm ammunition) can be unloaded from two or more holds or compartments that do not share the same debarkation route (e.g., same cargo elevator or same boom). This way if the cargo handling equipment for one compartment becomes unoperational, the supply would be available from another compartment.

(2) When the term is applied to a single hold or compartment, 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. Therefore, it should be employed only after careful consideration of the requirements for items so loaded during the assault phase of an amphibious operation.

b. 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 unloading, and the unloading can be completed without corresponding changes or before unloading other cargo. Like items are loaded in vertical columns throughout the compartment so that items are available at any stage of the unloading. Vertical stowage is emphasized in combat loading because it provides maximum selectivity of supplies and material. This means that if four different supplies (e.g., rations, water, medical, and construction materials)
were loaded in a single compartment, each of these supplies would have access to the debarkation route (e.g., elevator or hatch) without unloading one or more of the other types of supplies first.

c. Block Stowage. Block stowage is a method whereby an assortment of various types of equipment or supplies are made up and loaded together. In this manner, a balanced proportion of the entire cargo may be discharged without disturbing the remainder of the cargo. Equipment, material, and supplies to be unloaded as floating dumps are normally loaded aboard ship as blocks.

STUDENT REFERENCES:

1. Joint Pub 1-02, DOD Dictionary of Military & Associated Terms
2. Joint Pub 3-02, Joint Doctrine for Amphibious Operations
3. Joint Pub 3-02.2, Joint Doctrine for Amphibious Embarkation
4. FMFM 3-1, Command and Staff Action
5. FMFM 1-8, Ship-to-Shore Movement