ATP-8 (B), VOLUME I DOCTRINE FOR AMPHIBIOUS OPERATIONS

JULY 2004

0410LP1085311

LATEST CHANGE	
NUMBER	DATE
CHANGE 3	NOV 2008

INTENTIONALLY BLANK

November 2008

PUBLICATION NOTICE

1. Change 3 to ATP-8(B), Volume I, DOCTRINE FOR AMPHIBIOUS OPER- ATIONS, is available in the Navy Warfare Library. It is effective on receipt.

2. Summary of Change 3:

   a. Moves purpose and scope information from Chapter 1 to new preface.

   b. Chapter 1. Includes a general discussion about threats to amphibious operations.

   c. Chapter 7. Adds a new section on amphibious reconaissance and on mine countermeasures and obstacle clearance operations.

   d. Chapter 9. Expands protective measures in the amphibious objective area and electronic warfare sections.

   e. Chapter 10. Replaces Chapter 10.

   f. Glossary. Adds approach lane and surf zone and clarifies the definitions of L-hour and transfer of authority.

   g. Acronyms and Abbreviations. Removes acronyms no longer used in the publication.

This notice will assist you in providing information to cognizant personnel. It is not accountable.

INTENTIONALLY BLANK

NORTH ATLANTIC TREATY ORGANIZATION

NATO STANDARDIZATION AGENCY (NSA)

NATO LETTER OF PROMULGATION

July 2004

1. ATP-8(B) VOLUME I – DOCTRINE FOR AMPHIBIOUS OPERATIONS is a NATO UNCLASSIFIED Publication. The agreement of nations to use this publication is recorded in STANAG 1149.

2. ATP-8(B) VOLUME I is effective upon receipt. ATP-8(A) will be superseded upon promulgation of ATP-8(B) VOLUME II, and shall be destroyed in accordance with the local procedure for the destruction of documents.

J. MAJ
Brigadier General, POL(A)
Director, NSA

INTENTIONALLY BLANK

RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATIONS BY NATIONS
1	USA
2	ESP, USA
3	NONE
4	NONE
5	NONE
6	NONE
7	NONE
8	NONE
9	DEU, USA
10	NONE
11	NONE
GLOSSARY	NONE
ACRONYMS and ABBREVIATIONS	NONE

RECORD OF RESERVATIONS

NATION	SPECIFIC RESERVATIONS
DEU	A. Para 909(2) is not in line with established NATO procedures. DEU will use ACE Directive 80-70, and after Promulgation the AJP-3.9 "Joint Targeting, as a reference document for Joint Targeting." B. Para 917(1) is not in line with the current AJP-3.3, change 1 (2002) Para 403(5)c. An aircraft carrier battle group, as described, is a maritime Task Group/Task Force within the JOA and would require the establishment of a Coordinated Air Defence Area (CADA). Coordination must be in line with AJP-3.3 and AJP-3.3.5.
ESP	Spain will not implement point 0217 supported/supporting relationship. The text of this point does not add anything new to the current doctrine and its indefiniteness could create confusion among the relationship of the AFT components.
USA	A. Paragraph 0103: In U.S. joint doctrine, an amphibious task force (ATF) includes only the navy forces. The ATF and landing force, together with other supporting forces, form the amphibious force (AF). Rationale: JP 3-02, Joint Doctrine for Amphibious Operations, has established this. When operating as a NATO force, this must be specifically addressed for participating U.S. forces. B. Paragraphs 0206–0212: In U.S. joint doctrine, the terms "commander amphibious task force (CATF)" and "commander landing force (CLF)" do not connote titles or command relationships. Rationale: JP 3-02, Joint Doctrine for Amphibious Operations, has established that for U.S. forces there will be a support/supported command relationship established as will best support the given mission. C. Paragraph 0213: In U.S. joint doctrine, when an amphibious objective area (AOA) has been established by the joint force commander (JFC), responsibility for airspace control within the AOA is normally delegated to the CATF. The CATF normally is also designated a regional air defense commander (RADC). When full command and control (C2) capability is achieved ashore, the CLF or commander ashore may assume full airspace control from the CATF, with the CATF normally retaining sector air defense commander (SADC) responsibility for the seaward sector of the operational area. Rationale: JP 3-02, Joint Doctrine for Amphibious Operations, further defines this command relationship. D. Paragraph 0908, 3.b. where it states: "The SACC plans, coordinates . . . within the operational area in support of the ATF, including the production of the essential airspace control order (ACO)." The airspace control authority (ACA) develops the ACO. However, the ACA will normally designate the maritime commander as the control authority for a specific airspace control area during the conduct of an amphibious operation. Under an amphibious tack force (ATF), the Navy tactical air control center (TACC) prepares and submits airspace control measures for the amphibious force for inclusion in the ACA's airspace control plan (ACP) until a land-based air control agency is established ashore. The ATO planning, production, and execution cell, within the Navy TACC, normally produces the ACO, the ATO, SPINS, and additional fire support asset requests. Rationale, AJP-3.3.5(A), Doctrine for Joint Airspace Control, and JP 3-02, Joint Doctrine for Amphibious Operations, further defines this command relationship.

DEPARTMENT OF THE NAVY
NAVY WARFARE DEVELOPMENT COMMAND
686 CUSHING ROAD
NEWPORT RI 02841-1207

July 2004

U.S. LETTER OF PROMULGATION

1. ATP 8(B), Volume I, DOCTRINE FOR AMPHIBIOUS OPERATIONS, is NATO-UNCLASSIFIED. Handle in accordance with the administrative procedures contained in NTTP 1-01.

2. ATP 8(B), Volume I is effective upon receipt. ATP 8(A) will be superseded upon promulgation of ATP 8(B), Volume II, DOCTRINE FOR AMPHIBIOUS OPERATIONS.

3. SECNAVINST 5510.31 provides procedures for disclosing this publication or portions thereof to foreign governments or international organizations.

JOHN M. KELLY

NOTE TO U.S. HOLDERS — Report administrative discrepancies by letter to Navy Warfare Development Command. Order a hardcopy publication by MILSTRIP or through the Navy Supply System's Print on Demand (POD) Program.

INTENTIONALLY BLANK

RECORD OF CHANGES

Identification of Change, Reg. No. (if any), and Date	Date Entered	NATO Effective Date	By Whom Entered (Signature; Rank, Grade or Rate; Name of Command)
Change 1	3 Mar 06	Upon receipt	J.B. Rodrigues
CHANGE 2	DEC 2007	UPON RECEIPT	COMNAVWARDEVCOM NEWPORT RI
CHANGE 3	NOV 2008	UPON RECEIPT	COMNAVWARDEVCOM NEWPORT RI

RECORD OF CHANGES

Identification of Change, Reg. No. (if any), and Date	Date Entered	NATO Effective Date	By Whom Entered (Signature; Rank, Grade or Rate; Name of Command)

TABLE OF CONTENTS

Page No.

Page No.

SECTION II — TARGETING AND FIRE SUPPORT

SECTION III — AIR DEFENCE

SECTION IV — PROTECTIVE MEASURES IN THE AMPHIBIOUS OBJECTIVE AREA

SECTION V — ELECTRONIC WARFARE

SECTION VI — NUCLEAR, BIOLOGICAL, AND CHEMICAL

SECTION VII — ENGINEERS

Page No.

CHAPTER 10 — LOGISTICS

CHAPTER 11 — RIVERINE OPERATIONS

SECTION I — GENERAL

SECTION II — COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE FOR RIVERINE OPERATIONS

SECTION III — PLANNING FOR RIVERINE OPERATIONS

SECTION IV — LOGISTICS IN RIVERINE OPERATIONS

Page No.

SECTION V — OFFENSIVE RIVERINE OPERATIONS

SECTION VI — DEFENSIVE OPERATIONS

LIST OF ILLUSTRATIONS

CHAPTER 11 — RIVERINE OPERATIONS

PREFACE

1. ATP-8 provides common doctrine, tactics, techniques and procedures for amphibious operations and is a reference for the amphibious warfare chapter of ATP-1 Volume I.

2. ATP-8 is divided into two volumes and one supplement:

a. ATP-8, Volume I, Doctrine for Amphibious Operations. Volume I provides the doctrine necessary to execute amphibious operations and covers command and control, planning, types of amphibious operations, support of amphibious operations, logistics, and riverine operations.

b. ATP-8, Volume II, Tactics, Techniques, and Procedures for Amphibious Operations. Volume II describes amphibious tactics, techniques and procedures, and provides guidance for the execution of an amphibious operations and the ideal sequence of such an operation from its inception to its completion.

c. ATP-8, Volume II, Supplement 1, National Amphibious Technical Information. Volume II, Supplement 1, contains specific technical information about national amphibious assets and is a guide for interoperability.

3. The purpose of these three publications is to ensure a uniformity of amphibious operations while permitting tactical flexibility.

INTENTIONALLY BLANK

CHAPTER 1

Concept of Amphibious Operations

0101 General

1. An amphibious operation is "a military operation launched from the sea by a naval and landing force (LF) embarked in ships or craft, with the principal purpose of projecting the LF ashore tactically into an environment ranging from permissive to hostile." In outline it will see an amphibious task force (ATF) seeking to manoeuvre into a position of advantage in the littoral[1] in respect to the enemy, from which force can be threatened or applied ashore. Such littoral manoeuvre will be directed towards a decisive point or a critical vulnerability that impacts a centre of gravity (COG).

2. Combat operations which involve waterborne movement, such as inland-water, ferrying, and shore-to-shore operations in which the LFs are not embarked in naval ships and/or assault craft; administrative disembarkation on friendly territory; and water terminal and logistics over-the-shore operations, possess certain characteristics and employ some of the techniques of an amphibious operation. However, these are not amphibious operations and thus not addressed in this publication.

3. In today's security environment, the distinction between permissive and hostile, as well as the definition and understanding of what constitutes the enemy, can themselves be threats to amphibious operations. NATO amphibious forces could — in addition to conventional state-sponsored military force — counter opposition from a diversity of threats, originating from failed or failing states, or rogue para-military, guerrilla, insurgent, terrorist, or criminal groups. Therefore, the conventional combat power and fighting expertise of NATO amphibious forces might be exposed to unconventional and asymmetric threat in a manner limited only by the imagination and cunning of the attacker. A key to success in operations is a focused awareness to these new threats in all phases of the amphibious operation.

0102 Utility of Amphibious Task Forces

ATFs provide a unique capability: as an integrated part of a maritime capability — within a joint force (JF), if applicable they have utility in all phases of a campaign, from benign presence to the conduct of forced entry combat operations. Whilst ATFs provide a wide range of options at the tactical level, they also have distinct roles at the operational level. They can sail early in a developing crisis situation and with the use of complementary information operations demonstrate a nation's or alliance's will and capability. ATFs can, in common with all naval forces, transit international waters without infringement of territorial boundaries, they can be kept ready off-shore ("poised") almost indefinitely, offering presence without occupation and deterrence without commitment of forces ashore. An uncommitted ATF is a factor in the estimate of an adversary theatre commander, and requires him to retain coastal defence forces and a counter-balancing reserve as a contingency against the threat of an amphibious landing. The (poised) LF can land on virtually any coast, at a time and place of political choosing, entirely independent of infrastructure ashore. Once the LF is ashore, it can be sustained for protracted operations by its integral logistic organization and ATF-shipping. Once the decision to execute an amphibious operation is taken, the ATF conducts operations at the tactical level; but when re-embarked and redeployed it can again play a role at the operational level, a sequence that can be successively employed during the conduct of a campaign.

[1] The term "littoral" does not have any implication on rules of international law of the sea and rights and duties of states arising from rules of international law of the sea.

0103 Definitions

1. An amphibious force is a naval force and LF, together with supporting forces that are trained, organized and equipped for amphibious operations. In naval usage, it is the administrative type command of a fleet (i.e., national amphibious capability).

R 2. An ATF is the task organization formed for the purpose of conducting an amphibious operation. An ATF always includes navy forces and a LF, with their organic aviation and supporting forces.

3. A LF is the task organization of ground units assigned to an amphibious operation, which may include aviation and/or surface units when assigned to CLF.

0104 Roles of Amphibious Task Forces

ATFs can be used in several roles, examples are:

a. Conduct combat operations either as an independent force or in support of other components of a JF.

b. Obtain theatre entry facilities (e.g., ports or airports to allow the introduction of follow on forces).

c. Deny the use of an area or facilities to the enemy.

d. Participate in crisis response operations (CROs) such as promoting peace and supporting civil authorities as a response to domestic crisis. (See AJP-3.4 (series).)

0105 Characteristics of an Amphibious Operation

1. **Integration of Naval and Landing Forces.** An amphibious operation requires extensive air, maritime, land, space, and special operations forces participation. It is typified by close integration of forces trained, organized, and equipped for different combat functions.

2. **Rapid Buildup Of Combat Power From The Sea To Shore.** The salient requirement of an amphibious assault is the necessity for swift, uninterrupted buildup of sufficient combat power ashore from an initial zero capability to full coordinated striking power as the attack progresses toward ATF objectives. To achieve success, an ATF should have sea control in and over its area of operations (AOO) (specifically the amphibious objective area (AOA)), as well as a favourable air situation, and — in the case of an amphibious assault — a substantial superiority over opposing forces ashore. In the face of compelling necessity, commanders may undertake an amphibious operation on the basis of a reasonable superiority of the entire force. For example, a favourable maritime and air situation may justify a landing even though the LF does not possess the desired numerical superiority in ground forces, if friendly naval and air units can be used effectively to negate the enemy's advantage. In addition to reasonable superiority within the landing area, an ATF should have the ability to provide continuous support for forces ashore.

3. **Unity of Effort and Operational Coherence.** The complexity of amphibious operations and the vulnerability of forces engaged in amphibious operations require an exceptional degree of unity of effort and operational coherence. As a result, it may be convenient to establish an early and close liaison with the Joint Force Commander (JFC), to improve planning, theatre integration, and support. Commanders of assigned and supporting forces must prepare in anticipation of the needs of the ATF.

0106 Types of Amphibious Operations

There are four types of amphibious operations: demonstration, raid, assault, and withdrawal:

1. **Demonstration.** Amphibious demonstration is a type of amphibious operation conducted for the purpose of deceiving the enemy by a show of force, with the expectation of deluding the enemy into an unfavourable course of action (COA).

2. **Raid.** An amphibious raid is a type of amphibious operation involving swift incursion into or temporary occupation of an objective followed by a planned withdrawal. Amphibious raids might be conducted to accomplish one or more of the following:

a. Inflict loss or damage.

b. Obtain information.

c. Create a diversion.

d. Capture or evacuate individuals and/or equipment.

e. Conduct non-combatant evacuation operations (NEOs).

3. **Assault.** Amphibious assault is the principal type of amphibious operation that involves establishing a force on a hostile or potentially hostile shore. Only amphibious assault involves the permanence of establishing a LF ashore. The special measures required for a rapid build-up of combat power ashore, from an initial zero capability, creates organizational and technical differences between amphibious operations and land warfare.

4. **Withdrawal.** Amphibious withdrawal is: a type of amphibious operation involving the extraction of forces by sea in naval ships or craft from a hostile or potentially hostile shore.

0107 Sequence and Phasing of Amphibious Operations

1. Amphibious operations consist of distinct phases, though the sequence may vary, and phases tend to overlap. (See Figure 1-1 and Chapter 7 for details.)

a. **Planning.** The planning phase denotes the period extending from the issue of the amphibious initiating directive to embarkation. The conduct of an amphibious estimate by the staffs of commander, amphibious task force (CATF) and commander landing force (CLF) will generate a number of basic decisions on which early schemes of manoeuvre will be based. Although the planning phase exists in its own right, planning activity will be ongoing throughout the operation. The plan itself will be changed to reflect the changing situation during the movement phase, which will require continuous estimation on the part of both staffs. See Chapter 3 for details on the planning phase and processes.

b. **Embarkation.** The embarkation phase is the period during which the forces, with their equipment and supplies, embark in assigned shipping. The order in which personnel, vehicles and equipment are embarked in ships will reflect the intended scheme of manoeuvre developed during the planning phase. As the plan evolves it may be necessary to adjust the way in which the force is configured and therefore sufficient space must be left in the shipping to allow a re-stow to be conducted. See Chapter 4 for details on the embarkation phase.

c. **Rehearsal.** The rehearsal phase is the period during which the prospective operation is rehearsed for the purpose of: (1) testing the adequacy of plans, the timing of detailed operations, and the combat readiness of participating forces; (2) ensuring that all echelons are familiar with plans; and (3) testing communications. Rehearsals also provide an opportunity to reconfigure embarked forces and equipment. Rehearsals may consist of actual landings or be conducted as command post exercises. See Chapter 5 for details on the rehearsal phase.

d. **Movement to the AOA.** The movement phase is the period during which the components of the ATF move from the points of embarkation or a position of forward deployment to the AOA, possibly via rendezvous (RV), rehearsal and staging areas. This phase is deemed complete when all elements of the ATF arrive in their positions within the AOA. See Chapter 6 for details on the movement phase.

e. **Shaping Operations.** Shaping operations encompass activities that occur during nearly every phase of an amphibious operation to prepare the battle space for an amphibious operation. This phase tends to take place

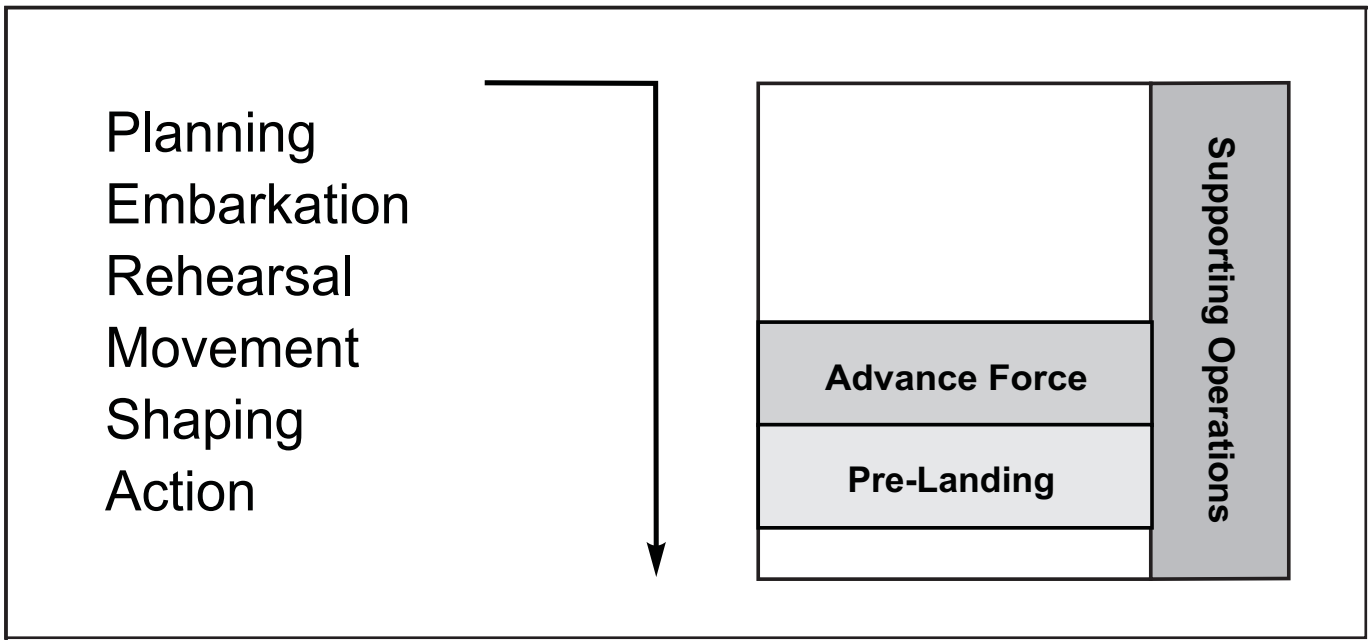


Figure 1-1. Phases and Shaping Operations Relationship

primarily during the movement phase and early portion of the action phase. The principal types of shaping operations are as follows: (Chapter 7 provides detailed information on shaping operations.)

(1) Supporting operations that tend to take place outside the AOA.

(2) Advance force operations that take place prior to arrival of the ATF in the AOA.

(3) Pre-landing operations that take place after arrival of the ATF in the AOA.

f. **Action.** The action phase is the period that begins with the arrival of the ATF in the AOA, encompasses the accomplishment of the mission, and ends with the termination of the amphibious operation. See Chapter 8 for details on the action phase.

2. The phasing outlined above is the ideal sequence. It can be characterised by the acronym PERMSA (planning, embarkation, rehearsal, movement, shaping, action). However, an ATF may deploy before a mission is defined. This is especially true of forces deployed for forward presence. In this case, the sequence of phases will occur in a different order: typically embarkation, movement, planning, rehearsal, shaping, and action.

0108 Termination of Amphibious Operations

1. The termination of the amphibious operation is predicated on the accomplishment of its mission or a change in the situation that renders that mission no longer achievable. When CATF and CLF are satisfied that the conditions for the accomplishment of the mission have been met, they will propose termination of the operation to the commander that initiated it. Examples of these conditions include:

a. LF objectives are achieved.

b. Sufficient tactical and supporting forces have been established ashore to ensure the continuous landing of troops and material requisite for subsequent operations.

c. Command, communications, and supporting arms coordination facilities have been established ashore.

d. CLF has stated that he is ready to assume full responsibility for subsequent operations.

2. Options at termination include:

a. LF re-embarks and ATF reconstitutes for further amphibious operations.

b. LF remains ashore and becomes LCC.

c. LF remains ashore and TOA to ashore (L)CC.

d. A combination of the above.

3. Upon termination, the AOA will be disestablished. Within the parameters of the joint campaign, responsibility for control of the area previously covered by the AOA may be transferred to the joint force commander (JFC) or another component commander as appropriate.

4. The common superior will provide instructions for command arrangements and organization after the termination of the amphibious operation. An aspect to consider is the requirement for former ATF elements to remain in the littoral waters of the former AOA to support the (former) LF's resupply or the sustainment of other forces from the Joint Force operating ashore (i.e, elements from the LCC), casualty regulating/evacuation operations, helicopter support operations and other supporting operations. If the LF remains ashore, its integrity needs to be preserved and it must not be regrouped or reassigned without the concurrence of the commander holding operational command (OPCOM).

INTENTIONALLY BLANK

CHAPTER 2

Command and Control

0201 Introduction

The command relationships for an amphibious operation are unique as an ATF is composed of forces from multiple warfare disciplines, perhaps originating from two or more services that each make different contributions in support of a common mission.

0202 Operational Level of Command and Control of Amphibious Operations

1. The amphibious initiating directive is issued to support and complement any directive issued by the operational commander when it is clear that an amphibious operation will be part of the campaign. It is issued at the highest appropriate level by the operational-level commander delegated overall responsibility for the amphibious operations. The initiating directive should include as a minimum the information contained in Figure 2-1. It may take the form of a campaign plan, an operation plan or order (OPLAN or OPORD), a letter of instruction or an order to execute a pre-existing plan.

2. The directive designates the CATF and CLF and specifies the command relationships between them and other commanders involved in the operation. It also states what command relationships are to apply following termination of the amphibious operation. If air force component forces are assigned to the amphibious operation, the command relationships should be specified in the initiating directive.

1. Mission.

2. The designation of CATF and CLF and any other prominent service and/or functional commanders, and the description of command relationships between CATF and CLF and these other commanders, as well as — if identifiable — the command relationships to apply following termination of the amphibious operation.

3. AOA dimensions/location.

4. Special Instructions (constraints and restraints) rules of engagement (ROE), synchronisation of operations with other events in joint operations area (JOA):

    a. Amphibious forces assigned (to include any national caveats/special doctrinal idiosyncrasies).

    b. Bilateral and multi-lateral local amphibious agreements.

    c. Operation codename.

    d. Desired end state/criteria for success for termination of amphibious operation.

Figure 2-1. Amphibious Initiating Directive

0203 Elements of an ATF

1. Amphibious forces are task-organized based on the mission. No standard organization is applicable to all situations that may be encountered in an amphibious operation. An ATF consists of different types of forces and a variety of types of ships (see Figure 2-2). It will normally also have fixed-wing and helicopter assets, as well as means for waterborne landing of troops and their supplies.

a. **Naval Forces.** Naval assets can be grouped by type or otherwise, as required, to conduct a specific task. Two or more groups may be joined together for more effective control and their names altered accordingly, at CATF's discretion. Possible groups are:

(1) **Amphibious Group(s).** An amphibious group consists of purpose built ships that provide for the embarkation, movement to the objective area, landing, and logistic support of the LF. Landing craft to be employed in the ship-to-shore movement can be organic to or attached to the amphibious group and are, because of their limited size, usually embarked in amphibious ships during the movement phase. The amphibious group is combat loaded to support the landing plan. Limited amphibious shipping dictates that the LF be task organized into echelons. Forces and equipment needed to conduct the initial assault have highest priority for embarkation in amphibious shipping.

(2) **Transport Group(s).** A transport group consists of all other military and civilian ships carrying forces and sustainment supplies assigned to an amphibious operation. These ships are used when the number of purpose built amphibious ships is insufficient for the total lift requirements for the transportation and support of the LF, particularly for assault follow-on echelons (AFOEs). Commercial shipping services are arranged through navy channels.

(3) **Escort, Screening, and Covering Groups.** Escort, screening, and covering groups consist of naval combatants assigned as needed to protect the ATF en route to the AOA and during operations in the AOA.[1]

(4) **Fire Support Group(s).** A fire support group consists of naval combatants assigned to support LF operations ashore by naval gunfire support (NGS) and guided missile support.[1]

(5) **Naval Mine Warfare (NMW) and/or Naval Mine Countermeasures (NMCM) Group(s).** A NMW or NMCM group consists of naval units that conduct surface mine laying and/or NMCM and obstacle clearance operations, possibly as a part of the Advance Force (see paragraph 0203.).

(6) **Advance Force Group(s).** An advance force group consists of specialised forces/units that precede the main body to the AOA to conduct tasks in preparation of the action phase (that starts with the landing of the LF), such as intelligence, surveillance, target acquisition, and reconnaissance (ISTAR), naval mine countermeasures and obstacle clearance operations, hydrographic operations, and terminal guidance for assault waves. An advance force group may consist of elements from other groups within the ATF (see Figure 2-2). Elements from the LF, for example a reconnaissance unit from the ground combat element, may also be included.

(7) **Control Group(s).** A control group consists of personnel, ships, and craft designated by CATF to control movement ashore, fire support, and airspace management.

b. **Landing Force (LF).** The LF *is the task organization of ground and aviation units assigned to an amphibious operation* (AAP-6). Its commander is the commander landing force (CLF). The LF usually consists of the following elements:

(1) A headquarters (HQ).

[1] Due to the multi-role character of many naval combatants, units of an escort/screening group may conduct fire support missions without being formed into a separate fire support group and vice versa.

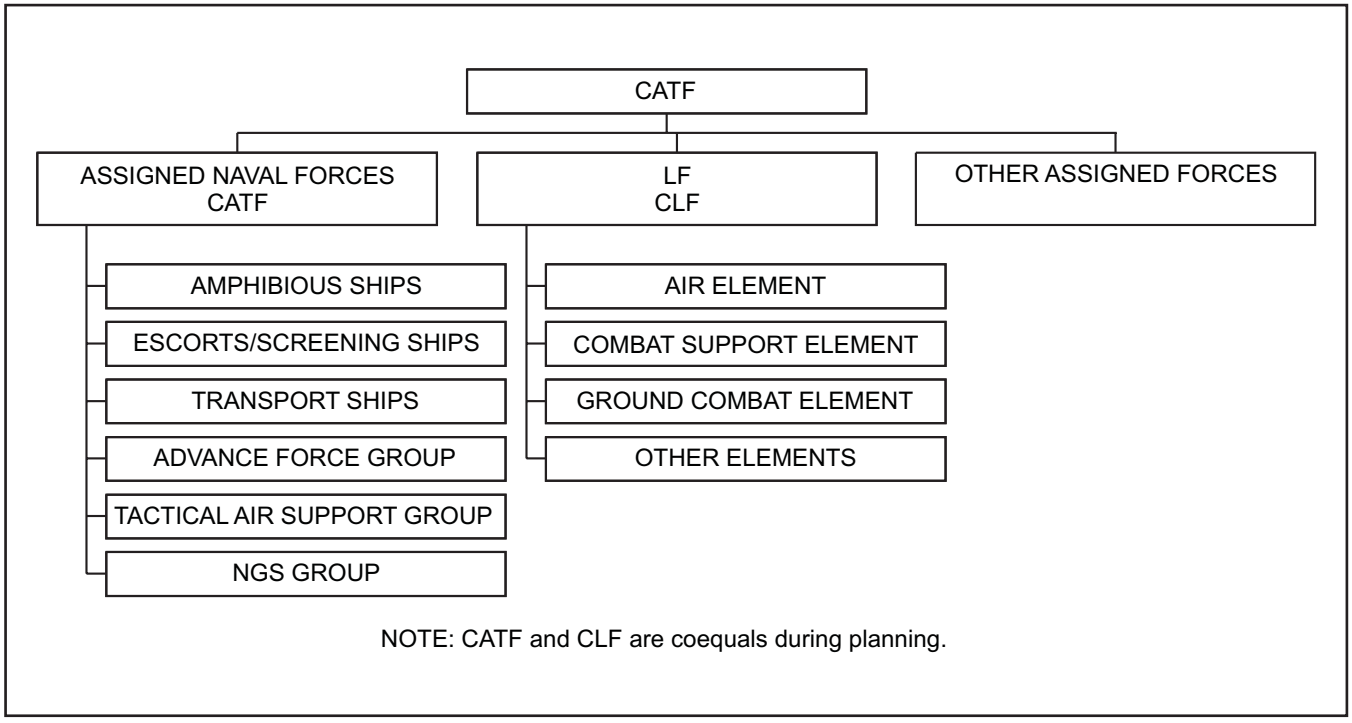


Figure 2-2. Example of ATF Organization

(2) A ground combat ("manoeuvre") element.

(3) A combat support (CS) element.

(4) A combat service support (CSS) element.

(5) Organic or attached aircraft.

(6) Organic or attached boats/craft.

2. It may be necessary to form subordinate, parallel task organizations within the ATF when simultaneous or nearly simultaneous assaults are conducted in landing areas so widely separated as to preclude effective control by a single commander, and/or the size of the force involved precludes effective centralized control. The subordinate groups will be entitled:

a. **Attack Group.** Attack group is a subordinate task organization of the navy elements of the ATF. It contains assault shipping and supporting maritime units, organized to transport, protect, land, and support a landing group. Figure 2-3 provides an example of an ATF that includes attack groups. The two attack groups (A and B) are each task organized to conduct operations against landing areas A and B in the AOA. The example includes an advance force that conducts operations within the AOA prior to arrival of the two attack groups.

b. **Landing Group.** The landing group is a subordinate task organization of the LF, capable of conducting an amphibious operation under a single tactical commander, against a position or group of positions. Figure 2-4 provides an example of a landing force organization that includes landing groups. Landing Groups A and B are embarked in Attack Groups A and B of Figure 2-3 respectively to conduct operations in landing areas A and B. The air element of this example landing force organization supports both landing groups.

c. See paragraph 0212 for the principles and guidelines on delegation of command authority and use of subordinate task organization identifiers.

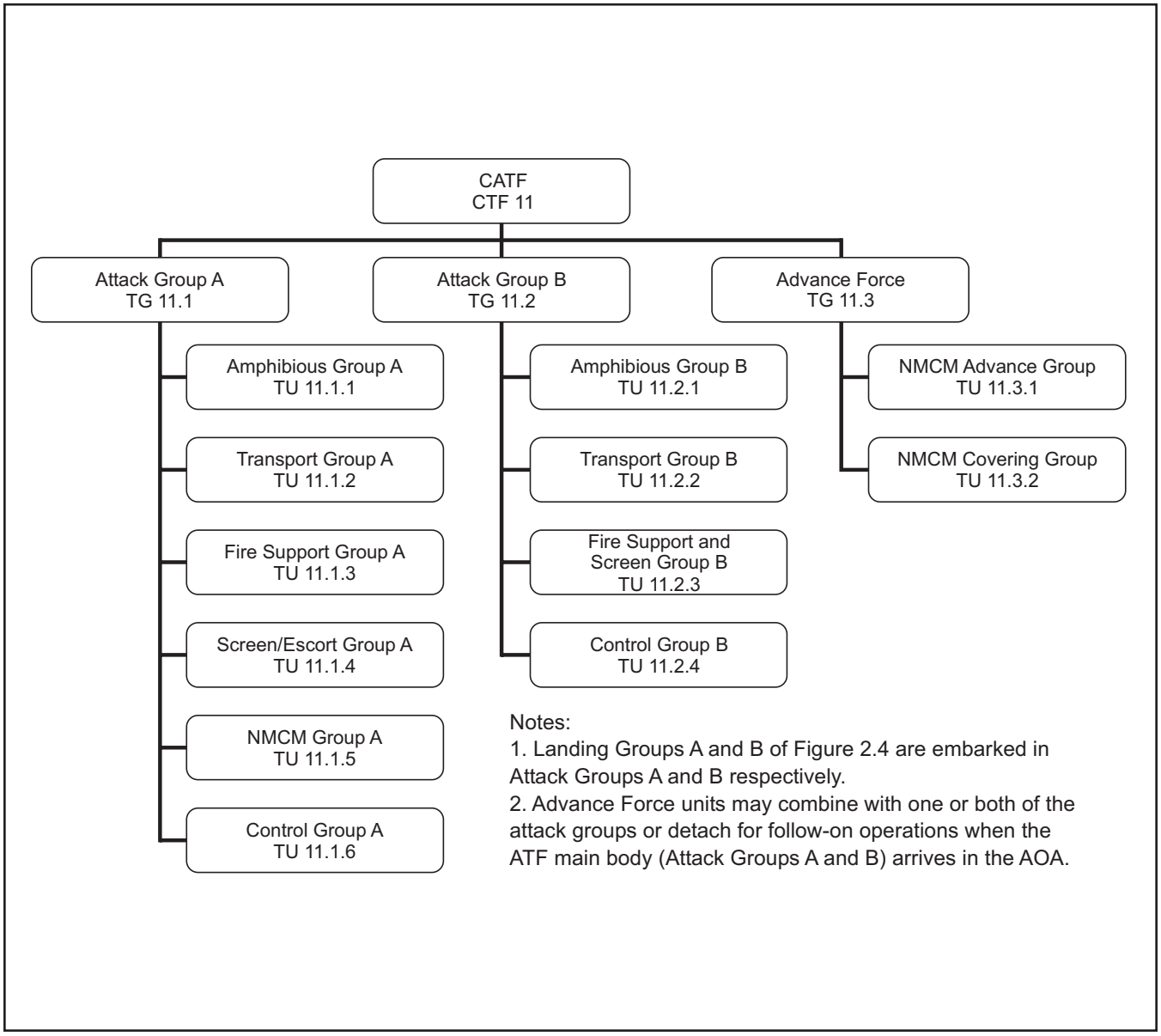


Figure 2-3. Example of ATF Organization that Includes Attack Groups

0204 Supporting Forces

Amphibious operations are often supported by task organizations that are not part of the ATF. These forces will serve for specific tasks, such as help in protecting the ATF or shaping the battlespace. Supporting naval, air, and special operations forces (SOF) are assigned by the JFC or maritime/air/SOF component commander to protect the ATF (and LF, when landed) during the amphibious operation. The request for these forces may be originated by CATF or the MCC, or even be tasked by the JFC himself. Specific instructions must cover the relationships of these forces with the ATF.

0205 Command and Control Relationships

The relationships and organization described within this chapter may require modification through special instructions to allow the ATF to accomplish its assigned mission. The organization and relationships chosen by the operational-level commander will be based on the mission, nature and duration of the operation, force capabilities, C2 capabilities, battlespace assigned, and recommendations of subordinate commanders.

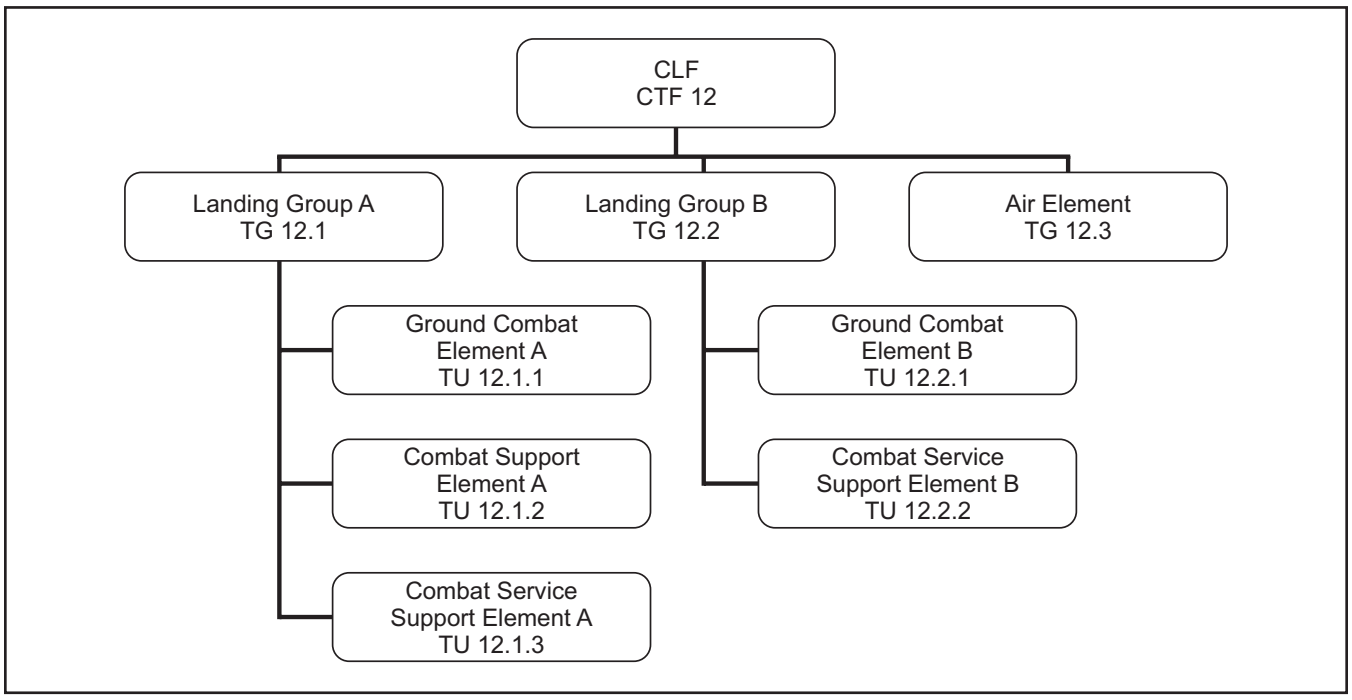


Figure 2-4. Example of Landing Force Organization that Includes Landing Groups

1. **Designation of Commanders/Parallel Chains of Command:**

a. CATF and CLF are designated in the initiating directive. CATF is the Navy officer designated in the initiating directive as commander of an amphibious task force. CLF is the officer designated in the initiating directive to command the landing force. Irrespective of the size of the forces assigned, the CATF and CLF always command the highest navy and landing force echelons in the organization for an amphibious operation. Commanders of subordinate task groups within the ATF, if they have not been named in the initiating directive, are designated by CATF or CLF, as appropriate.

b. The interrelation of naval and LF tasks during the planning for and execution of the amphibious operation requires the establishment of parallel chains of command and corresponding commanders of components of the ATF at all levels of the ATF organization. The following fundamental considerations govern the application of such a system of parallel command.

(1) CATF is responsible for the operation and, except during the planning phase, is vested with commensurate authority over assigned forces to ensure the success of the operation.

(2) During the planning phase, CATF, CLF, and other commanders designated in the initiating directive are coequals, regardless of rank. Any matter on which CATF, CLF and commanders of the components of the ATF are unable to agree, are referred to the next higher command level applicable in the operation for decision.

(3) Matters of command which affect only the navy forces are dealt with by CATF through the naval chain of command.

(4) Matters of command which affect only the LF are dealt with by CLF through the LF chain of command.

(5) Matters of command which affect both the navy force and the LF are dealt with through the corresponding naval and LF chains of command. Commanders at all levels are required to maintain a close and continuous relationship to ensure that, except in emergencies, no commander makes decisions affecting corresponding commanders without consultation. In such cases the commander making an emergency decision will notify corresponding commanders of his action at the earliest practicable time.

(6) Changes to the landing plan will be made only after consultation between and concurrence by both commanders.

(7) Detailed provisions covering special command arrangements not otherwise covered must be clearly specified for each operation.

(8) Ultimately, the successful C2 of an amphibious operation is wholly reliant on the effective close, mutually supportive and continuously consultative personal working relationship between the CATF, CLF, and their staffs.

R **0206 Command Relationships During Planning**

1. As directed by the operational-level commander, commanders of groups within the ATF (see paragraph 0203), at the beginning of the planning phase, report for planning purposes to CATF, who is responsible for the preparation of the overall plan for the amphibious operation. CATF is the coordinating authority for the conduct of planning. During the planning phase, CATF, CLF and other commanders of components of the ATF designated in the initiating directive are coequals, regardless of rank. Any matter on which CATF, CLF and commanders of the components of the ATF are unable to agree during the planning phase, are referred to the next higher command level applicable in the operation for decision.

2. Since immediate responsibility for the conduct of LF operations ashore is vested in CLF, the planning and execution of the landing are primarily his concern. Participation of other ATF groups consists generally in providing support for the LF. This involves the analysis of LF proposals to determine their feasibility from the standpoint of the remainder of the ATF. The capability of providing necessary support is a primary factor in evaluating and concurring in proposed LF plans and concepts.

3. CLF commands the landing force support party (LFSP). CATF directs naval beach group (NBG) elements to form the beach party and to report to CLF for planning. Navy beach party commanders, as subordinates of the LFSP, retain command of navy units ashore.

R **0207 Command Relationships During Operations**

1. CATF, upon the commencement of the operation (usually on embarkation of the LF aboard ATF vessels, unless otherwise indicated in the initiating directive), assumes responsibility for the entire force and for the operation, and is vested with the commensurate command authority to ensure the success of the operation.

2. CATF exercises his command authority through the commanders of his task organization. The latter, in turn, exercise their authority through their own chains of command.

3. Within the AOA, CATF is given specific command authority, as prescribed by the operational-level commander having overall authority for the operation. He will exercise coordination/control, as prescribed in the initiating directive, over forces not a part of the ATF when such forces are operating within the AOA after the arrival of the advance force or the main body. When such forces are merely passing through the AOA, control will be exercised only to the extent of preventing or minimizing mutual interference.

4. Subject to the overall authority of CATF, responsibility for the conduct of operations ashore and for the security of all personnel and installations located within the AOA ashore, is vested in CLF.

5. Regardless of rank, a forward-deployed afloat CLF will retain an equal status with the CATF in whose ships he is embarked with regard to planning amphibious operations. OPCON or tactical control (TACON) of the LF is vested in CATF as specified in the initiating directive.

6. The commanding officer (CO) of a ship transporting troops exercises command authority over all persons embarked. While embarked, troop administration is a function of the CO of Troops, subject to regulations from the ship's CO.

0208 Spare

0209 Consultation Between Commanders R

In the exercise of his command authority, CATF, to the greatest possible extent, obtains and considers the opinion of appropriate commanders, particularly in cases involving a decision requiring the exercise of professional judgement in their operational fields.

0210 Personnel Under Corresponding Commanders R

All necessary orders from one commander affecting personnel under command of a corresponding commander should be issued through the latter or the appropriate chain of command. Nothing in the foregoing is to be construed as affecting the paramount authority of a commander of a naval ship or aircraft over persons embarked therein in matters affecting the safety and good order of his ship or aircraft, or the authority of a senior officer present to act in an emergency.

0211 Delegation of Command Authority to Subordinate Levels R

1. During operations, CATF exercises his command authority over the entire ATF. A subordinate commander may be delegated command authority over a corresponding CLF only when:

   a. Simultaneous or nearly simultaneous assaults are conducted in areas so widely separated as to preclude effective control by a single tactical commander. (This condition requires the formation of two or more attack groups and corresponding landing groups.)

   b. Separate operations are conducted by a detached fraction of the ATF, such as the operations of an advance force with a corresponding LF.

2. CATF and CLF can agree during the planning phase to delegate command authority over elements of the LF to subordinate commanders (e.g., to the commander of an advance force that contains part of the LF). In these cases, CATF exercises his command authority through the commander of each subordinate task force/group. Whenever CATF issues to such subordinate commander an order affecting the corresponding LF element, CLF is informed and consulted prior to issuance of the order. When command authority over LF elements has been delegated below CATF's level, the relationships between such a commander and his related CLF are in principle the same as those between CATF and CLF. The direct chain of command of each major group commander of the ATF is re-established when the subordinate task force/group is dissolved or when elements of it are released back to their normal (parent) command.

3. If other components participate in advance force or attack group operations, the organization and principles expressed in article 0203 would equally apply at the advance force/attack group level.

4. Irrespective of the subordinate hierarchy of level (size) of forces, the titles of commander amphibious task force and commander landing force will be maintained as the generic titles that designate the highest authority of the respective organizations.

0212 Multinational Amphibious Task Forces R

1. During an amphibious operation that involves amphibious forces from more than one nation, a commander combined amphibious task force (CCATF) will be designated. Similarly, in the case of employment of multiple nations' LFs, a commander combined landing force (CCLF) will be designated.

2. The designation of the commanders of the combined ATF and combined LF will normally be done in the initiating directive. The decision will depend on various aspects, e.g., capabilities of the ATF command platform and LF HQ assigned, overall size, and the composition of the other assigned maritime and LF elements of the ATF.

R

0213 Airspace Control During Operations

1. To ensure unity of effort in overall air operations, CATF will normally be the delegated subordinate airspace control authority (SACA) for the AOA and will coordinate air operations with the airspace control authority (ACA) for the surrounding area. At the termination of the amphibious operation, the assigned airspace will be disestablished, and the airspace control will normally be exercised as per doctrine for control of airspace over the combat zone by the ACA designated for that area. ATP-8B, Vol. II, and AJP-3.3 (series) provide details of airspace control procedures and communications.

2. As conditions warrant and as control and coordination agencies are established, CLF will coordinate with CATF to assume control and coordination of LF supporting arms, as well as airspace control (if CATF has been designated SACA) and will coordinate with the ADC for air defence within the landward portion of the AOA. For this to occur, appropriate authorities/agencies must be established to carry out the functions to be transferred. CLF may choose to delegate these functions to a commander ashore, or keep these functions sea-based. Designated authorities/agencies are phased ashore as part of the LF. To facilitate an orderly transfer of control, specific control functions may be incrementally passed as facilities ashore become operational. After passage of control ashore, afloat control centres continue to monitor air circuits in a standby status, ready to assume control in the event of an emergency. The CATF will normally be assigned air defence responsibility for the seaward sector of the AOA.

0214 Selection or Designation of a Command and Control Platform

1. Ideally, CATF and CLF will embark a multipurpose flagship designed to accommodate both staffs and their C2 requirements. This includes the collocation of the amphibious control centres (e.g., supporting arms).

2. **Criteria for Flagship Selection.** The following capabilities are desirable:

   a. Communications.

   b. Data links.

   c. Air control radar.

   d. Display.

   e. Computer support/networks.

   f. Physical space/power outlets.

   g. Proximity of control spaces.

   h. Administrative support.

   i. Video teleconferencing and collaborative planning tools.

3. If all of the above criteria cannot be met, CATF and CLF may elect to disperse control functions based on host platform capability.

0215 Amphibious Objective Area

An AOA is a three dimensional, geographical area (delineated for C2 purposes in the initiating directive for an amphibious operation) within which is located the objective(s) to be secured by the ATF. This area must be of sufficient size to ensure accomplishment of the ATF's mission and must provide sufficient area for conducting necessary sea, air, and land operations — but not be so large as to be beyond the CATF's control capability. Control of the AOA belongs to CATF until the accmplishment of the ATF mission and the subsequent disestablishment of the AOA. If the initiating directive does not designate either the AOA or the ATF's objectives, the CATF and CLF will determine the necessary ATF objective(s) and request the associated AOA to accomplish the assigned mission. The factors that determine the size of the AOA are listed in Figure 2-5.

1. Location of ATF objectives.
2. Location and size of landing beaches and landing zones (LZs).
3. Topography.
4. Friendly force weapon/sensor ranges and capabilities.
5. C2 capabilities of the ATF.
6. Composition, size, and disposition of ATF and anticipated follow-on forces, including coalition and joint forces.
7. Enemy weapons/sensor ranges and capabilities.
8. Enemy force disposition.

Figure 2-5. Factors That Determine the Size of the AOA

0216 Position and Relationship of the AOA With Other AOOs

The AOA is a control measure designed to maximise the safety of the ATF while allowing it to complete its mission with as little restraint as possible. CATF and CLF must have the situational awareness necessary to prevent fratricide and ensure effective engagement of the enemy within the AOA. This continues until the termination of the amphibious operation and disestablishment of the AOA.

a. The responsibility for coordinating establishment of the AOA rests with the operational-level commander who issued the initiating directive. Prior to issuing the initiating directive for the amphibious operation, including provisions for establishment of the AOA, he will consult affected commands/regional commands concerned to ensure coordinated effort of allied forces in the objective area.

b. An alternative to establishing an AOA is the establishment of an AOO with a high-density airspace control zone (HIDACZ). See AJP-3.3.5 for further details.

0217 Supported/Supporting Relationship

R

The concept of a supported/supporting relationship (SSR) is accepted NATO doctrine. The relationship as described relates primarily to the component level and is not directly applicable to the relationship between commanders within an amphibious force. However, it is possible for the principles of SSR to be applied within an amphibious context. It is emphasised that SSR is not a command relationship, and the application of the principles may only be relevant in certain circumstances. The SSR allows the strengths and capabilities of the forces involved to complement each other to best overall effect. Within the amphibious force, individual elements can support or be supported for the achievement of a particular task or the successful completion of an operational phase. If application of an SSR is to be considered, it must be with the complete agreement of the commanders and understanding of the staffs concerned. Funamental to the establishment of an SSR is the determination of the main efforts which, in conjuctions with commander's intent, is key to providing unity of effort. As the situation changes, the commader may redirect the weight of combat power in support of the activity that is most critical to success. This implies that an SSR must be adaptable and flexible and not rigid, linear, and hierarchical.

INTENTIONALLY BLANK

CHAPTER 3

Planning

0301 Introduction

1. The planning process for an amphibious operation is complicated by the need to integrate and coordinate in detail the actions of forces of different nature, both from within and external to the ATF. The capabilities of each force must be supportable by the others, and the main effort varies from one force to the other in every phase. Due to the necessity of reaching a consensus, CATF and CLF are coequal during the planning phase.

2. This chapter describes basic decisions CATF and CLF must make. Since the factors upon which these decisions are made are interrelated, and the decisions will affect every element of the ATF, each factor must be considered from the viewpoint of all participants. Detailed Planning information is available in ATP-8(B), Volume II, Tactics, Techniques, and Procedures for Amphibious Operations. See also the other chapters of this Volume, and Volume II, for various warfare areas, CS and CSS that require consideration during planning. The following points are relevant to planning an amphibious operation:

a. Although ideally the planning phase takes place before the embarkation of the LF, this may not be the case: the LF may already be embarked either as part of a pre-deployed ATF that is in theatre, or as a result of the political requirement to sail an ATF with expedience.

b. CATF and CLF cannot conduct planning for an amphibious operation in isolation, especially if such an operation is part of a joint campaign. Planning should be conducted in coordination with other commands involved, particularly any designated supporting command. The output of the planning phase should be communicated horizontally as well as vertically within the ATF.

c. Wherever practicable and appropriate, planning should be conducted conjointly by the staffs of CATF and CLF.

d. The concept of LF operations ashore must ensure that surface and air elements of the ATF can transport, protect and land the LF, and effectively support its operations during and after the landings. Therefore, development of the LF concept of operations (CONOPS) must precede any detailed planning for surface and air operations. The concept must be examined by all commanders concerned to determine its feasibility, and CATF must concur prior to detailed planning. It is imperative, since other planning is based on it, that the LF CONOPS ashore be formulated expeditiously, but all commanders who participate in the assault must be prepared to alter and accommodate their plan to changing requirements of the LF.

3. The planning phase will start with the receipt by the CATF of the initiating directive. Following an amphibious estimate and the generation of the basic decisions, the phase will conclude with the issue of a number of key deliverables including the general operational messages (OPGEN) and operation order (OPORD). At the lower levels, detailed planning usually cannot begin until basic decisions are promulgated by the higher levels of command.

4. The concurrent participation in planning by navy forces (including commercial shipping), the LFs, and, when appropriate, air component forces requires a close continuous relationship between corresponding echelons of command. Basic decisions, even those falling primarily to an individual commander, must be reached by a common understanding of objectives and on a free exchange of information. This close coordination in planning is essential, irrespective of command level. As a result, planning in amphibious operations needs to be parallel, concurrent and detailed, at a different level of command, within each force involved.

5. In many cases, command decisions may restrict the degree of freedom of action and authority normally allowed to subordinate commanders.

0302 Time Factor in Planning

1. The time necessary for planning an amphibious operation depends on many variable factors, including the time itself; number, diversity, and physical separation of units involved; the magnitude and complexity of the operation; and the skill of the involved forces in the conduct of amphibious operations. The effect of lack of planning time will be minimized by the creation of standing instructions for all forces, continuous planning, and flexible plans.

2. Except for withdrawals associated with amphibious raids, planning processes for amphibious withdrawals will usually be abbreviated due to substantial enemy action against the LF, or an urgent requirement for forces elsewhere.

0303 Planning Directive

On receipt of the initiating directive, CATF will issue a planning directive to ensure that interdependent plans are coordinated, planning completed in the time allowed, and all important aspects are considered. This directive must be communicated to subordinate and supporting commanders. The planning directive specifies the principal plans to be prepared and sets a deadline for the completion of each major step in the planning process for the ATF HQ and major forces assigned.

0304 Planning Conferences

Time permitting, the CATF will convene planning conferences. These conferences provide the opportunity for the battle staffs of CATF and CLF and other supporting staffs to establish liaison, discuss preliminary issues and ensure a common understanding of the situation and the mission.

0305 Mission Analysis and Estimate

It is essential that a formal mission analysis and estimate (see MC 133 and the Bi-SC Guidelines for Operational Planning (GOP)) is done jointly by the staffs of both CATF and CLF to establish a common purpose. This planning allows both staffs to organize planning activities, to transmit plans to subordinate commands, and to share a common understanding of the mission and commander's intent. Interactions among various planning steps allow a concurrent, coordinated effort that maintains flexibility, makes efficient use of time available, and facilitates continuous information sharing.

0306 Basic Decisions

Basic decisions are those decisions which must be made at the highest level within an ATF before detailed planning for an amphibious operation can proceed. (See Figure 3-1.) In the case of mutual decisions, both commanders must concur or the decision is referred to the authority that issued the initiating directive for resolution.

a. **Determine ATF Objectives.** The initiating directive assigns the ATF mission. If the initiating directive does not designate the ATF objectives, the CATF and CLF will determine the necessary ATF objective(s) to accomplish the assigned mission.

b. **Determine COAs for Development.** COA development provides for the evaluation of alternative military responses. It includes, within the limits of the time allowed, establishing force and sustainment requirements with actual units; evaluating force, logistic, and transportation feasibility; identifying and resolving resource shortfalls; and recommending resource allocations. Multiple COAs are developed, each of which must be credible and achievable. The effect of the adversary's most dangerous and most likely COA against each own COA must be analyzed. For each COA, a CONOPS, including mission outline, employment concept, risk assessment, and supporting database will be developed.

Amphibious Basic Decisions

Basic Decisions (Note) (a)	May be contained in Initiating Directive (b)	CATF (c)	CLF (d)	Shared (e)
1. Determine ATF objectives	X			X
2. Determine COAs for development				X
3. Select COA				X
4. Determine beachhead			X	
5. Determine LF objectives			X	
6. Formulate LF CONOPS ashore			X	
7. Select landing sites/areas				X
8. Select landing beaches			X	
9. Select LZs and drop zones			X	
10. Determine sea echelon plan		X		
11. Select date and hour of landing	X	X		

Note: All basic decisions made by CLF are subject to review/concurrence by CATF from a supportability perspective. The reference number of basic decisions in the table does not establish the priority in which they have to be taken.

Figure 3-1. Basic Decisions

c. **Select COA.** In COA comparison and decision, ATF commanders evaluate all friendly COAs against established criteria, then against each other. The COA that will best accomplish the mission will then be selected.

d. **Determine Beachhead.** A beachhead is a designated area which when seized and held ensures the continuous landing of troops and material and provides the manoeuvre space required for subsequent operations ashore. CLF selects both possible beachheads and landing sites which are then approved by CATF.

e. **Determine LF Objectives.** After the LF mission has been determined and the landing sites have been designated, CLF determines physical and terrain objectives, the capture of which is necessary to accomplish his mission. Except when the need for establishing aviation units ashore early in the operation presents special problems, aviation considerations will not greatly influence the selection of physical objectives.

f. **Formulate LF CONOPS.** CLF's CONOPS ashore is a written and graphic presentation, in broad outline, of his intent with regard to the operation. It includes the formation for landing, the manoeuvre for capture of the beachhead(s), and the principal LF objectives. CLF formulates alternate concepts for operations ashore, including plans for any subsidiary operations, and presents them to CATF. This presentation of the LF's concepts to CATF allows him to determine if they can be supported by the forces available. Naval and air considerations affecting the formulation of the CONOPS ashore are those pertaining to the capabilities for transporting, protecting, and landing the LF, and for supporting its operations during and after the landing.

g. **Select Landing Sites/Areas.** The process of selecting landing sites and areas is highly interrelated with the CONOPS ashore and is concurrently considered by CATF and CLF. A landing site is a continuous segment of coastline over which troops, equipment and supplies can be landed by surface means. While of minimum length to contain at least one landing beach, a landing site is restricted in maximum length only by the extent of usable, uninterrupted coastline. The landing area is that part of the objective area within which are conducted the landing operations of an ATF. It includes sea, air, and land areas required for executing and supporting the landing and establishing the beachhead selected by CLF.

(1) CLF determines possible primary and alternate landing areas and beachheads and notifies CATF of his selections in order that they may be incorporated in the designation of tentative landing areas.

(2) CATF delineates the sea areas and air space required for the establishment of each beachhead tentatively selected by CLF. CATF designates the combinations of sea and beachhead areas and air space as possible landing areas, and indicates their relative desirability from a naval viewpoint. (See Figure 3-2.)

h. **Select Landing Beaches.** A landing beach is, nominally, a portion of shoreline required for landing a battalion landing team. However, it may also be that portion of a shore line constituting a tactical locality over which a larger or smaller force may be landed. CLF selects specific landing beaches from available landing sites within the selected landing areas. CATF reviews the selections in the light of the naval considerations.

i. **Select Landing Zones (LZs) and Drop Zones (DZs).** LZs and DZs are ground areas specified for use by helicopters, and airborne/air-transport forces to land troops and cargo. CLF selects the aircraft LZs and DZs and advises CATF. In reviewing these selections, CATF considers the ability of his other forces to support the proposed assault landings. When the ATF is composed of two or more attack groups with related landing groups, the task of conducting the air assault operations may be assigned to one or more of the task group commander(s).

j. **Determine Sea Echelon Plan.** The sea echelon plan is the distribution plan for amphibious shipping in the transport area designed to minimize losses due to attacks and to reduce the area to be searched for, and cleared of sea mines. The CATF determines the sea echelon plan. The design of the amphibious airspace must take into account the AOA limits above the sea echelon areas.

k. **Select Date and Hour of Landing.** CATF, after consultation with CLF and other commanders selects the tentative date and hour of landing, considering aspects as listed in Figure 3-3. These tentative dates and hours are promulgated as early as possible in the Planning phase. In an amphibious operation:

(1) D-day is the day on which the first (helicopter or waterborne) landing into the AOA is conducted, i.e., the start of the Action phase.

(2) H-hour is the specific time at which an operation commences, or is due to commence. In an amphibious operation, H-hour is the time at which the first landing craft of the waterborne wave is scheduled to touch down on the landing beach.

(3) L-hour is the time at which the first helicopter of the helicopter-borne wave is scheduled to touch down in the LZ.

0307 Coordination Briefs

After the basic decisions have been made, the commanders of the components/elements of an ATF develop operation plans (OPLANs), OPORDs, formatted OPGENs, or operational taskings (OPTASKs). The staffs must maintain constant contact to ensure continued harmonisation of their efforts. Depending upon time available, once final drafts of the OPORD and OPGEN have been completed, a coordination brief should be conducted between the commanders and staffs. The purpose of the brief is to compare these documents with higher and adjacent orders to ensure unity of effort and identify any discrepancies or gaps. Following the staff correction of any discrepancies identified, the CONOPS will be submitted for approval.

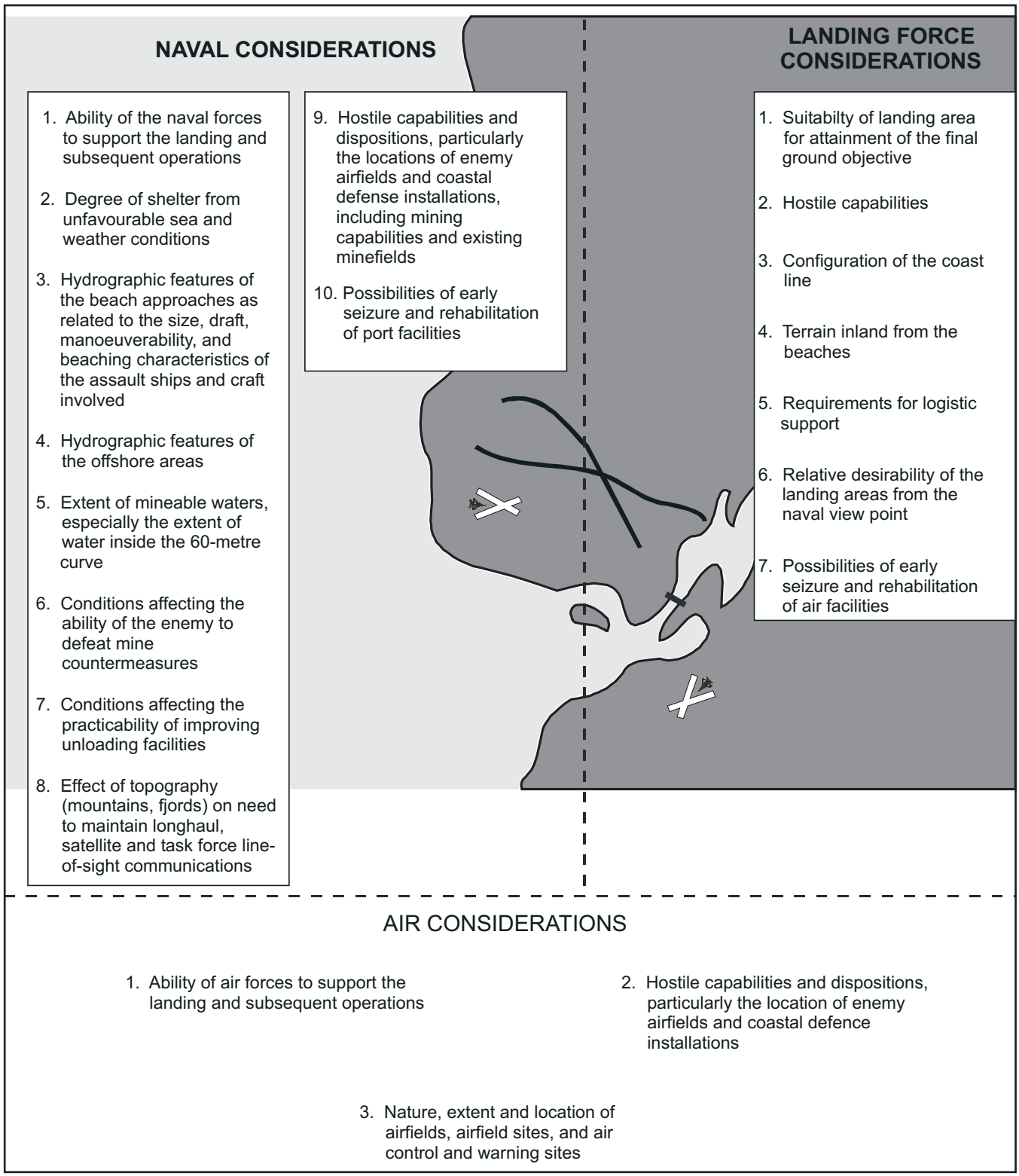


Figure 3-2. Selection of Landing Areas

Date for Landing	Hour for Landing
	
• Availability of forces • Readiness of forces • Present and projected enemy situation • Seasonal conditions in the area under consideration • Local conditions of weather, tide, current, phase of moon **(duration of darkness and daylight)** • Designation of limiting dates by a higher authority • Coordination with preliminary operations	• Known enemy routine • Duration of daylight • Need for tactical surprise • Concept of operations ashore of the landing force • Favourable conditions of wind, tide, and phase of moon • Requirements for conducting certain operations during hours of darkness • Most effective employment of air and naval gunfire support

Figure 3-3. Principal Factors in the Selection of Tentative Date and Hour for Landing

0308 Planning Movement Ashore

The LF movement from ships to the shore/objective takes place during the action phase of the amphibious operation. It projects the LF in a tactically balanced manner, normally undertaken in a number of initial waves, followed by the projection ashore of logistics and C2 functions. The execution of movement ashore is covered in Chapter 8. Correct and early planning of the ship-to-shore/objective movement is also required early in order that the LF can be embarked into shipping in the correct order.

0309 Amphibious Planning Process

1. A detailed understanding of the capabilities and limitations of forces assigned is a prerequisite to successful planning. Per MC 133 and the Bi-SC Guidelines for Operational Planning (GOP), commanders and their staffs will need to:

a. Conduct a detailed risk/benefit analysis.

b. Link amphibious operations to the overall campaign plan.

c. Balance the requirements of surprise with preparation of the battlespace by advance forces and pre-landing forces.

d. Balance the requirements of sustaining the force whilst minimizing the logistic build-up ashore in order to develop coercive combat power at the objective whilst avoiding over-extension.

e. Develop clear options for the ATF on termination of the amphibious operation.

2. Volume II contains planning aids based upon the planning process described in AJP-3.

INTENTIONALLY BLANK

CHAPTER 4

Embarkation

0401 Introduction

1. **General.** The embarkation phase is the period during which the LF, its equipment and supplies, are embarked in assigned shipping. The primary goal of this phase is the orderly assembly of personnel and materiel and their embarkation in assigned shipping in a sequence designed to meet the requirements of the LF CONOPS ashore.

2. A characteristic of a successful amphibious operation is the rapid and effective manner in which the LF establishes itself ashore. The LF must be able to build up to maximum combat power from zero in the shortest possible time. This rapid build-up of personnel, supplies and equipment depends largely on properly loaded ships. Proper loading is a key factor in ensuring success. Conversely, improper loading can seriously jeopardise an operation.

3. Embarkation is a coordinated undertaking by naval, LF and shore-based supporting HQs. There must be a mutual understanding of objectives, capabilities and full cooperation in planning and execution.

4. Embarkation of the LF and their associated vehicles and equipment will be per the approved embarkation plan, and will be executed by the LF staff working with their navy counterparts.

5. **Types of Loading.** Ship loading must be based on the order in which the forces are to be landed. 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. There are two basic methods for loading ships:

   a. **Administrative Loading.** Administrative loading implies the maximum use of available space, without regard to tactical landing 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.** Combat loading means that personnel, supplies and equipment can be projected ashore tactically ready for combat. Landing priority and tactical integrity of the units are the driving factors.

0402 Principles of Embarkation Planning

1. Embarkation planning considerations include determination of overall shipping requirements, refining embarkation schedules, and completion of detailed load plans for individual ships. Embarkation planning must begin early and proceed concurrently with all other planning. It requires constant coordination between the LF and the naval force, throughout the chain of command. Effective embarkation requires a detailed knowledge of the ship's characteristics, capabilities, and limitations as well as the relationship to personnel, supplies and equipment to be embarked. Embarkation planning is a reverse planning process working backward from objective ashore, to beach/LZ, to shipping, to port of embarkation.

2. The following principles apply:

   a. **Support the Landing Plan.** Embarkation plans must support the plan for landing, scheme of manoeuvre ashore, and the plan for landing follow-on 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.

b. **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 equipment (e.g., radio operators and weapons crews should be embarked with their radios and weapons) and each unit should be embarked with sufficient combat supplies for initial sustainment ashore.

c. **Provide for Dispersion.** This principle seems to be contradictory to self-sufficiency, but there must be a balance. Dispersion minimizes the risk of losing a vital combat capability completely by the loss of one ship. Critical equipments and combat supplies should be dispersed among several ships. In individual ships, critical items should be dispersed among several stowage compartments that do not share the same disembarkation route or offloading means (e.g., a crane or elevator).

0403 Embarkation Planning Considerations

1. **General.** Detailed embarkation planning by subordinate echelons relies on the promulgation of the initial draft CONOPS ashore/landing plan and the organization for embarkation and assignment of shipping (OE&AS).

2. **Considerations.** Consideration must be given to the following:

a. Commanders and staffs should not wait for supporting plans to be completely developed. Planning must proceed concurrently with other planning.

b. Balancing the availability of ship to shore/objective movement assets, their roles in the plan, and their shipping space requirements.

c. CATF, CLF, and their staffs must be collocated onboard one ship nominated as flagship.

d. The establishment of embarkation areas is influenced by the following factors:

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

(2) Time available for loading.

(3) Availability of suitable storage facilities.

(4) Space available for processing supplies and equipment brought into the embarkation area.

(5) Availability of a suitably protected anchorage.

(6) Availability of suitable beaches for the beaching of landing craft and for the operation of amphibious vehicles.

(7) Availability of adequate airfields and railroads within reasonable distance of the embarkation site.

(8) Availability of landing craft to support embarkation aboard ships at anchor or ships not accessible to pier side loading.

(9) Availability and suitability to support staging, moving and loading of ammunition, fuel and/or other potentially hazardous material.

0404 Embarkation Planning Sequence

Following the receipt of the initiating directive the embarkation planning proceeds at all echelons concurrently. Continuous liaison between corresponding naval and LF personnel is essential. An activity plan will allocate specific actions to participants, a time line and a schedule for joint meetings. Major steps will overlap but are usually accomplished in the following sequence:

a. **Navy Lift Requirements.** CATF obtains lift requirements (e.g., personnel, supplies, equipment) from naval and other forces that may embark in designated LF spaces. These requirements with preferred locations will be forwarded to the CLF for inclusion in the LF assignment to shipping matrix. CLF will also be provided with ship's loading characteristics pamphlets (SLCPs).

b. **LF Shipping Requirements.** Now CLF will determine the requirements for the assault and follow-on shipping based on unit staff tables. These requirements will be submitted to CATF.

c. **Allocation of Shipping by CATF.** By now the first coordination meeting between CATF and CLF staff representatives is required (pre-deployment meeting). CATF will have confirmed if sufficient shipping is available to meet the stated LF requirements. As far as possible, shipping will be matched to the LF's organization for embarkation. If a shortfall exists, CATF will consult interested commanders in order to adjust plans or to justify a request to a higher commander for more shipping. This plan will be reflected in the OE&AS.

d. **LF Organization for Embarkation.** This organization will normally be based on the LF HQ and manoeuvre units with CS and CSS, designated to participate in the amphibious operation. Formation of the various embarkation echelons described below depends on the degree of decentralisation of embarkation C2 necessary/desirable for the successful accomplishment of the embarkation phase.

(1) The LF HQ will be the embarkation group as it has C2 over one or more embarkation units. It is the parallel LF organization to the naval transport group as the transport group commander organizes his transport in order to respond to the embarkation group commander's lift requirements.

(2) Major LF units will be nominated as embarkation units and will be allocated to one or more ships. The number of embarkation units formed may vary depending on the LF organization and the physical locations of the troops to be embarked and their allocated shipping. A transport unit is the parallel naval echelon.

(3) If an embarkation unit is given more than one ship, it will break down into embarkation teams, one team for each ship.

(4) 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.

e. **Allocation of Shipping to Subordinate Echelons.** CLF will, in close concert with CATF, conduct initial on-load planning and assignment of units to ships, using either generic staff tables or the outline unit staff tables. CLF allocates shipping to embarkation units of the LF for further embarkation planning.

f. **Selection and Preparation of Embarkation Areas.** CATF and CLF select and prepare an embarkation area. This is normally located in or near the point of embarkation (POE) (docks or a suitable beach).

g. **Selection of Marshalling Areas (When Required).** If the embarkation area cannot accommodate troops for some period of time, CLF will select and prepare marshalling areas for the LF (and attached naval units).

h. **Determination of Support.** CATF and CLF determine the requirement for command, control, and communications (C3) facilities; security for the embarkation area; and stores handling equipment. This also includes material required for handling of equipment and stores.

i. **Development of Schedules.** CATF and CLF develop berthing and loading schedules. Based on this, the movement control section of the LF HQ develops movement schedules for all LF personnel, supplies, vehicles, and equipment to the embarkation areas. This will be reflected in the movement instruction, which contains detailed information on embarkation and unit documentation requirements. The embarkation units

are responsible for collating the documents produced by the units that have elements on the assigned ships. Formats for these documents must be provided by the LF HQ.

j. **Embarkation and Loading Plans.** Preparation, review, approval, and pomulgation of detailed embarkation and loading plans begins upon receipt of the initiating directive, but the actual promulgation of the plans is the final step in the embarkation planning sequence. CLF will call for a mounting meeting to issue and discuss the movement schedules. Additionally, the movement staff will issue a call-forward instruction for each ship that needs to be loaded.

0405 Embarkation Unit Planning

1. The embarkation unit planning starts after the pre-deployment meeting where instructions will be issued. These instructions give the loading priority of units assigned to an embarkation unit. The assigned units are not necessarily under any specific type of command relationship of the embarkation unit. The embarkation units are given direct liaison authority (DIRLAUTH) with the assigned units and ships. These then receive direction and the CLF endorsed unit staff tables, including cargo to be loaded. Early information is required on the vehicle deck layout, accommodation space and ammunition and dangerous cargo space. Detailed load planning will be conducted later in the process.

2. All LF units have to submit their detailed staff tables to CLF for endorsement. CLF will match these against the broad staff checks and forward these to the respective embarkation unit. The embarkation unit now has to start making the detailed embarkation plans for final submission to CLF (embarkation group). The embarkation plan will give an outline of the plan and will reflect CLF direction on the stow of the shipping.

3. After receiving embarkation plans from embarkation units, CATF and CLF review and approve these. During the mounting meeting these plans will be confirmed. The embarkation plans can subsequently be distributed to the units by the embarkation unit.

0406 Load Plans

1. The preparation of load plans for individual ships starts when the embarkation unit has collected all information. Early liaison between the embarkation unit and the ship(s) at the appropriate level is essential to ensure that the load plan is achievable.

2. Before loading the shipping, it is essential that embarkation units send an advance party (equipped with the SLCP) to the ship. This advance party comprises some of the key personalities in the unit, who will fulfil the ship's appointments.

3. Once the load plans are completed by the ship's combat cargo officers or embarkation team officers and signed by the embarkation unit CO, they are sent to the embarkation group HQ (LF HQ) for approval. The embarkation group collects all load plans and submits these to CATF and CLF for approval.

4. The load plan consists of:

a. Cover page with ship's appointments, signature of CO or OC Troops. The cover page should also include any additional information on the loading plan and give a statement of capabilities embarked in the shipping. This is CLF's main information on the load on any ship. To assist CLF, the cover page should also contain a copy of the latest staff table.

b. The ship's administration office will require a nominal of the embarked military force (EMF), (souls on board, normally submitted by signal) to promulgate this information to higher HQs ashore.

c. Vehicle Details. These can be submitted in the form of a staff table. Details should include battle plates and serial numbers.

d. Diagrammatic layout of vehicle deck and position of vehicles. Vehicles should be marked with vehicle type and battle plate/serial number.

e. All legal documents are to be produced per the movement instruction. These may include dangerous goods notes, sea transportation manifests, custom documents, etc.

f. Cargo and Loading Analysis Table (C&LAT). The C&LAT is a detailed breakdown of cargo (less vehicles) by type. It shows which cargo is stowed as standard cargo, loaded in vehicles (mobile loaded), and any heavy lifts.

5. The CO of the ship reviews and approves the detailed loading plans of the embarkation team commander from the viewpoint of the safety and performance of the ship.

0407 Assault Shipping Requirements

1. **General.** Assault shipping includes those ships that carry the assault echelons and AFOEs. Assault shipping requirements must be determined as early as possible in the planning sequence so that all echelons of the LF may proceed with their detailed plans for embarkation.

2. **Development of Requirements.** Shipping requirements for the LF are developed by:

a. Shipping requirements of the major ground and air echelons of the LF.

b. Shipping requirements for the entire force, to include units not normally organic to the LF, and all supplies and equipment to be embarked.

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

a. Landing plan.

b. The plan for landing supplies.

c. Total number of personnel to be embarked.

d. Total area (square feet or linear metres (LIMs)) measurement of vehicles and equipment to be embarked.

e. Total cubic footage of cargo that can be stacked.

f. Total volume (litres or gallons), by type, of bulk petroleum, oil(s), and lubricants (POL).

g. Total number of embarked aircraft.

h. Total number of amphibious landing craft and/or vehicles necessary per the landing plan.

i. Requirement for special missions/equipment (minesweeping, special operations).

j. CATF initial estimate of the number/type of ships to be made available.

4. **Final Determination of Assault Shipping Requirements.** The final determination cannot be made until the number of personnel, supplies, and equipment to be embarked in assault shipping and LF assets required to execute the landing plan are confirmed.

a. The requirements of each operation are unique. For example, a short transit may enable the ships to be loaded beyond their billeting capacity.

b. Only upon final allocation of shipping to the LF can a final determination of its adequacy be made.

0408 Embarkation Responsibilities

1. The CATF is responsible for:

   a. Allocating assault shipping and sealift.

   b. Providing ships' loading characteristics pamphlets to the CLF.

   c. Organizing navy forces for embarkation.

   d. Preparing movement orders for ships.

   e. Approving LF embarkation and loading plans.

   f. Planning for external support.

   g. Advising the CLF on support forces' embarkation requirements.

2. The CLF is responsible for:

   a. Determining LF requirements for assault shipping.

   b. Developing LF organization for embarkation.

   c. Determining embarkation support requirements.

   d. Preparing detailed embarkation and loading plans.

3. Other commanders must:

   a. Provide their lift requirements.

   b. Organize their units for embarkation.

   c. Participate in embarkation planning meetings.

CHAPTER 5

Rehearsals

0501 Introduction

1. **General.** The complexity of amphibious operations requires, uniquely, the rehearsal to be carried out as an essential phase of the overall operation.

2. During the rehearsal phase, elements of the plan are executed by the ATF under conditions approximating those of the contemplated amphibious operation. The rehearsal is not training of the troops; it is assumed that the ATF elements have already achieved a satisfactory state of training.

3. **Purpose.** The purpose of rehearsals is to ensure:

   a. Adequate C2.

   b. Adequate communication plan.

   c. Familiarity of the plan throughout the force.

   d. Timing and sequencing of detailed operations.

   e. Integration and readiness of participating forces.

4. **Critique.** Each rehearsal should be followed by a critique, and, where necessary, appropriate adjustments.

0502 Types of Rehearsals

1. **Staff Rehearsals.** Staff rehearsals are those conducted by all staffs scheduled to participate in the amphibious operation, and take the form of command post and/or "game board" exercises. They are conducted prior to integrated rehearsals. Wherever possible, such rehearsals should include the exercising of all communication personnel, facilities, and circuits that will be used during the actual amphibious operation.

2. **Integrated Rehearsals.** Integrated rehearsals are those conducted by the staffs and force elements. They can range from participation by extensive number of troops to only token numbers of troops, landing craft, and air assets. Regardless of the size and scope of the rehearsal, the full spectrum of C2 should be exercised.

3. **Separate Force Rehearsals.** Separate rehearsals are conducted by elements of the ATF whose tasks are not intimately associated with those of the main body. The advance and demonstration forces are examples of forces that usually conduct separate rehearsals. Forces whose operations demand close integration with the assault phase (e.g., MCM forces) may be required to participate in integrated rehearsals.

0503 Rehearsal Plans

Responsibility for the preparation of these plans is the same as for the preparation of the actual OPLAN. Rehearsal plans should be issued separately, but should mirror the actual operation as much as practical.

0504 Rehearsal Planning Considerations

1. In planning for rehearsals, consideration must be given to the number, nature, and scope of rehearsals; the date and time for each; and the area in which they will be conducted.

2. The following considerations apply:

a. **Complexity of the Operation:**

(1) Size and composition of the ATF.

(2) Special or unusual problems to be faced in the actual operation, the solution to which must be accorded special attention in rehearsal.

(3) OPSEC to prevent the disclosure of timing, location, or intent to conduct an amphibious operation.

b. **Time Constraints:**

(1) Timeline.

(2) Complete and careful execution of the entire rehearsal.

(3) Re-embarkation of all troops, equipment, and supplies.

(4) Replenishment, repair, or replacement of equipment and supplies used during rehearsals including landing craft, aircraft, and ships.

(5) Critiques at all levels of command for evaluation and correction of problems.

c. **Suitability of Available Rehearsal Areas:**

(1) Similarity of the rehearsal area to the actual landing area.

(2) Feasibility of utilizing live ammunition.

(3) Force protection, including OPSEC.

(4) Susceptibility to external interference.

(5) Location of the rehearsal area in relation to both the objective and points of embarkation.

(6) Activity of civilian personnel, vehicles, shipping, and small craft that may interfere.

(7) Environmental and management restrictors.

(8) Health conditions at the area.

d. **Intelligence and Counterintelligence Requirements.**

e. **Resource-Availability.**

f. **State of Integration and Training of the Forces.**

3. When it is necessary for more than one LF to conduct rehearsals in the same rehearsal area, a rehearsal co-ordinator with supporting staff and communications should be nominated. The task of the rehearsal co-ordinator is to ensure deconfliction by time and/or space of the rehearsal activities of the participating LFs using the sea, land, air, and electromagnetic spectrum portions of the rehearsal area. The rehearsal co-ordinator should be a member of the organization responsibile for the conduct of the ATF rehearsal.

0505 Security

1. Due to similarity between the rehearsal and the actual operation, strict security measures must be enforced during rehearsals. Care must be taken over the reconnaissance for, selection of and arrangements for the use of the rehearsal areas. Deception measures may be necessary.

2. Observation of the rehearsal by unauthorised personnel must be prevented perhaps by restricting personnel and ship movements and the establishment of rehearsal area security perimeter patrols at sea and ashore.

3. Special precautions must be taken to achieve COMSEC including restricting unauthorised communications by ATF personnel with outside agencies.

4. The threat of reconnaissance satellites cannot be ignored and their ability to observe the rehearsal area may be a factor in rehearsal timings.

5. Adjustment to the rehearsal (e.g., selection of misleading terrain, decentralized rehearsals, subordinate rehearsal separated by time and space, and deliberately executed deception operations) may also be employed to mask the purpose, location and timing of the amphibious operation.

6. In order to avoid enemy detection of rehearsals, and thus ATF intentions, maximum use of wargaming and simulation must be considered.

INTENTIONALLY BLANK

CHAPTER 6

Movement

0601 Introduction

1. The movement phase is the period during which ATF movement groups move from the points of embarkation or a position of forward deployment to the AOA, possibly via RV, rehearsal and staging areas. This phase ends when all ATF elements arrive in their positions within the AOA.

2. The movement phase presents an opportunity for CATF to exploit the sea as manoeuvre space. In the event of hostilities, CATF has the difficult task of hiding a large force at sea, providing for its defence, and then converging at a time and place not wholly unexpected by the adversary. To achieve this aim OPSEC and deception planning must permeate the movement plan. Knowledge of the adversary's surveillance capability will be a key consideration in achieving surprise.

3. Amphibious and transport groups generally have limited self-defence capabilities and may require protection in the absence of complete command of the sea. The MCC, due to his better overall knowledge of the maritime situation and control of external assets (such as surface combatants, maritime patrol aircraft (MPA), and submarines) is responsible for providing the necessary forces and routing advice to protect the ATF en route to the AOA.

0602 Coordination

Coordination between the ATF and supporting commanders is essential during this phase of the amphibious operation, as the ATF may rely on the support of other forces for its defence. ATP-1, Volume 1, Chapter 1 describes support situations used by naval commanders during the movement and action phases of an amphibious operation.

0603 Organization for Movement

Based on the landing plan, the ATF is organized for embarkation and deployment to support the amphibious operation. For movement to the AOA, the ATF is subdivided into movement groups according to the speed and other characteristics of the ships involved and the time that the ships are required in the AOA. The ATF organization must closely parallel, or permit rapid deployment into, the organization for landing and support of the LF ashore. If more than one landing area is established in the AOA, additional amphibious and transport groups (for each landing area) are formed. Transport groups are combat loaded to support the landing plan of the assigned landing area. Each amphibious and transport group is assigned assault ships and landing craft required by the LF in its assigned landing area.

a. **Pre-D-Day Groups.** The movement groups arriving prior to D-day comprise the advance force if one is to be employed. This may move to the AOA as a single movement group.

b. **D-Day Groups:**

(1) The movement groups arriving on D-day comprise the main body of the ATF and can consist of the following task groups, each with close protection units:

(a) **Amphibious Group(s).** The amphibious group consists of purpose built ships which provide for the embarkation, movement to the AOA, landing, and logistic support of the LF. Landing craft to be employed in the ship-to-shore movement can be organic to or attached to the amphibious group and are, because of their limited size, usually embarked in amphibious ships during the movement

phase. Limited amphibious shipping dictates that the LF be task organized into echelons. Only the LF units and equipment required to execute the initial landing will be embarked in amphibious shipping.

(b) **Transport Group(s).** A transport group consists of all other military and civilian ships carrying forces and sustainment supplies assigned to an amphibious operation. These ships are used when the number of purpose built amphibious ships is insufficient for the total lift requirements for the operation. Commercial shipping services are arranged through navy channels.

(c) **Support Group(s).** Support groups include escort group, fire support group, and control group. See paragraph 0203 for further descriptions of these support groups. It may be desirable to attach all or part of the support groups to the amphibious and transport groups to provide protection from attack while en route. Protection from attack while en route may also be provided by commanders from within the ATF.

(2) ATF elements may be echeloned into the AOA, instead of being brought in simultaneously. The elements arriving on D-day may consist only of the forces required to initiate the landing.

c. **Post-D-Day Groups.** ATF movement groups scheduled to arrive in the AOA after D-day are usually organized into one or more fast or slow movement groups, each with its own screen.

d. **Follow-Up Shipping.** This is made up of ships not originally a part of the ATF, but which carry supplies or follow-on forces in support of the operation. The first follow-up convoy may arrive in the AOA before unloading of the assault shipping is complete. OPCON of these convoys is passed to CATF at a designated point before they arrive in the AOA.

0604 Approach to the AOA

1. Approach to the AOA includes the arrival of the movement groups in the vicinity of the AOA and their deployment from cruising formations to designated positions in the AOA. During this critical period, additional protective measures may be necessary as a part of Shaping operations. Depending on the threat, these provisions should encompass:

a. Special anti-air warfare (AAW) measures, including timely air strikes against enemy airfields within range of the landing area.

b. Location and neutralisation of enemy submarines, surface craft, minefields, and shore batteries that can interfere with the approach.

c. Selection of approach routes that avoid lengthy exposure to fire from enemy shore batteries.

2. Approach of the ATF main body (and demonstration force if employed) is usually more complicated than the advance force, because it involves a greater number of ships and because the arrival of the main body must be carefully timed relative to H-hour. If, however, an advance force has been employed, protective measures for the main body during the approach are generally easier because the advance force may have been in the area for some time and had time to take many of the necessary protective measures. In particular, MCM assets of the advance force will normally have cleared enough of the off-shore routes and sea areas to permit the main body to approach with less risk.

3. Proper coordination and timing is vital in the final stages of the approach of all movement groups to prevent interference between them and permit each to arrive at its assigned position at the proper time to commence its task. Accurate navigation is essential. Additional complications for the main body may be caused by the presence of an advance force already in the landing area. The advance force commander is responsible for ensuring that elements of the advance force do not interfere with the approach of the main body. When the ATF is composed of two or more movement (task) groups, the CATF normally coordinates the approach of the various groups, but the task group commanders are responsible for the movements of each individual task group.

0605 Maritime Considerations During Movement to the Amphibious Objective Area

1. Ongoing planning.

2. The sea passage.

3. The approach to the rehearsal area and the AOA:

   a. Advance force approach phase.

   b. Main body approach phase.

4. LF preparations for the Action and subsequent operations.

5. Sea routes to and within the AOA.

6. Division of assets within sea areas including the AOA:

   a. Ocean operating areas.

   b. Sea areas in the AOA.

7. Protective measures en route to and within the AOA:

   a. Antisubmarine warfare (ASW), antisurface warfare (ASUW), AAW, mine warfare (MW).

   b. EMCON, electronic warfare support measures (ESM), COMSEC.

   c. Avoidance of known or probable areas of enemy radar or visual surveillance.

8. Logistic plan (replenishment at sea (RAS) plan) before and within the AOA.

0606 Planning of the Movement Phase

1. The detailed planning for the movement phase will take place during the planning phase of the amphibious operation and, as with the operational plan, will be subject to considerable adjustment as more information is gained about the AOA and the ATF objectives within. Flexibility should therefore be built into the movement plan.

2. **Planning Responsibility:**

   a. **Movement Plan.** CATF is responsible for preparing a movement plan during the planning phase. In operations involving several attack groups, CATF usually prepares a general movement plan in which coordinating measures are included as necessary. Subordinate movement group commanders will prepare their own detailed movement plans. Because details of the movement depend on overall requirements of the operation, the movement plans are generally among the last to be completed during the planning phase. Each movement plan is normally included as an annex to the appropriate OPLAN or OPORD.

   b. **Postponement Plan.** Postponement may be necessary because of weather conditions, unexpected movement of major enemy forces, or failure to meet go/no-go criteria after the ATF has started its approach to the AOA. This contingency is provided for in the postponement plan. Usually, postponement is on a 24-hour basis, which involves backtracking or diversion of ships into a designated sea area. A longer postponement may involve return of the force to a staging area. The postponement plan will be prepared by the CATF and is usually promulgated as part of the OPLAN. Execution of the postponement plan will normally be controlled by the MCC or designated commander, based on the recommendations of the CATF and CLF.

c. **Alternate Plan.** The alternate plan for an amphibious operation may differ from the preferred plan and necessitate separate movement or approach plans. Movement plans must therefore be flexible enough for execution of alternate plans at any point between the final staging area and the AOA.

3. **Routes, Areas, and Geographic Reference Points:**

a. **Sea Routes to the AOA.** Sea routes and route points to the AOA will normally be determined by CATF, subject to the approval by higher authority. Routes selected should lead from all possible ports of departure to the AOA. Alternate routes should also be provided to avoid interference between movement groups and to permit diversion should the threat of enemy attack or weather prevent use of primary routes. Routes and route points should be named to facilitate reference. Small-scale charts, which show sea routes and route points are prepared and included in the OPLANs and OPORDs of appropriate ATF echelons. All sea routes should be wide enough for a movement group commander to manoeuvre his group without interfering with the movement of other groups. Latitude must be given in the allocation of transit time to permit evasive manoeuvring if necessary.

b. **Sea Routes in the AOA:**

(1) **CATF determines sea routes in the AOA.** During planning, sea route selection must take into consideration the missions of each ATF element, so that each one can proceed expeditiously to its assigned station without interference. Sea routes to the AOA will connect with sea routes within the AOA at designated points just outside the area screen to minimize interference during the deployment and movement of forces from their cruising or approach formations to assigned stations or areas.

(2) **Requirements.** Sea routes in the AOA should be selected that:

(a) Minimize interference between ships and formations.

(b) Are clear of mines and navigational hazards to the maximum extent possible.

(c) Provide sufficient dispersion to mitigate the effects of a nuclear, biological, and chemical (NBC) attack.

(d) Provide for economy of protecting forces.

(3) **Charts.** Large-scale charts showing the sea areas in and adjacent to the AOA must be available to assist C2 functions.

c. **Staging Areas.** Plans will be made by the CATF, in consultation with the CLF, to use staging areas while en route to the AOA. The ATF may stage at one or more intervening ports for logistic support, emergency repairs, or final rehearsals. CATF will select the staging area required and will ensure that:

(1) Necessary service craft are available.

(2) A general logistics schedule is promulgated.

(3) Anchorages are assigned to expedite logistics while facilitating entry and sortie of movement groups and avoiding vulnerable concentrations.

(4) Provision is made for replacing or repairing any critical supplies or equipment expended or damaged during rehearsal.

d. **Sea Areas.** To minimize the possibility of interference between various ATF elements and other supporting forces, sea areas in the vicinity of the landing area will be selected by the CATF and designated by higher authority. The sea areas will be divided into a number of operating areas as depicted in Figure 6-1 and described below.

(1) **Ocean Operating Areas.** Three kinds of ocean operating areas may be selected.

(a) Close support areas near, but not necessarily in, the landing area. These areas are assigned to support carrier battle groups, surface action groups, surface action units, and certain logistic elements.

(b) A distant retirement area located to seaward of the landing area. This area is divided into a number of operating areas to which assault ships may retire and operate in the event of heavy weather or to prevent concentration of ships in the landing area.

(c) Distant support areas located in the vicinity of the landing area but at considerable distance seaward of it. These areas are assigned to distant support forces, such as striking forces, surface action groups, surface action units, and their logistic groups.

(2) **Sea Areas Inside the AOA.** Areas in the landing area extending outward to the inner limits of the close support areas are known as the sea areas within the landing area.

(a) **Sea Echelon Area.** An area to seaward of a transport area from which assault ships are phased into the transport area and to which assault ships withdraw from the transport area. The use of a sea echelon area allows for dispersion as a defence against weapons of mass destruction, surface, subsurface, or air threats. (In case of a "Sea Echelon Plan," see Figure 6-2. In case of a "No Sea Echelon Plan," see Figure 6-3.) Echelon plans are further discussed in Volume II.

(b) **Transport Area.** In amphibious operations, an area assigned to a transport organization for disembarking troops and equipment. It consists of mineswept lanes, areas, and channels leading from a sea echelon area to the beaches. The maximum number of ships in the transport area is determined by dispersion requirements, availability of MCM forces, and local hydrography and topography. Transport landing areas include:

1. Helicopter/vertical takeoff and landing (VTOL) aircraft transport areas are areas, preferably inside the area screen, for launching and recovering helicopters/VTOL aircraft. The area should provide ample manoeuvring room to maintain required relative winds during helicopter/ VTOL operations.

2. Outer transport areas are areas inside the screening area to which assault ships proceed initially after arrival in the AOA. It will be located over the horizon for over-the-horizon (OTH) operations.

3. Inner transport areas are areas as close to the landing beach as depth of water, navigational hazards, boat traffic, and enemy action permit. Transport ships move to the inner transport area to expedite unloading.

4. Outer landing ship areas to which landing ships proceed initially after their arrival in the AOA. They are usually located on the flanks of the outer transport areas. The considerations for outer transport areas apply to these areas as well.

(c) **Screening Areas.** Areas within which air and surface escorts operate to screen amphibious shipping and NGS units from air, surface and subsurface threats.

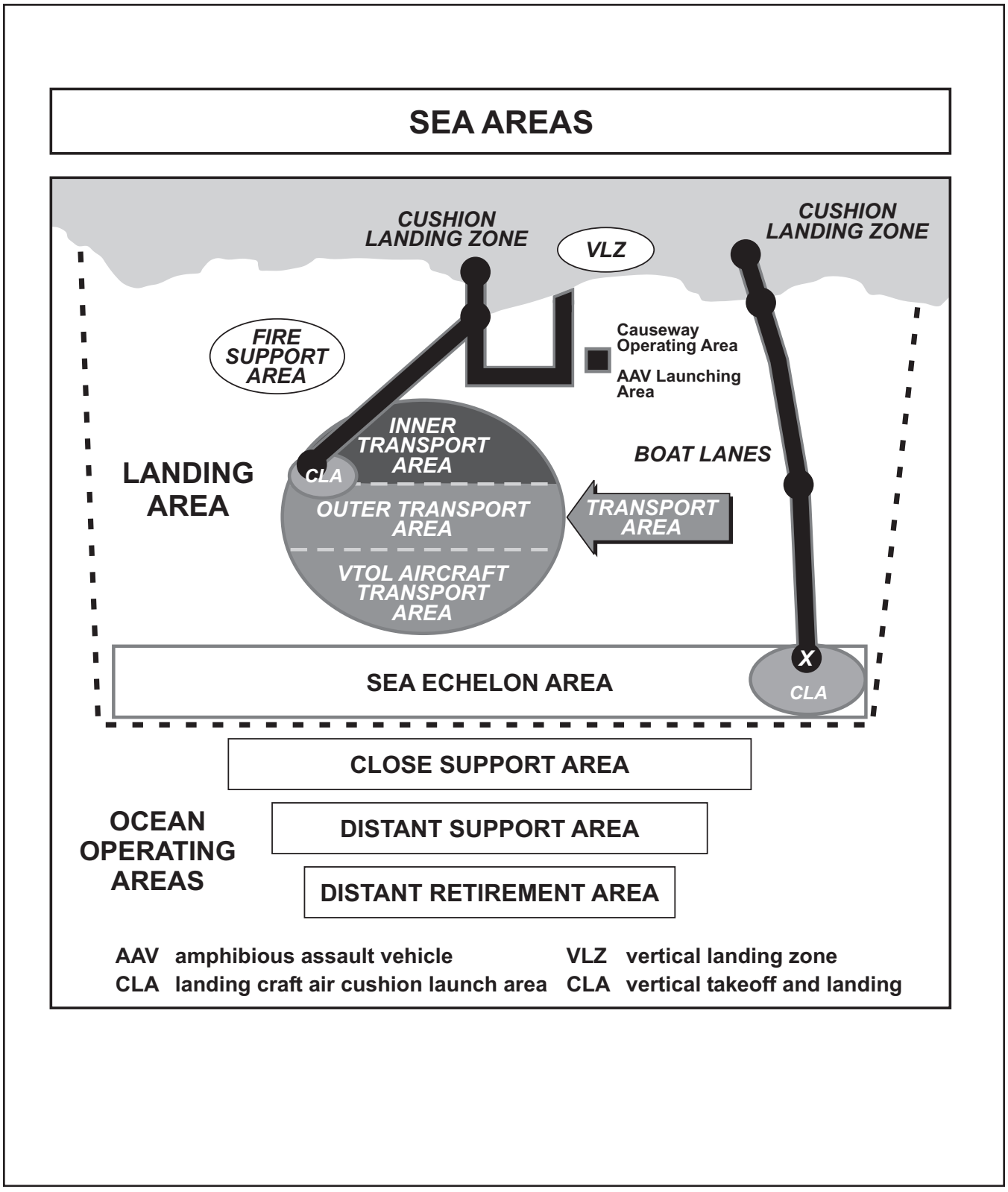


Figure 6-1. Sea Areas

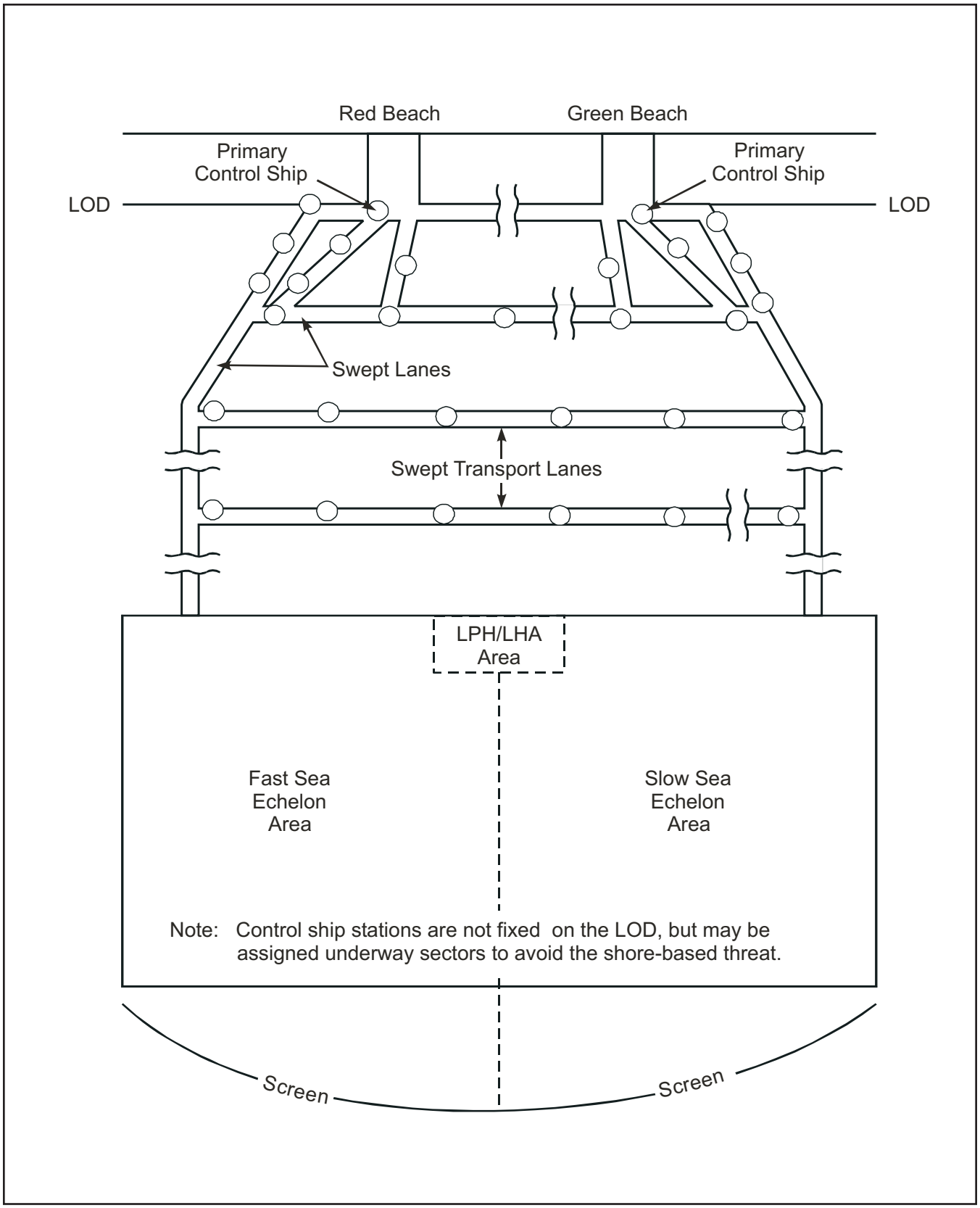


Figure 6-2. Typical Positions and Areas Assigned Units Off Landing Beaches When Sea Echelon Plan Is Used

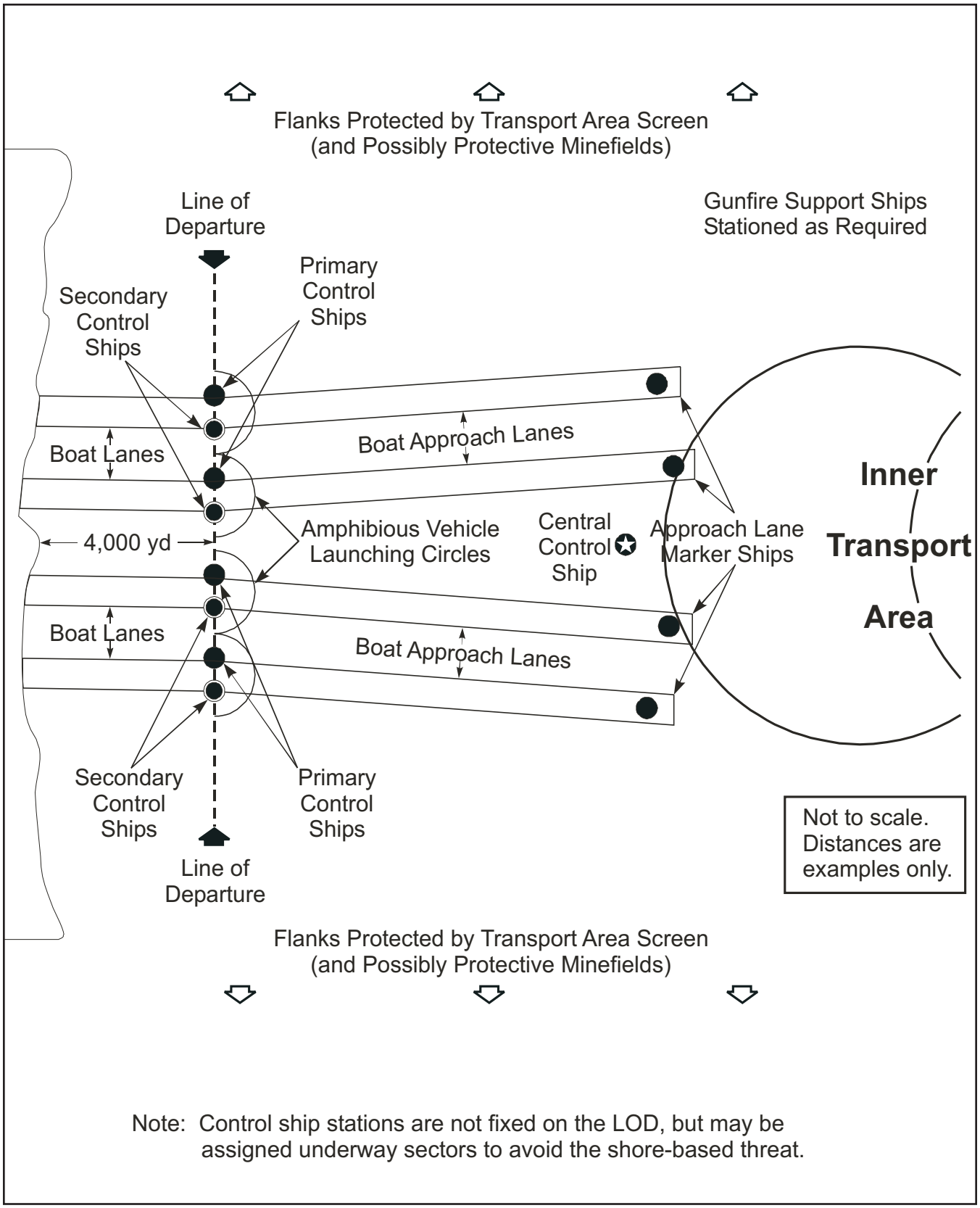


Figure 6-3. Typical Positions and Areas Assigned Units Off Landing Beaches When Sea Echelon Plan Is Not Used (Sheet 1 of 2)

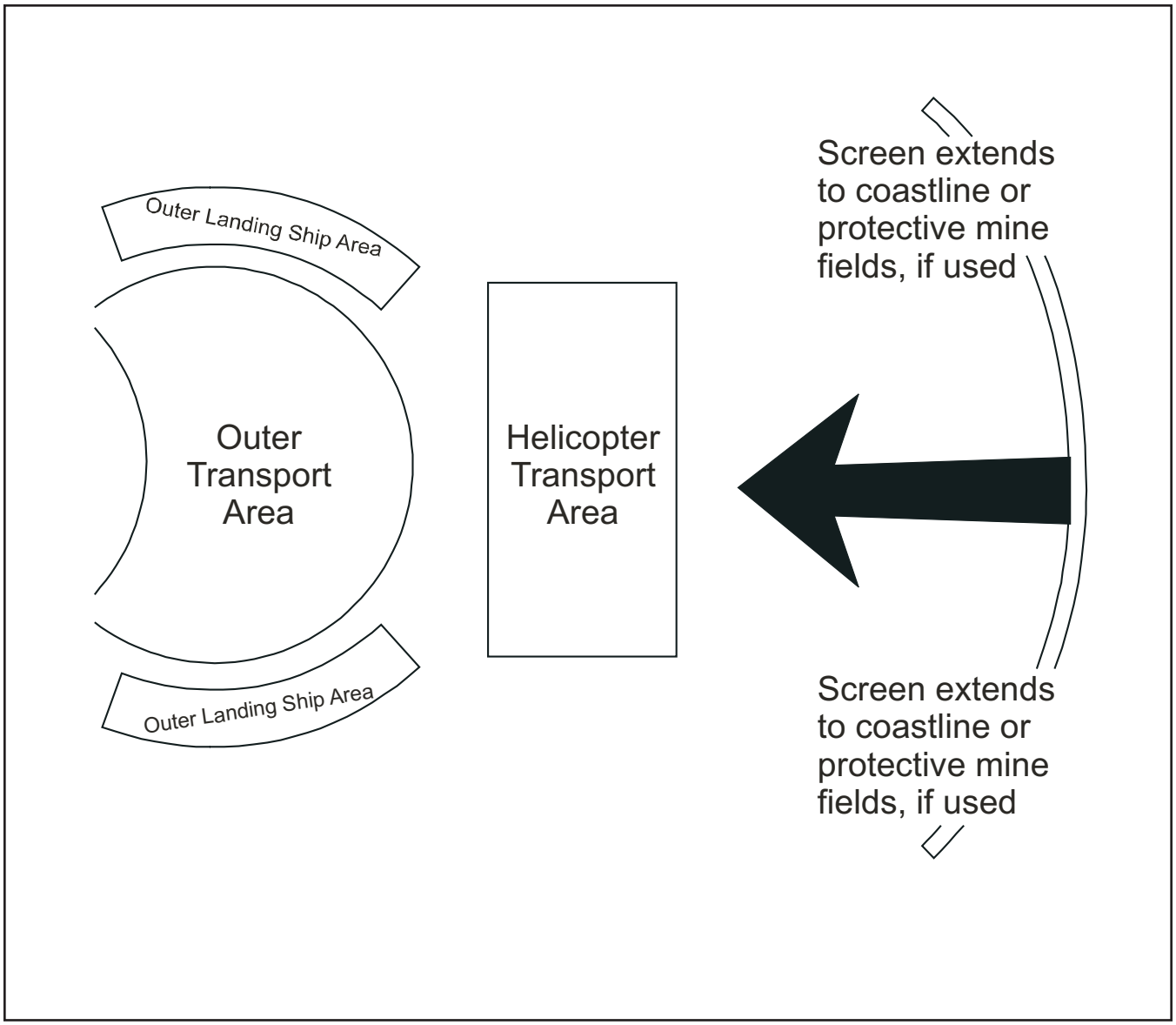


Figure 6-3. Typical Positions and Areas Assigned Units Off Landing Beaches When Sea Echelon Plan Is Not Used (Sheet 2 of 2)

(d) **Fire Support Areas (FSAs).** Appropriate manoeuvre areas assigned to fire support ships from which to deliver naval fires. The areas selected should provide optimum fields of fire, be as close to the shore as depths of water and navigation hazards permit, and so located that the operations of fire support ships will not hazard or interfere with landing operations or air operations within the AOA.

(e) **Control Ship Stations.** Stations assigned to control ships for the ship-to-shore movement. These stations should not be on the line of departure (LOD) and may be assigned as underway sectors to avoid the shore-based threat.

(f) **Amphibious Assault Vehicle Launching Areas.** Areas in the vicinity of, and to seaward of the LOD, to which ships proceed and launch amphibious vehicles).

(g) **Landing Craft, Air Cushion Launching Area (CLA).** CLAs are located in the transport area and sea echelon area. The CLA (the sea component) and cushion landing zone (CLZ) (the beach component) are connected by transit lanes.

(h) **Causeway Operation Area.** Causeway operating areas, which include causeway launching areas, are normally on the flank of boat lanes and include both a sea and beach component. These areas are used for causeway launching, placement, and anchoring.

4. **Regulating Points:**

a. A regulating point is an anchorage, port, or ocean area to which assault echelon (AE), AFOE, and follow-up transport ships proceed on a schedule and are normally controlled by the CATF until needed in the transport area for unloading. It also serves as a RV point to which ships proceed when empty to await make-up of a convoy or movement group for movement toward bases outside the AOA.

b. The passage of designated movement groups may be interrupted by stopping at regulating points where they wait to reduce congestion and dispersion until called forward to the landing area by the CATF.

5. **Geographic Reference Points.** A complete system of geographic reference points for the AOA and surrounding ocean area should be formulated during planning. The points may be used to indicate routes (particularly where the direction of the routes changes), to depict the shape and location of the areas discussed above, and other locations not related to areas or routes. Reference points will be encoded and defined by exact latitude and longitude.

6. **Electronic Warfare (EW) En Route.** Subject to restrictions imposed by higher authority, CATF normally controls employment of EW within the ATF during movement to the AOA. This control includes communications of the embarked LF. Varying degrees of EMCON are normally imposed during the movement phase.

7. **Intelligence En Route:**

a. The ATF, or elements thereof, may receive significant intelligence information while en route to the AOA. This is particularly true in situations where advance forces or supporting forces conduct shaping operations in the AOA or where remote sensor data is provided.

b. The intelligence centre is responsible for timely dissemination of pertinent intelligence information to the CATF and CLF. ATF ships receiving such information are responsible for passing it to the embarked LFs.

9. **Coordination During Passage:**

a. In an amphibious operation, forces not a part of but supporting the ATF force must coordinate their operations with the ATF. This coordination must be delineated in the plans of the MCC or designated commander.

b. Individual movement group commanders must remain aware of the need for maintaining the schedule and proceeding along prescribed routes. If deviation is required, the movement group commander will determine whether to break EMCON to advise other commanders of the situation. In certain situations, there may be serious consequences if friendly land or carrier-based search aircraft observe a force in a position not indicated in the aircrew briefing. All commanders must be fully cognisant of the general scheme and AOOs of other forces.

CHAPTER 7

Shaping Operations

SECTION I - TYPES OF SHAPING OPERATIONS

0701 General

1. Shaping operations consist of supporting, advance force, and pre-landing operations that aim to:

   a. Isolate the objective area(s).

   b. Gain information about the adversary.

   c. Prepare the AOA.

2. Shaping tends to occur in parallel with all or portions of the planning, embarkation, rehearsal, movement and action phases.

3. Shaping operations are an essential part of any amphibious operation. They are conducted in order to define and shape the battlespace through which the ATF will transit and within which the ATF will subsequently operate. In addition to forces organic to the ATF, shaping operations can be conducted by agencies and forces from the other components within a joint force and will be ongoing throughout all phases of an amphibious operation. CATF usually has either TACOM or TACON of these forces. In order to provide adequate and focused liaison, especially in a joint environment and/or when CATF is supported by other (component) commanders, CATF may establish an advance force coordination cell.

4. Shaping operations establish the preconditions for a range of activities to be conducted within the battlespace, including invasive land attack options, manoeuvre, protection and the isolation of the enemy. Shaping operations may involve intelligence gathering, interdiction and assault, direct action by SOF, strike and denial missions and the continuing of information operations. All these focus on attacking the cohesion and key nodes of the enemy through the safest approach to manipulate, limit and isolate his potential, thus avoiding attritional style engagement with his main combat power. Shaping operations generally prevent the enemy from massing his forces or manoeuvring them efficiently against the ATF and seek to limit enemy influence over the battlespace, at the same time allowing freedom to manoeuvre for the ATF.

5. Sea denial operations also contribute to shaping of the battlespace and include AAW, ASUW, ASW, EW, and MW (including MCM) operations to achieve battlespace dominance. While most shaping operations during an amphibious operation will concentrate on shaping the ATF's littoral battlespace, ultimately the achievement of local sea control and air superiority during the rehearsal and movement phases of the operation are required. The provision of security for the ATF while it transits maritime choke points is a good example of this. It is essential that a balance be struck between activity to shape the battlespace and the maintenance of OPSEC, surprise, and deception.

0702 Supporting Operations

Supporting operations conducted by forces other than the ATF are to establish the prerequisites for an amphibious operation (i.e., establishment of (local) sea control and air superiority). Supporting operations are ordered by the designated commander and are to a large degree based on requests for certain actions from the ATF. These operations can be conducted by maritime, land and air forces and SOF prior to the arrival of the advance force; they may occur at any time before or after H-hour. Examples of supporting operations are:

a. Deception operations.

b. Operations to isolate the AOA.

c. Assistance in the achievement of sea control and air superiority.

d. Operations undertaken ashore by the land component.

e. SOF operations to conduct surveillance, reconnaissance and direct action missions.

f. Elements of information operations at the strategic, operational, and tactical level that assist the shaping of the amphibious battlespace.

g. Environmental intelligence operations (including rapid environmental assessment (REA)).

h. Offensive mining.

0703 Advance Force Operations

1. An advance force is a temporary organization within the ATF which precedes the main body to the AOA. It may include nonorganic forces temporarily assigned to the ATF. The start of advance force operations in no way implies a cessation or reduction in any ongoing supporting operations. Advance forces are organized to perform specific tasks that may include, but are not limited to:

a. MCM operations with emphasis on clearing routes, obstacles, and mines in the transport areas, FSAs, and sea approaches to the landing beaches.

b. Hydrographic reconnaissance of the landing beaches and seaward approaches.

c. Reconnaissance and surveillance of ATF objectives, landing beaches, LZs, DZs, and high speed avenues of approach into the objective.

d. Neutralisation or destruction of adversary high value assets.

e. Subsidiary landings.

2. The decision to employ an advance force must weigh the advantages of operational and tactical surprise against the requirement for preparation of the AOA.

3. **Planning Advance Force Operations:**

a. Advance force planning should normally be a similar process to planning the main landing. The command relationships between commanders within the advance force must be specified in the order initiating the advance force operation. Specific planning responsibilities are as follows:

(1) CATF designates the advance force commander, provides forces, and ensures that the requisite command and information systems are available to conduct the operation.

(2) CLF designates the advance force landing or reconnaissance group commander and provides to that commander the requisite staff and forces to accomplish assigned tasks.

(a) A landing group commander will be used when offensive or subsidiary landings or strikes are conducted by LF units of the advance force.

(b) A reconnaissance group commander will be used when the mission of LF units of the advance force is to conduct only reconnaissance and surveillance.

b. The decision on establishment of an advance force AOA must be made after considering the advance force's mission, forces, ability to control an assigned area, and the threat.

c. Depending on the scope of the supporting operations taking place in the vicinity of the AOA, command relationships between the advance force and other forces in the area and coordination measures must be established to ensure deconfliction and unity of effort.

4. **Dissolution of the Advance Force.** Upon arrival of the ATF in the AOA, marking the start of the Action phase of the operation, the advance force is usually disestablished and forces revert to control of the CATF/CLF or other designated commanders. Disestablishment of the advance force will only occur once all functions that need to continue have been taken over by forces conducting pre-landing operations.

0704 Pre-Landing Operations

1. Pre-landing operations comprise those operations conducted by the ATF upon its arrival in the AOA and immediately prior to the commencement of the landing itself — normally delineated by H- and L-Hour. These operations tend to be of a more overt nature and need to be conducted in a manner that minimizes compromise of OPSEC and loss of surprise.

2. Forces organic to the ATF conduct pre-landing operations once the AOA is established. Pre-landing operations are usually conducted immediately prior to the main amphibious landing in order to enable the landing to take place. Final preparations of the landing area are under the control of the CATF and CLF. These preparations may include the following:

a. Gathering localized tactical intelligence that may influence the execution of the landing plan.

b. Isolating the LZ and beaches.

c. Clearing routes and obstacles.

d. Relieving SOF in place.

e. Providing terminal guidance to assault waves.

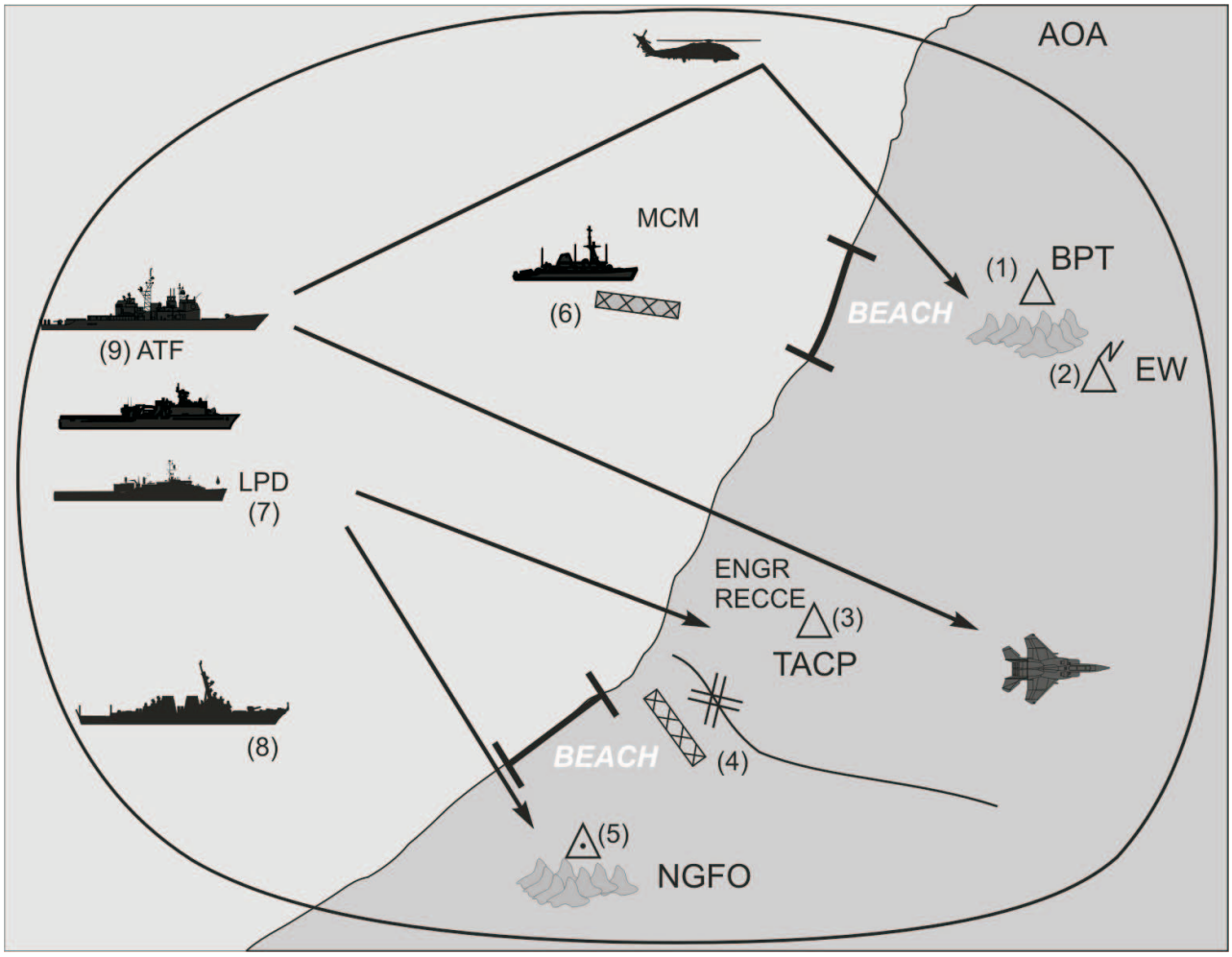
f. Destroying or neutralising threats to the landing.

g. Cross-decking operations to ensure the main assault force is configured correctly prior to launch.

3. Pre-landing operations attempt to remain covert but by necessity may require the compromise of the intended landing area for tactical expedience. From a LF perspective, these operations focus on the insertion of intelligence, surveillance, target acquisition and reconnaissance agencies such as the naval gunfire support forward observation (NGFO) teams, reconnaissance units (including engineer reconnaissance units), tactical air control parties (TACPs) and EW detachments to provide the initial CS facilities for the landing. A balance must be struck between exposing these troops to capture early and ensuring sound reconnaissance driven execution. Figure 7-1 illustrates generic pre-landing operations.

0705 Subsidiary Landings

1. An amphibious operation may require one or more subsidiary landings to be conducted outside the main landing area to support the main operation. These landings may be conducted before, during, or after the main landing. If made before, the effect on the main effort in terms of possible loss of surprise should be fully considered. Subsidiary landings must be planned and executed by commanders with the same precision as the main landing. Forces



Explanation of Figure 7-1

Pre-landing operations may be conducted up to 2 days before the main assault and are designed to minimize the risk to the main landing. It may be necessary or desirable for them to be conducted for longer than two days but this must be balanced against the risk of compromising the time and place of the main landings. Organic medium reconnaissance agencies (known by some Nations as Brigade Reconnaissance Force of which Brigade Patrol Troop (BPT) forms part) contribute to tactical intelligence preparation and attempt to confirm the enemy dispositions in the vicinity of the landing area **(1+2)**. TACPs **(3)** may be landed to control close air support (CAS) to isolate the beachhead from counter attack, whilst engineer reconnaissance **(4)** ensures that route obstacle and terrain intelligence are optimised. NGFO parties **(5)** control NGS for the immediate neutralisation of previously undetected localised enemy, whilst MCM operations may begin the overt clearance of mines and inshore obstacles **(6)** and the preparation of anchorages and transport areas. Once the risk of sea-mines is reduced sufficiently, escort ships may enter the AOA to ensure the subsequent protection of shipping. Cross-decking operations may also commence (7+8). Pre-landing operations ensure the initiative is maintained and that the risk to the landing is minimized by localised sea control operations and establishment of coordinated defensive measures (9).

Figure 7-1. Pre-Landing Operations

employed in subsidiary landings which precede the main landing can, in some situations, be re-embarked and employed as reserves for the main landing. These operations may be conducted by the advance force concurrently with preliminary air support, NGS and underwater demolition tasks, or with the full support of the entire ATF. The means to achieve coordinated communications must be carefully considered, particularly in difficult communications areas.

2. **Purposes of Subsidiary Landings.** Subsidiary landings may be executed by forces landed by air, surface or subsurface means to accomplish one or all of the following purposes:

a. Capture a specific position for use in support of the main landing.

b. Capture an area in order to deny its use to the enemy in opposing the main landing.

c. Through deception, to induce a hostile reaction which will favour the main landing.

3. **Capture of Specific Positions:**

a. **Artillery, Missile, and Rocket Positions.** Islands or mainland areas adjacent to the main landing area may be captured to be used as positions from which artillery, missiles, or rockets can support the main landing.

b. **Early Logistic Support Positions.** Islands or adjacent mainland areas may be seized to establish initial logistic support positions for the LF.

c. **Airfields and VSTOL-Capable Locations.** Enemy air facilities or sites suitable for air operations may be seized in support of the main landing or for air movement of forces into the AOA.

d. **Air Warning and Air Control Installations.** Sites may be seized to establish air warning and air control systems for protection of the ATF from enemy air and missile action.

e. **Safe Anchorages or Temporary Advanced Naval Bases.** Protected anchorages or sites for temporary advanced naval bases may be seized in order to provide logistic facilities to support the main landing.

4. **Denial of Areas to the Enemy.** Hostile missile, rocket, coastal defence or other installations may be sited on outlying positions, such as promontories or islands, which permit the enemy to interdict the approaches to the landing area, or to interfere with the ship-to-shore movement. The success of the main landing may depend upon the capture of such positions prior to, or concurrently with, the main landing.

5. **Cover and Deception.** A subsidiary landing may be conducted for the purpose of diverting hostile attention and strength from the main landing. Although cover and deception plans to be executed by forces not a part of the ATF are normally prepared by higher authority, CATF may recommend that cover and deception by such forces be carried out in support of his operations. Cover and deception plans designed to support the mission of the ATF should be coordinated with CATF. Raids and demonstrations may be conducted for the same purpose — deception.

0706-0709 Spare

SECTION II AMPHIBIOUS RECONNAISSANCE

0710 Amphibious Reconnaissance

1. The principles and requirements of reconnaissance for amphibious operations are not fundamentally different from any other area of warfare. The nature of the amphibious environment, however, introduces complexities that are specific and, in some cases, unique to the amphibious environment. The extent to which amphibious operations are constrained by this environment are covered in Chapter 1. However, further complications are introduced through ship-to-objective manoeuvre (STOM) and the joint and often multinational nature of such operations.

2. The principles and procedures of reconnaissance applied in other forms of warfare are equally relevant to amphibious operations. Specific details may vary but amphibious reconnaissance will make use of any available asset which can contribute to situational awareness and the information requirement (manned reconnaissance, EW, human intelligence, remotely piloted vehicles (RPVs), UAVs, surface/subsurface, and airborne capabilities). Initial considerations will normally stem from the commander's critical information requirements (CCIRs). This is dependent on the estimate process which will then lead to an intelligence collection plan. Assets are prioritized and risk assessments completed to ensure that reconnaissance will not jeopardise the security of the amphibious operation. Only then will a general plan for the conduct of an amphibious reconnaissance be proposed to CATF/CLF.

0711 Amphibious Reconnaissance Planning Considerations and Procedures

a. National reconnaissance capabilities for amphibious and other operations vary considerably. Reconnaissance for amphibious operations may be conducted in three overlapping phases:

(1) **Strategic Reconnaissance.** Historical environmental data will inform the JFC of options for the employment of the ATF. More importantly, it will assist in focusing the reconnaissance effort required to support the CATF/CLF plan. The JFC may deploy SOF elements to update this historical data and answer information requirements raised in the CATF/CLF planning process. These strategic assets will remain under command of the JFC. Additionally, these and other effects provided by the component commanders fall under supporting effects, and the C2 should be clearly articulated in the initiating directive.

(2) **Advance Force Reconnaissance.** The advance force is by definition made up from elements of the ATG. CATF CLF will use the advance force to answer specific questions raised during the amphibious planning process that could not be answered during the strategic reconnaissance phase. The capabilities and C2 of the advance dorce will be generated by CATF/CLF to ensure that they have the resources required to answer information requirements. Throughout the advance force phase, other component commanders may provide supporting effects which overlap the advance force phase. Inter-component C2, battlespace architecture and management issues will need careful planning and deconfliction.

(3) **Pre-landing Reconnaissance.** The pre-landing reconnaissance is conducted by the ATF once the AOA is established. This may include information requirements not answered by the advance force but is more likely to be a series of final confirmation reconnaissance confirming the status of the environment and location strengths and intentions of the adversary.

b. Command relationships will depend on the mission and task organization but should be clearly articulated in the initiating directive. The majority of the amphibious reconnaissance effort will occur during advance force operations and will be conducted in accordance with specific directives written by CATF/CLF for the advance force commander. Upon arrival in the AOA, CATF may assume control of amphibious reconnaissance along with all other aspects of the amphibious operation.

c. In order to conduct successful reconnaissance, assigned units must be briefed on CATF planning parameters, information priorities, and requirements. CATF and CLF and their planning staffs must have a clear understanding of the capabilities and limitations of assigned reconnaissance units so that these scarce assets are tasked effectively, efficiently, and economically.

d. CATF/CLF may assign the coordination and planning of reconnaissance to a subordinate task organization, usually by means of a directive, and usually to the advance force. The reconnaissance directive will:

(1) Assign the mission.

(2) Allocate resources to execute the mission.

(3) Allocate movement assets, for infiltration and ex-filtration.

(4) Prioritize tasks.

(5) Define command relationships.

(6) Contain relevant details on times and methods of reporting information.

(7) Allocate battlespace and the necessary deconfliction measures and joint fires coordination.

e. The reconnaissance plan is normally the responsibility of the assigned commander (see paragraph 3c) in consultation with reconnaissance unit commanders. After approval by the CATF, the plan is published either as part of the advance force plan or as a separate force reconnaissance plan. The plan must include:

(1) The mission assigned to each amphibious reconnaissance team.

(2) Specific responsibilities relating to:

(a) The supported action.

(b) Communications.

(c) Reporting.

(d) Withdrawal.

(e) Recovery.

(f) Escape and evasion.

f. In formulating detailed reconnaissance plans for each reconnaissance team, the reconnaissance unit commanders must consider:

(1) Liaison with the appropriate staff to ensure most effective employment of each unit and team.

(2) Provision of intelligence to enable detailed mission planning.

(3) Size and number of teams.

(4) Priority of tasks.

(5) Special equipment.

(6) Time factors.

(7) Communications requirements.

(8) Landing considerations.

(9) Combat support and combat service support.

(10) Withdrawal and recovery requirements.

g. Planning at unit level is conducted, as far as possible, concurrently with planning by higher authorities.

h. Wherever possible, rehearsals should be conducted to validate all aspects of the plan.

0712 Amphibious Reconnaissance Communications

Reconnaissance requires secure and robust communications with an appropriate degree of redundancy.

a. Communications are essential to the successful passage of information from the collecting agency. In addition, adequate communications will be required:

(1) Between CATF/CLF and the advance force commander/amphibious reconnaisance units' HQ.

(2) Between the controlling HQ and the amphibious reconnaisance teams.

(3) Between the amphibious reconnaissance teams and the nominated recovery vessel, whether aircraft or ship.

(4) For the control of CS/CSS assets.

b. The selection of the appropriate communications equipment will be decided by a variety of factors common to all reconnaissance missions, but must also allow for the need to communicate within the maritime environment.

c. Communications security will be just as relevant in amphibious operations as in other forms of warfare.

0713 Reporting Procedures

a. Reports should be passed in a commonly agreed format. The formats of these reports are to be in accordance with APP-11, NATO Message Catalogue. Other than these, standard-reporting formats should be used in accordance with NATO maritime and land operations publications and directives. In addition to these formatted reports, detailed debriefing of reconnaissance teams will be required to maximize the information output of the reconnaissance plan

(1) Tactical beach reconnaissance reports (TACBEREP), including subsurface detail.

(2) Surf report (SURFREP).

(3) Rivers and estuaries report (DELTREP).

(4) Drop zone report (DZREP).

(5) Terrain reconniassance for air LZ report (ALZREP).

(6) Enemy sighting report (SPOTREP).

(7) Routes and roads report (ROUTEREP).

(8) 4 Bridge report (BRIDGEREP).

(9) Helicopter landing site report (HELSREP).

b. In addition to the above, a beach survey report might be required. The format for a beach survey report is given in Appendix A to Chapter 11 of ATP-8 (B) Vol. II, and it should be noted that a TACBEREP is not a full beach survey report.

c. The reconnaissance requirements specific to amphibious operations do not preclude the prosecution of other information requirements. While the latter should be coordinated and planned in accordance with the amphibious structures discussed above, use should also be made of procedures and processes standard to other warfare environments. This will reduce duplication and reinforce standardization and interoperability within allied nations.

0714-0719 Spare

SECTION III – MINE COUNTERMEASURES AND OBSTACLE CLEARANCE OPERATIONS

0720 Mine Warfare Considerations During an Amphibious Operation

1. The initial success of an amphibious operation requires the freedom to manoeuvre within the AOA. In addition to achieving sea control and a favourable air situation, certain conditions may require (in the case of a mine-threat) MCM as part of shaping operations.

2. To effectively counter the diverse sea mine threat, each element in the ATF must have a comprehensive understanding of MCM principles, tactics, and procedures (see ATP-6, Naval Mine Warfare Principles, and ATP-24, Naval Mine Countermeasures—Tactics and Execution) and, where uncertainty exists, should look to the MCM commander for subject matter expertise. An amphibious operation confronted by a sea mine threat demands a specific MCM/obstacle breaching plan. Without that plan, there is a significant likelihood of the amphibious operation not being executable.

3. In the event that offensive MCM has not been conducted, or to ascertain their success and/or to detect and reduce the risk from sea mines in an operations area, the employment of MCM forces to conduct defensive MCM is required. The committal of MCM forces will remain a fine balance between investing sufficient effort to reduce risk to an acceptable level and the avoidance of compromise of the intended landing area. The existence of a sea mine barrier across a littoral approach avenue should not necessarily force the selection of another entry point, as an opposing commander can be deceived into believing that his sea mine campaign alone is sufficient to preclude further defensive cover. Once committed to a landing area that has a threat of sea mines, the first priority is to clear areas that shape the sea approaches and support the landing plan. Post-landing MCM operations focus on efforts to open up sea areas for the subsequent offload.

4. Minelaying could be conducted throughout the amphibious operation to improve sea denial in order to gain sea control within the AOA. Typically, CATF has primary responsibility for MCM and obstacle clearing operations conducted in the waters up to the high water mark, and CLF has primary responsibility for countermine and obstacle clearing operations ashore from the high-water mark.

0721 MCM and Obstacle Clearance Planning Considerations

1. **General.** During the planning for MCM in support of an amphibious operation, CATF, CLF, and the MCM commander (or the MCM Adviser in CATF's staff) analyze the planning considerations, weighing the importance of the mission of the ATF, the challenges posed by the opposing forces, the requirement of meeting those challenges, and the availability of assets. Two separate decisions follow: first, a candid assessment of what contribution can be made by MCM forces; and second, how best to integrate MCM operations in the overall requirements of the operation. CATF and CLF must also understand the equipment limitations of the MCM forces, and the implications of any MCM risk directive applied to them. Equipment for MCM operations will take up a portion of the amphibious lift capacity, unless additional support platforms are provided as the MCM commander's platform or if MCM forces transit independent from the main body of the ATF.

2. **Operational Area Characteristics.** The size and composition of the forces required to conduct MCM and obstacle clearing operations is dictated by the landing plan, the sea areas in the AOA (including channels and lanes for the surface landing of the LF), as well as the suspected or established presence of sea mines and obstacles. Additionally, efforts required to locate and clear sea mines depend greatly on a number of physical environmental factors within the area.

   a. Water depth.

   b. Depth contours/gradients.

   c. Tidal stream and currents.

   d. Bottom (seabed) composition.

Significant currents increase the difficulty of sweeping moored sea mines, whilst high densities of sea mine-like objects on the bottom complicate and therefore increase the timescale of MCM operations. Tidal ranges may expose sea mines in very shallow water (VSW) and the surf zone (SZ), making them easy to detect but placing a burden on clearing teams to finish their task within a prescribed time limit. Natural and manmade obstacles also hinder breaching operations.

3. **Scheme of Manoeuvre.** The ATF scheme of manoeuvre can be disrupted by even the slightest threat of mining activity. Planning by CATF and CLF for operation timelines, allocation of intelligence collection assets, assault echelon task organization, supporting fires, rate of combat power build-up ashore, and deception operations must consider the threat of sea mines and obstacles in approaches to and in landing areas. With present-day planning relying on "intelligence pull" to drive the planning and execution of the operation, in a sea mine environment this "intelligence pull" requirement assumes an even greater role in enabling the ATF to maintain the initiative when rapidly projecting combat power ashore.

0722 Execution of MCM and Obstacle Clearance

In order to successfully conduct MCM and obstacle clearance operations, the opposing force needs to be prevented from interfering with (naval) mining and MCM operations. Additionally, the passage of surface landing craft or assault vehicles through the breached lanes must be secure, requiring effective operations against coastal defences and counter-attack forces. Therefore, the following fundamentals apply: suppression, obscuration, isolation and reduction. Additional information and guidance is in ATP-6 and ATP-24.

1. **Suppression.** Effective suppression is the mission-critical task during any breaching operation. Suppression protects the forces that are conducting operations to reduce the sea mine risk, neutralize obstacles or manoeuvre through these, and fixes the opposing force in his position. Suppressive fires include the full range of lethal and non-lethal fires, from NGS and CAS to electronic attack (EA).

2. **Obscuration.** Obscuration hampers opposing forces' observation and target acquisition (TA), and conceals friendly activities and movement. EA prevents the opposing force's use of radar and radio signals to observe and report the operation.

3. **Isolation.** Isolation of the landing area is required to prevent opposing force interference with (sea) mine and obstacle clearance operations, and passage of forces ashore through breached lanes. Isolation can be achieved in a manner similar to that described above in Suppression and also by elements of the LF that are placed ashore by air-insertion. These LF elements can neutralize coastal defence installations and seize and deny routes of ingress into the landing area, thus preventing the opposing force to counter-attack the landing beaches.

4. **Reduction.** Identification and marking of safe lanes for the LF to conduct surface landings takes place by naval forces from the ATF, other assigned forces, and elements from the LF. The location of lanes depends largely on identified weaknesses in the sea mine and obstacle belt. If the ATF cannot find gaps or weak coverage in the obstacles, they will apply concentrated force at a designated point to rupture the defence and create a gap. Units reducing obstacles mark the lane and report the obstacle type, location, and lane locations to higher HQ. Details of lanes are handed over to follow-on forces who further reduce or clear the obstacles, if required.

0723 Breaching Operations by MCM Forces

The aim of MCM operations is to reduce the threat posed by sea mines. This is achieved by either identifying areas that have not been mined or by locating and disposing of sea mines in mined areas. To do this, exploratory MCM operations will first be conducted to determine the presence or absence of sea mines and the limits of any minefield. If mining is discovered, clearance operations may be ordered to reduce the threat posed by those sea mines, particularly to the ATF. CATF will need to balance to what extent he wants the threat reduced against how much time and effort MCM operations are available. This is one of the most critical decisions made by CATF concerning the employment of MCM units.

MCM forces are responsible for reducing the risk posed by sea mines and obstacles up to the high water mark. MCM forces are extremely vulnerable and will require constant protection from hostile forces. It should also be considered

that MCM operations have the potential to compromise the operational security of the impending amphibious operation. Appropriate consideration or measures should be implemented to minimize the operational impact.

0724 Types of MCM Operations

The two primary MCM techniques are minehunting and minesweeping.

1. **Minehunting.** Minehunting is the employment of ships, airborne equipment and/or divers to locate and dispose of individual mines (by means of detection equipment (ATP-6)) and involves the MCM platform (surface or airborne) using its sensors and equipment to locate, classify, and mark or dispose of all sea mines and sea minelike contacts. Generally, surface MCM vessels will identify and dispose of sea mines using remotely operated vehicles (ROVs) or divers whilst airborne MCM assets will mark sea minelike contacts for later identification, disposal or exploitation by explosive ordnance disposal (EOD) assets.

2. **Minesweeping.** Minesweeping is the technique of countering mines by minesweepers using mechanical or explosive gear, which physically removes or destroys the mine, or by producing, in the volume, the influence field necessary to actuate it (ATP-6).

0725 Coordination in Breaching Operations

Operations to breach through (sea) mines and obstacles in the very shallow water approaches, the surf zone (SZ), and on the beach involve both MCM and other forces that are directed by CATF (e.g., VSW specialist diving teams (who will not originate from MCMVs)) and forces that are directed by CLF (e.g., explosive ordnance disposal (EOD) personnel). Therefore, the responsibility for these operations needs to be phased and the execution synchronized. Considerations for the size and composition of the forces required are as indicated in paragraph 0721.2.

CHAPTER 8

Action

0801 Introduction

The action phase begins with the arrival of the ATF in the AOA and normally ends with the achievement of the ATF/LF mission/objectives. The plans executed during this phase must provide for an orderly but flexible landing of the LF, its sustained support and protection, the development of the scheme of manoeuvre ashore, and the accomplishment of the mission assigned. (Shaping operations may be continue).

SECTION I — AMPHIBIOUS ASSAULT

0802 Scope

This section focuses on the amphibious assault as this is the most complete and complex type of amphibious operation. The relevant parts of it should be adapted for the other types of amphibious operations.

0803 Parameters of the Assault

The assault starts with the landing of the first scheduled surface and/or air wave, and ends with the achievement of the ATF/LF objectives.

0804 Organization of Assault Forces

Forces are normally divided into an assault echelon (AE) and an assault follow on echelon (AFOE). The former lands in the initial stages of the assault and will consist of specialised amphibious troops and ships. The AFOE may include non-amphibious shipping and land forces to reinforce the AE.

0805 The Ship-To-Shore Movement

1. The ship-to-shore movement is divided into two periods: the tactical unloading and the general unloading.

   a. Tactical unloading is the period during which the AE is landed and in which tactical considerations are the highest priority. Unloading activities must be flexible and responsive as the LF's scheme of maneouvre is adjusted based on enemy reactions and environmental conditions.

   b. General unloading is the necessarily rapid unloading of the AFOE equipment and supplies as required by the LF for the continuation of operations inland. This period starts once the tactical unloading of the AE finishes and continues until the complete AFOE is ashore.

2. **Sequence of Operations.** Ship-to-shore movement may encompass any or all of the following events:

   a. Transfer of troops and equipment between ships.

   b. Assembly of landing craft, amphibious vehicles and helicopters and their formation into waves.

   c. Disembarkation of troops and equipment from ships into landing craft, amphibious vehicles, helicopters, and other air assets.

d. Landing of assault, CS, and CSS troops.

e. Unloading and landing of remaining elements of the AE (and possibly AFOE) and supplies.

0806 Manoeuvre Ashore

Traditional amphibious assaults require the establishment of a force beachhead to gain the necessary space for manoeuvre and the build-up of combat capability. Emerging capabilities, however, permit more direct movement of the LF to its objectives inland, without the establishment of a beachhead. The ATF mission and the capabilities available to land the LF may dictate the use of either of these landing options, or a combination of them.

0807 Landing Categories

1. **Scheduled Waves.** Scheduled waves are allocated pre-determined times and places of landing in the initial stages of the assault. Time of landing must be carefully coordinated within and between waves and with supporting fires, because of the concentration of forces in a limited space. Scheduled landing by surface means (landing craft or amphibious vehicles) and by helicopters and other air assets usually begins at H-hour (surface)/L-hour (air) or other specified time, and continues until all scheduled waves are landed. Landing proceeds per the landing plan without change, except in emergency.

2. **On-Call Waves.** On-call waves are LF units, equipment and supplies for which an urgent need ashore is anticipated, but whose time and place of landing by surface or air cannot be accurately predicted. The activation of this category normally depends on a tactical development such as the need for reserve units for reinforcement, replacement, or exploitation. Because of their likely urgency for landing, this category takes precedence over any other when activated. On-call elements and the surface and air assets designated are held in readiness near surface control ships or aboard ship respectively. Since their use in this manner may represent an uneconomical or even hazardous employment of surface and air assets, the number of units placed in an on-call category is minimized consistent with the LF requirements.

3. **Pre-Positioned Emergency Supplies.** Pre-positioned emergency supplies are identified to meet critical needs for replenishment early in the ship-to-objective manoeuvre and are available for immediate delivery to units ashore. This category is further broken down into floating dumps and pre-staged helicopter-lifted supplies.

a. **Floating Dumps.** This is a temporary grouping of selected supplies (normally classes I, III, and V) that are pre-packaged and pre-loaded in landing craft, ships, or amphibious vehicles for emergency delivery to units ashore, primarily surface assault elements. They are usually located near the primary control ship and dispatched to the beach when requested from ashore. Floating dumps that are not called ashore are dissolved by landing the landing craft and amphibious vehicles and placing the supplies ashore. The craft and vehicles are then released for other uses.

b. **Pre-Staged Helicopter-Lifted Supplies.** These are pre-packaged units of selected supplies aboard helicopter-capable ships, ready for delivery to units ashore.

4. **Remaining LF Supplies.** These comprise replenishment supplies and equipment that have not been included in units' prescribed loads, floating dumps, or pre-staged helicopter-lifted supplies. These supplies constitute the major portion of supplies transported into the AOA in AE and AFOE shipping. Once the ship-to-shore movement is complete, air assets continue tactical and logistic operations (such as over land transfer of troops, equipment, and supplies) as directed. Air movement will be controlled by the air control organization, either ashore or afloat, or both.

5. **Non-Scheduled Units.** Non-scheduled units comprise any remaining LF units and their initial combat supplies, and any replenishment equipment or supplies held in readiness for landing during the initial unloading period, but not included in either scheduled or on-call waves. This category usually includes certain CS units and most of the CSS units with higher echelon (division and above) reserve LF units. Their landing commences upon completion of scheduled landings and is directed when the need ashore can be predicted with a reasonable degree of accuracy. The probable sequence of landing of non-scheduled units is determined during planning and is shown in the landing

priority table in Volume II. The responsibility for their landing is assigned by the CATF to the commanders of the relevant transport organizations. Once started, the landing of non-scheduled units may be interrupted to permit on-call landings or may be temporarily suspended because of unforeseen conditions, such as a requirement to employ surface and air assets for other tactical or logistic purposes. Modifications should be kept to a minimum since alterations will complicate the ship-to-shore manoeuvre.

0808 Control of the Landing

1. **Control Groups.** CATF provides control for ship-to-shore movement through the navy control group and tactical air control group. See Figure 8-1. Close coordination between naval and LF organic control agencies is required. The ship-to-shore movement of a large LF may involve multiple coloured beaches and LZs. Several control units may be organized to provide precise control functions depending on the size of the amphibious assault, location of beaches and LZs, whether the shipping is static, underway or OTH, the tactical situation, the mission and the navigation suites installed. A central control officer (CCO) and tactical air officer (TAO) plan and conduct the surface and helicopterborne assaults. If several coloured beaches are specified in the landing plan, the CCO will designate a primary control officer (PCO) at each coloured beach for coordination and control of the waterborne assault. For planning the air assault, the TAO is assisted by the helicopter coordination section (HCS) officer (HCSO). The HCSO is generally the officer in charge of the HCS of the tactical air control centre (TACC) (afloat). The HCS provides a central agency for planning and coordinating helicopter operations. If several LZs are specified in the landing plan, the HCSO will designate a primary helicopter direction centre (HDC) for coordination and control of the helicopterborne assault into each LZ. Once established ashore, CLF will establish parallel control agencies and pass movement/manoeuvre change requests through, and receive progress updates from, his temporarily-established tactical logistics (TACLOG) organizations collocated with navy control agencies. Transfer of control for air operations ashore may be agreed between CATF and CLF after sufficient control means are landed.

a. **Control of Surface Assault.** The surface (waterborne) ship-to-shore movement from assault shipping to a coloured beach is controlled by the navy control group. Organization of this group is based on the location and number of beaches. Volume II provides a detailed discussion of the surface ship-to-shore movement and its control agency, the navy control group.

b. **Control of Helicopterborne Assault.** CATF controls all air operations in the AOA through the TACC (afloat). Air control functions for the helicopterborne ship-to-shore movement may be delegated from the HCS of the TACC (afloat) to a primary HDC. A compromise should be reached in centralisation of control in order to avoid coordination and airspace management conflicts while letting CLF react to changing tactical situations. While centralized control is maintained by CATF and CLF per Figure 8-1, the execution of air movements can be decentralized by delegating the flight control of helicopters to a primary HDC with specific authority delegated by CLF to his liaison officers in the HDC to change specified aspects of the air movements to shore. Helicopter movements must be responsive to the plans and tactical decisions of CLF, subject to the overall authority of CATF. A helicopter logistics support centre (HLSC) locates the required CSS afloat and advises the primary HDC of helicopter delivery requirements. Volume II discusses the HDC in detail, in particular the designation of a primary HDC to control the air movements to shore during multi-deck helicopter transport operations.

2. **Types of Control.** Options for control of surface landing craft are as follows. Control of aircraft is described in STANAG 3993 (which is incorporated into APP-2).

a. **Positive.** An external control source (e.g., PCO) continuously provides navigation information and instructions via voice communications, data link, or other electronic means. This method is preferred when emission policy is relatively unrestrictive to avoid interference between landing means, in complicated situations, and when landing assets do not have enough navigational aids.

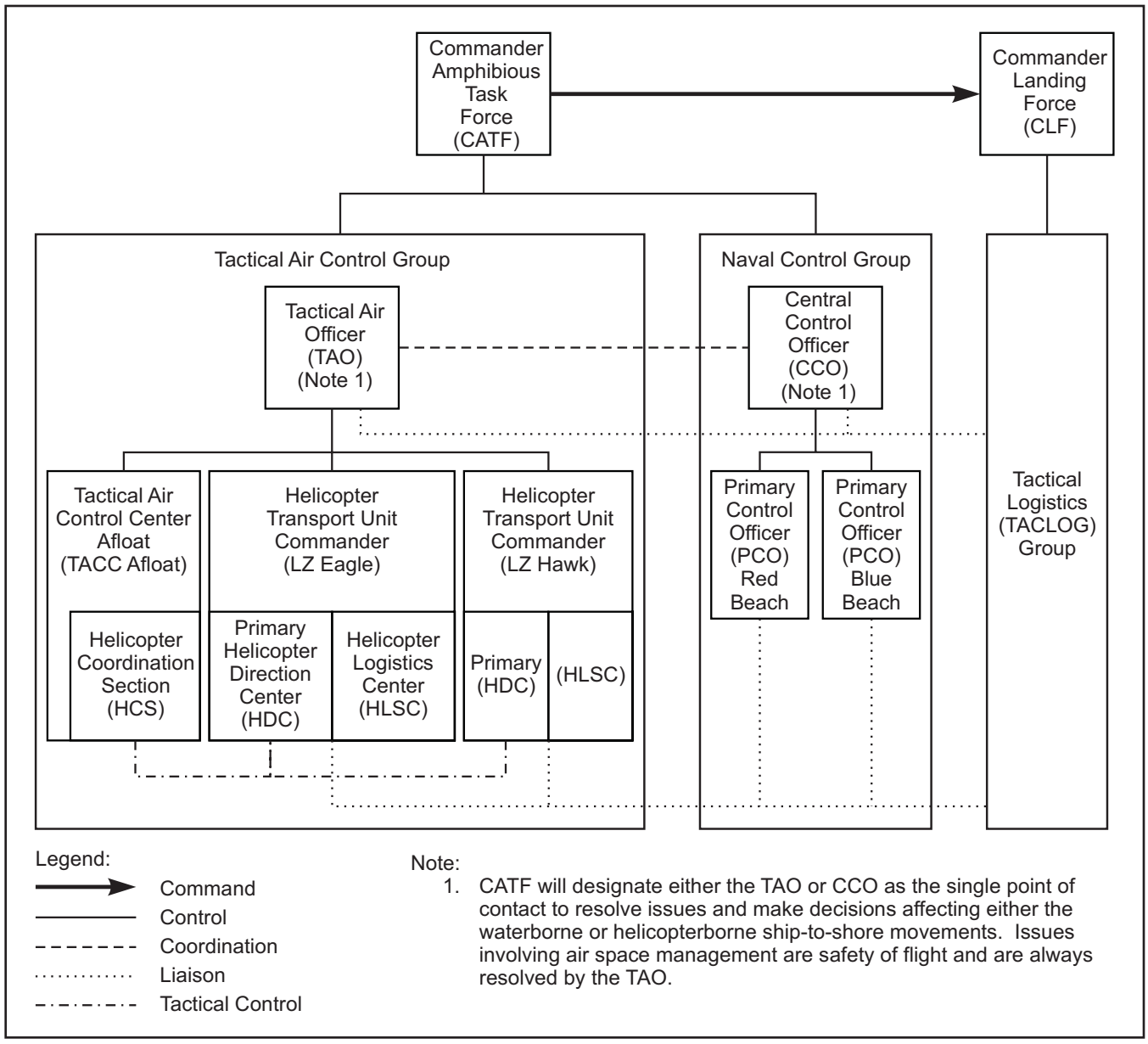


Figure 8-1. Control Organization During the Ship-to-Shore Movement

b. **Independent.** Landing craft move to shore using their own navigation systems. This method is normally used when emission policy is very restrictive and landing craft are equipped with precise navigation systems (e.g., global positioning system (GPS)).

c. **Advisory.** The control source provides a vector from one navigation waypoint to another, tracks movement of the landing craft, and periodically provides updated vectors and time early/late to the landing craft. It is normally a compromise between the other types of control.

3. **Concept of Control.** CATF exercises overall, or centralized, control of the ship to shore movement through the CCO and TAO and by decentralizing the execution of control groups. Each control group provides the positive control functions and coordination with supporting arms that is necessary to conduct their part of the ship-to-shore movement. As the landing progresses, and circumstances permit, surface ship-to-shore movement asset control is further delegated to facilitate the general offload. Helicopter control, however, always remains under the positive control of a primary HDC.

0809 Changing the Landing Sequence

1. CLF continually reviews progress of the landing and makes timely requests to CATF through TACLOG for changing the planned landing sequence as necessary.

2. Changing the landing sequence may sacrifice speed. CLF may request changes in the sequence or place of landing of any unit, but a combat-loaded ship is adaptable to only minor changes in the plan for unloading equipment and supplies. The landing of non-scheduled units may, by request of the CLF, be suspended entirely for a temporary period if required by the situation ashore. Likewise, an LF support party commander may request the appropriate control officer to suspend temporarily the landing of units on his beach if conditions dictate. Units whose landing has been deferred upon request of the CLF are not landed until again specifically requested. In requesting such deferment, the CLF takes note of the fact that such action may disrupt the planned use of landing assets. The size of a unit or the stowage of supplies in a ship may be such that if not unloaded, the deferment will interfere with subsequent unloading. In such cases, the CATF notifies the CLF.

3. Amphibious transport group/unit loading must be considered when changing the landing sequence of air-landed ground manoeuvre units. Serials not readily available aboard ship will not be changed to an earlier loading time without the concurrence of the appropriate air control agency.

SECTION II — TERMINATION OF THE AMPHIBIOUS ASSAULT

0810 Introduction

The termination of an amphibious operation is predicated on either the accomplishment of the mission set out in the initiating directive or a change in the situation that renders that mission no longer achievable. When CATF and CLF are satisfied that the conditions for the accomplishment of the mission have been met, they will propose termination of the operation to the authority who issued the initiating directive (the common superior of CATF and CLF and referred to here as such). Conditions for termination for the types of amphibious operation other than the assault are axiomatic (the demonstration terminates when the desired effect has been achieved and raids and withdrawals terminate when friendly forces have been recovered back to shipping or a place of safety). Upon termination, the LF may re-embark to reconstitute the ATF for potential employment elsewhere (see paragraph 0823.2), or the LF may remain ashore. The authority that issued the Initiating Directive for the amphibious operation will terminate the amphibious operation and disestablish the AOA. The termination described in this section concerns the situation when, after the establishment of a LF ashore by amphibious assault, the LF remains ashore and transfer of authority (TOA) to a commander ashore occurs.

0811 Termination Scenarios

1. It may be decided that the LF remains ashore to conduct protracted operations, either as a JF Land Component in its own right or under the OPCON (or otherwise) of another (component) commander. In the former case, whilst transfer of some CS and CSS functions and control agencies from CATF to CLF may have taken place to a degree, this transfer needs to be completed prior to execution of TOA to allow CLF to function fully as the land component commander. In either case, the amphibious operation will be terminated and the AOA will be disestablished.

2. Within the parameters of the joint campaign, responsibility for control of the area previously covered by the AOA may have to be handed over to the JFC or another component commander.

3. The common superior will provide instructions for command arrangements and organization after the termination of the amphibious operation. An aspect to consider is the requirement for former ATF elements to remain in the littoral waters of the former AOA to support the (former) LF's resupply or the sustainment of other forces from the Joint Force operating ashore (i.e, elements from the LCC), casualty regulating/evacuation operations, helicopter support operations and other supporting operations. If the LF remains ashore, its integrity needs to be preserved and it must not be regrouped or reassigned without the concurrence of the commander holding operational command (OPCOM).

0812 Identification of When Termination Conditions are Met

Detailed planning must be conducted between the CATF and CLF staffs in order to identify when the conditions for termination have been met. Conditions might include:

a. LF objectives are achieved.

b. Sufficient tactical and supporting forces have been established ashore to ensure the continuous landing of troops and material required for subsequent operations.

c. Command, communications, supporting arms coordination, and air control facilities have been established ashore.

d. CLF has stated that he is ready to assume full responsibility for subsequent operations.

0813 Details of Execution

Guidelines for the TOA upon termination of the amphibious operation are discussed below in general terms. They may also be found in NATO directives and/or agreements whilst specific details of the transfer of OPCOM, OPCON, TACOM, and/or tactical control (TACON) can be included in the appropriate NATO OPLANs/OPORDs. The TOA of national forces temporarily committed to an emergency situation outside existing plans/orders will be covered by the prior concurrence of the national authority providing the forces.

1. **Before Termination of Amphibious Operations:**

a. All components of the ATF will normally be under the OPCOM of the Supreme Allied Commander Operations (SACO). This does not negate agreements with nations which desire to retain OPCOM of amphibious shipping. OPCON of all components of the ATF may be delegated by the SACO to the JFC/regional commander (RC) responsible for execution of the operation, who may further delegate this to a subordinate commander.

b. TOA of national forces not specifically addressed in peacetime planning for particular operations will be established through appropriate agreements, memoranda of understanding (MOUs), and/or the initiating directive.

c. **Transfer of Control of Functions.** Prior to the termination of an amphibious operation, and as conditions warrant, control and co-ordination agencies are established ashore, under CLF. At the discretion of CATF, the authority to control and co-ordinate various logistic functions and supporting arms is transferred to CLF — or for airspace control and the control of air operations in the AOA to the ACA. This transfer occurs in a phased evolution, whereby the levels of responsibility that are transferred will be governed by the ability of CLF to execute the control and co-ordination; this depends inter alia on the availability of an adequate communications architecture. The primary control and co-ordination functions to be transferred are:

(1) Fire support control and co-ordination (artillery, NGF, and tactical air support).

(2) Electronic Warfare (EW).

(3) Counter air operations/air defence (AD) (including airspace management).

2. **Upon Termination of Amphibious Operations:**

a. When conditions for the termination of an amphibious operation are met, CATF in conjunction with CLF will recommend to the common superior a specific date/time for termination of the amphibious operation and, if applicable, for concurrent transfer of OPCON (or otherwise) of the LF to the appropriate NATO commander ashore. The common superior may, through the JFC if CATF is not a component commander, in consultation with other involved commanders in the area, direct termination of the amphibious operation thus

disestablishing the ATF and AOA and arrange/effect the transfer of OPCON. Ultimately, the decision to disestablish or redirect the ATF rests with the commander holding OPCOM of the ATF and will depend on the situation, requirements for subsequent amphibious operations, and the prior concurrence of the national authorities providing the amphibious force (AF) concerned.

b. The foregoing process is conducted in steps similar to the transfer of C2 ashore. Throughout this process, commands and units must continue to exchange information and message confirmation regarding the intentions of the respective commanders. Messages transmitted during the process will:

(1) **Advise.** CATF and CLF advise their common superior of the ATF's capability and readiness to terminate the amphibious operation.

(2) **Declare.** The common superior issues his concurrence and intent to terminate the amphibious operation and passes OPCON (or otherwise) of the LF to the commander ashore.

(3) **Acknowledge.** The receiving commander acknowledges, and concurs or disagrees with the transfer of OPCON (or otherwise) of the LF. The receiving commander ashore must also issue a mission/tasking statement which contains tasking intentions for LF operations after termination of the amphibious operation.

(4) **Terminate.** The common superior issues a message directing termination of the amphibious operation and disestablishment of the AOA.

(5) **Transfer.** The common superior issues a message confirming the date/time when transfer of OPCON (or otherwise) of the LF to the receiving commander ashore and the disestablishment of the AOA will be effective.

(6) **Accept.** The CLF issues a message confirming the LF's availability for operations under the commander ashore. Also the commander ashore issues a message accepting OPCON (or otherwise) of the LF and confirming missions/tasks warned in Step (3).

c. Steps (3), (4), and (5) may be combined in a single step.

d. **Airspace Control.** Steps (3), (4), and (5) must provide for the transfer of airspace control responsibility which will be in effect immediately the AOA is disestablished. Step (3) must also include assignment of counter air operations coordination responsibilities, if appropriate. After the termination of amphibious operations, tactical air operations and air control of assets will be conducted per the AJP-3.3 series publications.

e. **Summary.** The importance of clearly understood command relationships is fundamental. While the primary responsibility for clarity rests with the SACO, this must be reflected through the various subordinate HQs involved. Commanders at all levels are responsible for ensuring that responsibilities and authorities are clarified in detail to avoid misunderstandings.

3. **Subsequent Operations.** The LF may be required to reconstitute within an ATF, after transfer of OPCON to a commander ashore, for example to re-embark for further amphibious operations. In this case, the process (the "steps" upon termination of amphibious operations described earlier in this section) will be conducted in reverse order to ensure continuity of OPCON. The transfer of OPCON of these forces will be per current national/NATO agreements and directives.

SECTION III — RAIDS

0814 Scope

An amphibious raid is an operation involving a swift incursion into or the temporary occupation of an objective to accomplish an assigned mission followed by a planned withdrawal. Amphibious raids are conducted as independent operations or in support of other operations, such as another amphibious landing, or land, air, maritime or SOF operation. Depending on the purpose of the raid, it may be conducted using covert insertion means, relying on stealth to approach the objective, or overtly with full fire support in a manner that may resemble the early stages of an amphibious assault. Generally, amphibious raids are conducted to:

a. Destroy certain targets, particularly those that do not lend themselves to destruction by other means.

b. Harass the enemy by attacks on isolated posts, patrols, or HQs.

c. Capture or neutralise key personnel.

d. Support forces engaged with the enemy by attacking the enemy rear or flank positions.

e. Obtain information on hydrography, terrain, enemy dispositions, strength, movements and weapons.

f. Create a diversion in connection with deception operations.

g. Evacuate individuals, or materiel.

h. Establish, support, or coordinate un-conventional warfare activities.

0815 Rehearsals

Thorough, integrated rehearsals are essential to precision and speed in executing a raid. All participating forces must be drilled in every detail of disembarkation, movement ashore, operations ashore, withdrawal, and re-embarkation.

0816 Planning Considerations

An amphibious raid is planned and executed in the same general manner as an amphibious assault except a raid always includes a pre-planned withdrawal of the raiding force. The following planning factors are for consideration:

a. Surprise is an essential element in the success of an amphibious raid and offsets the lack of logistic and fire support normally associated with amphibious operations.

b. Security during the planning and execution of a raid must receive particular attention, to include full exploitation of deception measures.

c. Withdrawal must be planned in detail, including provisions as to time and place for re-embarkation. If the landing point and withdrawal point are not the same, positive means of location and identification of the latter must be established. Special situations may permit planning for withdrawal of the raiding force directly into friendly territory without re-embarkation. Detailed planning must include provisions for an alternate extraction method in the event of inclement weather. The raid force may have to remain ashore in a hiding position until extraction can be executed.

d. Non-combatant evacuation operations are not uniquely amphibious evolutions but ATFs are often suited to contributing to them. Special NEO planning considerations are discussed in AJP-3.4 (Non-Article 5, Crisis Response Operations). As far as the ATF is concerned, NEO are very similar for planning purposes to amphibious raids and withdrawals (Section V).

e. Amphibious task force may be well suited for executing or supporting the recovery of designated personnel (and/or equipment) from a threat environment who, unlike for combat search and rescue (CSAR) operations, are neither trained nor equipped for CSAR specialist techniques and procedures (ATP 62). Planning considerations will be similar to amphibious raid and withdrawals (Section V).

SECTION IV — DEMONSTRATIONS

0817 General

1. An amphibious demonstration is conducted for the purpose of deceiving the enemy by a show of force with the expectation of deluding the enemy into a COA unfavourable to him.

2. Demonstrations can have operational or tactical level effect. They may be conducted in conjunction with another type of amphibious operation to dilute enemy littoral defences and to divert or fix his reserve forces that could threaten the other amphibious operation. Similarly, a demonstration can divert enemy attention from other joint force operations. The effectiveness of a demonstration increases in direct proportion to the degree of realism involved in its execution (e.g., turnaway landing by surface or air). It should be neither underplayed nor overplayed, since to do either may negate the effect sought. It is crucial that the enemy receives a convincing impression of preparations for a landing. All visible, audible, and electronic aspects of the demonstration must appear to be authentic. A demonstration can include the approach of forces to the demonstration area, at least a part of the ship-to-shore/objective manoeuvre and employment of supporting fires. A brief but intense preliminary bombardment will usually be more effective than deliberate harassing fire over longer periods of time. A communications deception plan, SOF, underwater demolition teams and tactical deception units may be employed. Successive demonstrations may be executed at a number of points after the main landing.

0818 Demonstrations Within the AOA

An amphibious demonstration may be conducted by a portion of the ATF within the AOA. The intended effect may be to cause the enemy to employ its reserves improperly, to disclose weapon positions by inducing premature firing, to distract attention, to place an early burden on C3I systems, to precipitate a general air or naval engagement, or to harass.

0819 Demonstrations Outside the AOA

An amphibious demonstration may be conducted outside the AOA to divert or fix enemy reserves or other forces capable of affecting the amphibious operation, to distract hostile attention from such an operation, or to precipitate a general air or naval engagement. Such a demonstration may be executed as a supporting operation by a separate ATF. The time and place of the demonstration is decided by higher authority based on recommendations by CATF and CLF.

0820 Demonstrations in Support of Other Joint Force Operations

An amphibious demonstration may be conducted to support other JF operations. A demonstration conducted before, during or after commencement of another operation may distract the attention of enemy commanders and induce the enemy to divert major resources from the main AOO. The decision to conduct such a demonstration is made by higher authority based on recommendations by CATF and CLF and other commanders as appropriate.

0821 Planning Considerations

1. **Location.** The demonstration area may be near enough to the AOA to permit subsequent employment of the demonstration force in accordance with the plan. Alternatively, it may be sufficiently separated from the main effort to avoid interference and to ensure that the enemy will be delayed in repositioning forces. The demonstration area must be suitable for an actual landing for only in such an area can the threat of landing be plausible. The demonstration area should also be important to the enemy since only a threat to an area of value will induce the enemy to react. An alternate landing area will often prove suitable for a demonstration. If the demonstration is intended solely to cause the enemy to disclose his positions by opening fire prematurely, or to harass him, it may be conducted in the main landing area prior to D-day (i.e., conducted by an advance force).

2. **Timing.** The timing of a demonstration conducted in support of another operation is based on the time of the supported operation.

3. **Supporting Arms.** The demonstration force may execute supporting fires of a nature and scope which ensures credibility. Fires may be limited by the availability of fire support ships, aircraft, and ammunition supply.

4. **Rehearsals.** Sufficient rehearsals should be held to ensure the demonstration's realism. Indeed, rehearsals can be demonstrations in themselves.

0822 Execution

The demonstration must be prolonged enough to allow the enemy to react to it. The movement of waves toward the beach or LZs is conducted as a normal ship-to-shore/objective manoeuvre, except that boat waves do not actually beach and helicopter waves do not land troops (e.g., turnaway landing or deception dropoffs). Empty landing craft maintain sufficient distance from the beach to preclude close enemy observation. At a pre-arranged time or distance from the beach or LZ, or upon signal, the boat waves and/or helicopter waves withdraw. Smoke may be used to conceal the withdrawal.

SECTION V — WITHDRAWALS

0823 Purposes for a Withdrawal and Planning Considerations

Amphibious withdrawals are conducted to extract forces by sea in naval ships or craft from a hostile or potentially hostile shore. Withdrawal begins with establishment of defensive measures in the embarkation area and ends when all elements of the force have been extracted and embarked on designated shipping. When evacuating friendly forces that have been forced to withdraw through enemy action, there are several additional considerations. These forces may be physically and mentally reduced, thus requiring high levels of medical support; may not be amphibious trained so will require extra guidance by amphibious trained forces conducting the withdrawal; and may need assistance from the ATF in re-equipping/re-habilitating/re-furbishing. The land, sea and air dimension of the AOA may be under intense enemy pressure, so AOA defence, force protection and restrictions in time and space for planning and executing the withdrawal may be extreme.

0824 Execution

An amphibious withdrawal will be executed per the following general sequence of steps:

a. As required by the enemy situation, defence of the embarkation area and routes to it will be established by air, naval, and ground covering forces concurrent with the embarkation of personnel, supplies, and equipment which are not required for support of operations ashore. Casualty evacuation must be considered throughout.

b. Progressive reduction of troop and material strength ashore under the protection of naval, air and ground covering forces. Depending on limitation of afloat cargo capacity and/or loading time, all usable military material is either evacuated or destroyed.

c. Withdrawal of the ground covering force, with priority to heavy elements such as artillery and tanks, usually under cover of darkness, and supported as necessary by air and NGS means. Throughout the withdrawal, liaison and coordination between the withdrawing force and the ATF elements executing the withdrawal will be vital.

0825 Joint Fires

The defence of an embarkation area on a hostile shore requires the same close coordinated employment of joint fires (artillery, NGS, and air) as that required for an assault landing. The coordination procedure is essentially the same. The primary difference is that, in the assault, supporting arms and control facilities are progressively built up ashore, whereas in a withdrawal the arms and control facilities are progressively decreased ashore until eventually all their functions are performed by sea-based or air assets.

0826 Embarkation Procedures

1. Planning for embarkation of withdrawn forces is conducted in accordance with the normal planning procedures per Chapter 4.

2. Tactical loading will be employed in embarkation in preparation for a further amphibious operation. Embarkation for movement to base areas will normally employ administrative loading.

3. The initial size of the embarkation area depends upon several factors, such as:

a. Defence of the embarkation area.

b. Number of personnel and amount of equipment and supplies to be embarked.

c. Availability of joint fires.

d. Nature and extent of embarkation beaches.

e. Time available for the embarkation.

CHAPTER 9

Combat Support

0901 Purpose

This chapter outlines the procedures for CS operations inherent in an amphibious operation. Either the ATF or forces supporting the ATF may perform the missions outlined below.

SECTION I — INTELLIGENCE

0902 Intelligence Considerations for Amphibious Operations

1. The AJP-2 series provides overarching guidance for planning and conduct of intelligence operations to support amphibious operations. Intelligence planning for an amphibious operation is governed by the specialised intelligence that major force commanders need to:

   a. Arrive at the basic decisions noted in paragraph 0306.

   b. Conduct subsequent planning of the ATF.

   c. Execute the operation.

2. Intelligence planning during amphibious operations consists of three groups of activity:

   a. Direction, collection, processing and dissemination activities as per the intelligence cycle of AJP-2.0.

   b. The preparation of the Intelligence Annex to the OPLAN or OPORD.

   c. The preparation of intelligence plans, estimates, and summaries during the operation.

3. During the planning phase, CATF and CLF follow a process that involves the preparation of their estimate of the situation, by which they arrive at a decision as to what shall be done, as well as when, where, how, and why. This finds expression in the OPLAN. Intelligence is essential at every step in this process.

4. Early collection of information and dissemination of intelligence to meet LF requirements are particularly important, since planning for the overall operation stems from the LF scheme of manoeuvre ashore. This, in turn, derives from estimates and decisions based primarily on intelligence of the enemy and the AOAs.

5. Areas that require primary intelligence effort include:

   a. Enemy nuclear, biological, radiological, and chemical capabilities.

   b. Enemy air capability.

   c. Enemy reinforcement and counterattack capabilities.

d. Enemy seaward and landward defensive measures.

e. Environmental factors bearing on the conduct of the amphibious operation.

0903 CATF Planning Responsibilities

1. Determination of intelligence requirements for planning by the naval forces, review of intelligence requirements of the LF and other forces, and consolidation into intelligence requirements for the ATF as a whole.

2. Collection and processing of information and dissemination of intelligence to major elements of the ATF in accordance with the special requirements of each.

3. Acquisition and distribution of maps, charts, photographs, and other intelligence materials.

4. Preparation of intelligence estimates affecting the forces as a whole.

5. Preparation of intelligence studies which relate to the mission and AOA.

6. Establishment of liaison with operational intelligence agencies which are not part of the ATF, including theatre and national agencies as necessary.

7. Coordination of requests, and issuance of guidance and directives for the collection of information by reconnaissance, observation, friendly/indigenous forces, and other operating agencies.

8. Security and counterintelligence measures, in addition to those specified by higher authority.

9. Preparation and distribution of Intelligence Annex to the ATF OPLAN and ATF OPORD.

10. Establishment of a target information centre (TIC).

11. Establishment of a joint intelligence centre (JIC) at the outset of planning in conjunction with the CLF as required. The purpose of the JIC is to coordinate the collection of information by, and the production and timely dissemination of derived intelligence to all interested agencies and commands of the ATF.

0904 CLF Planning Responsibilities

1. Determination of intelligence requirements for planning by the LF and making the requirements known to CATF.

2. Collection and processing of information and dissemination of derived intelligence to the LF.

3. Establishment of liaison with intelligence agencies of the ATF and with area intelligence agencies, in cooperation with CATF, to assist in the collection of information of primary interest to the LF.

4. Dissemination of maps, charts, photographs, and other intelligence materials to troop units.

5. Preparation and distribution of the Intelligence Annex to the LF OPLAN and LF OPORD.

6. Assistance in determining the requirements for a JIC, and providing representatives as required.

0905 Key Intelligence Activities and Goals During Planning

1. **Mission Analysis.** Intelligence activities support mission analysis by providing basic intelligence on the nature of the AOA and the threat. Concurrently, during mission analysis, indications and warnings (I&W) and current intelligence will monitor the AOA and identify developing crisis situations and/or potential ATF missions. During mission analysis, intelligence operations must:

a. Orient the commander and operational planners to the battlespace and the nature of the threat.

b. Aid in the development of commander's intent by outlining what is operationally possible and most advantageous.

c. Receive direction from the commander to help shape intelligence operations.

d. Identify intelligence shortfalls and establish intelligence collection requirements.

2. **COA Development.** Intelligence supports COA development by:

a. Defining operational possibilities through the intelligence preparation of the battlespace (IPB) process.

b. Continuously updating the view of the battlespace and estimates of enemy capabilities, intentions, and activities.

c. Providing focus on the adversary through identification of threat COGs, critical vulnerabilities, and potential COAs, with emphasis on the most likely and most dangerous COA.

d. Assisting in the prioritisation of targets of interest.

3. **COA Analysis.** Intelligence assists COA analysis by:

a. Identifying and refining likely and dangerous enemy COAs and actions and/or reactions to friendly COAs under consideration.

b. Playing the role of the enemy during wargaming of COAs.

c. Developing an independent evaluation of each friendly COA based upon an understanding of the environment and the potential threat response as well as on the ability to provide intelligence support to that COA.

d. Helping to focus planners on the threat and environment, with emphasis on the degree of uncertainty and resulting risk associated with each friendly COA.

4. **Plans and Orders Development.** Once the commander has selected a COA and given additional guidance, intelligence operations shift from the development of basic intelligence in support of conceptual planning to providing specific and detailed current intelligence to aid functional and detailed planning in all areas and ultimate mission execution.

0906 Intelligence Support to Execution of Operations

During execution, intelligence operations must ensure a continuous flow of timely and relevant intelligence throughout the ATF to maintain a shared picture of the battlespace while rapidly identifying new information requirements (IRs) of commanders and the operating forces.

a. **The Environment of Execution.** Intelligence support during execution differs significantly from its support during planning. Most importantly, intelligence support during execution involves the satisfaction of a much larger body of IRs, involving a significantly greater degree of detail. Additionally, time is a greater

factor during execution than it was during planning. While days, weeks, and longer periods often are available during planning, intelligence support to execution must be planned, executed, and the resulting intelligence products provided in real or near-real time. Finally, the uncertainty and disorder inherent in war or other operations manifest themselves primarily during execution; once execution begins, interaction between the opposing forces normally leads to significant and fundamental changes in the situation.

b. **Intelligence Focus During Execution.** Intelligence support during execution focuses on providing practical knowledge that provides an exploitable advantage over the enemy. Accordingly, intelligence operations focus on providing situational awareness, identifying new enemy activities and friendly opportunities, aiding with friendly manoeuvre and targeting, and supporting force protection — all while continuing to support future operations planning. Three key factors for ensuring effective intelligence support during execution are as follows:

(1) **Resource Allocation.** As IRs will normally exceed available intelligence resources, intelligence operations must be focused in accordance with the commander's direction and intent, and synchronised with the CONOPS.

(2) **Linkage to Operations.** Intelligence collection, production, and dissemination plans are developed to support the execution of specific tactical operations, the engagement of targets, the protection of the force, and the selection of branches and sequels to the OPLAN. Close and continuous coordination between intelligence and operations personnel is essential to maintain common situational awareness of ongoing and planned future operations, monitor potential enemy reactions, identify new opportunities, and assess the effects of friendly actions on the enemy.

(3) **Generation of Tempo.** Intelligence operations during execution must facilitate the generation of operational tempo by:

(a) Focusing on satisfying priority IRs and supporting the main effort.

(b) Supporting the decision making process through accurate situational awareness and by recognising emerging patterns that enable the commander to rapidly make decisions.

(c) Providing knowledge — key elements of data and information that have been analysed, synthesised, and placed in context to help provide situational awareness — not just a mass of unprocessed information or unrelated pieces of data.

SECTION II — TARGETING AND FIRE SUPPORT

0907 General

1. **Fires.** Fires are the effects of lethal or nonlethal weapons. Use of both lethal and nonlethal weapons must be synchronised and integrated. These fires can be delivered by air, land, naval, and SOF assets. Lethal weapon effects include those from NGS, indirect fire support, manoeuvre operations, SOF direct action operations and air operations. Nonlethal weapons effects include those from EW, some information operations such as disrupting the enemy's information networks, and the use of munitions such as illumination, smoke, or incapacitating agents.

2. **Fire Support.** Fire support is defined as the application of fires, coordinated with the manoeuvre of forces, to destroy, neutralise or suppress the enemy. The ability to employ all available fire support as a synchronised effort integrated with the scheme of manoeuvre is accomplished through the process of fire support planning, and execution. Effective fire support ensures that the right targets are adequately attacked to achieve the commander's intended effects. Fire support is a tactical function that supports the tactical battle and generally supports a simultaneous or sequential activity. As such, it seeks to create a local effect for a specific period of time.

3. **Targeting.** Targeting is the process of selecting targets and matching the appropriate response to them taking account of operational requirements and capabilities (AAP-6). In amplification, it involves the identification of an enemy's key vulnerabilities and indicates where they can be attacked to achieve specific effects. It is the means by which force, including soft-kill techniques, can be applied selectively in support of strategic, operational and tactical objectives. Targeting is the function that can assist the tactical battle but is principally focused on the operational level of war. Targeting is "effects based," coordinated at the JFC level and supports his broader campaign objectives.

0908 Fire Support Systems

1. **Overview of Systems.** Fires in support of amphibious operations (amphibious fire support) is the synergistic product of three subsystems: intelligence, surveillance, and reconnaissance (ISR)/ISTAR, C2, and attack resources. ISR/ISTAR systems and equipment perform the key tasks of target detection, location, tracking, identification, and classification in sufficient detail to permit the effective attack of the target. C2 systems bring all information together for collation and decision making. Vertical and horizontal coordination is essential, requiring a hierarchy of mutually supporting fire support coordinators (FSCs) and agencies. Attack systems include fires delivered from air, surface, land, and sub-surface attack systems. ATF and supporting aircraft may perform air-to-surface attack, including EW, within the operational area. (With reference to supporting assets, it is essential that ATF targeting and fire support (including AD) planning is synchronised with the joint air tasking order (ATO) cycle.) Sea-based attack systems include navy guns, missiles, and EW systems. Land-based attack systems typically include artillery, mortars, rockets, missiles, and EW systems.

2. **Target Acquisition (TA).** The three different sub-sets of TA include:

a. **Organic.** The typical ATF has numerous organic TA assets, such as reconnaissance units, unmanned aerial vehicles (UAVs), shipboard and artillery counterfire radars, naval aviation, and ground sensors, as well as other observers, spotters, and controllers.

b. **Non-Organic.** The typical ATF has the capability to exploit the information provided from non-organic aerial systems (manned and unmanned), subsurface, surface (ground and sea), military space systems, and national systems.

c. **Intelligence Integration.** The JIC established within the ATF supports the TA system by coordinating the use of limited collection assets throughout the operational area. No fielded ISTAR system exists solely to support fires, and all intelligence collection assets can contribute to TA.

3. **C2 Agencies:**

a. **Overview:**

(1) The initiating directive should identify responsibilities for fire support planning with CATF. The term "designated commander" will refer to the commander who has been delegated the command authority to plan fires either for the entire amphibious operation or a particular phase of it. The effectiveness of fire support in amphibious operations is predicated on the designated commander providing clear guidance to the forces involved.

(2) **ATF.** The CATF normally will control NGS during disembarkation and landing of assault waves, and may thereafter delegate this control authority to his fire support group commander. If he chooses to continue control of NGS, the fire support group commander assumes a standby role.

(3) Additionally, CATF may pass control of NGS to CLF. Transfer of control of NGS to CLF may not occur because of requirements other than support of the LF. Even when control is passed, CATF normally retains responsibility for:

(a) Allocation of available fire support ships.

(b) Logistics support of NGS.

(c) OPCON other than fire control.

(4) CLF is responsible for:

(a) The assignment of fire support missions.

(b) Fire support planning.

b. **Supporting Arms Coordination Centre (SACC).** Upon initiation of planning, a SACC is established. The SACC plans, coordinates, and controls all organic and non-organic fires within the operational area in support of the ATF, including the production of the essential airspace control order (ACO). It is located aboard an amphibious ship or appropriate ship configured with the requisite C2 facilities, enabling coordination of all forms of supporting fires (land-, air-, and sea-based). The designated commander may choose either the naval supporting arms coordinator (SAC) or the LF's FSC to supervise the SACC. In some instances the SAC and the FSC could be the same person. Whether the SAC or FSC supervises the SACC, both naval and LF personnel operate the SACC. The organization of the SACC is typically the same for any size amphibious operation; however, variations in operations may require specific needs. The organization described below is therefore to be used only as a guide.

(1) **NGS Section.** This section monitors the naval gun fire control net, support net, and other gunfire nets as appropriate.

(2) **Air Support Section.** This section is manned by members of a navy air control agency and directed by the air coordinator (AC). This section provides support by controlling, supporting, or transferring control to subsidiary tactical air direction controllers afloat or ashore. The section is located in the SACC and coordinates with the navy TACC to assist in the integration and deconfliction of air missions, routes, and requests with fires.

(3) **Target Information Centre.** The TIC is responsible for targeting information and intelligence. It is manned by the ATF target intelligence officer, ATF air intelligence officer, LF target information officer, and other personnel, as required. TIC members will rely heavily on intelligence communication and information systems (CIS) for target selection, compilation of target nominations and battle damage assessment (BDA) and their work may be focused in the SACC or elsewhere. In the case of time-sensitive targeting, the involvement of the SACC will become more important. Information operations are a sub-set of targeting and thus the relationship between the two is crucial. The ATF target intelligence officer supervises the TIC and maintains close liaison with ATF and LF intelligence and operations staff. The LF target information officer normally works in the intelligence centre of the ATF. TIC personnel may operate in the ATF supporting arms coordination centre.

c. **Fire Support Coordination Centre (FSCC).** The FSCC is the fire support coordination agency within the LF. FSCCs are established at each command echelon. The FSCC is responsible for the planning and execution of all forms of fire support within the AOA. The FSCC is organized and supervised by the FSC, who is responsible to the appropriate level operations officer for fires. FSCCs are initially subordinate to the SACC and, when the FSCC is established ashore, the SACC becomes subordinate to the FSCC ashore and remains in a monitor mode.

d. **The Fire Support Group.** When the fire support group is subdivided into units, the fire support group commander coordinates and directs the units of his group through the fire support unit commanders. The fire support group or unit commander, when the fire support group is subdivided, is responsible for:

(1) Supervision of the NGS provided by his ships.

(2) Prompt execution of counterfire in his zone of fire, keeping the SACC/FSCC informed of counterfire missions in progress.

(3) Coordination of ships in his unit in defence measures, such as defence against enemy air attack.

(4) Logistics, such as arrangements for fuelling ships and replenishing ammunition.

(5) Coordination of movement of gunfire support ships in his area.

e. **Air/Naval Gunfire Liaison Company (ANGLICO).** ANGLICO or national equivalent includes liaison and firepower control teams capable of controlling both NGS and CAS. It is organized and equipped for the control of NGS and CAS for an allied division, or elements thereof, when engaged in amphibious operations or other type operations when support is provided by NGS and/or naval air. When attached to a division, the CO and executive officer assume duties as division NGS and air officers (as appropriate), functioning in the dual capacities as special staff officers and as commanding/executive officer of the ANGLICO. The component teams are assigned to division, brigade, and/or battalion headquarters as appropriate. Figure 9-1 illustrates a typical ANGLICO organization.

f. **NGS Operations Centre.** When NGS is employed in support of land operations (that is, non-amphibious operations or after the SACC has ceased to function), the NGS operations centre is established in a ship to control the execution of plans for the employment of NGS and process requests for NGS. It is an agency of the naval force commander, and it normally includes a representative of the supported LF.

4. **Attack Resources:**

a. **Organic.** The ATF's organic attack resources are capable of delivering lethal and nonlethal fires, and include naval aviation, NGS, EW systems, artillery, and mortars.

b. **Non-Organic.** The SACC and the FSCC are able to coordinate and control non-organic attack resources in support of the amphibious operation. Aircraft, missiles, rockets, guns, SOF, and nonlethal systems attacking targets within the operational area must be coordinated through the senior fire support coordination agency.

0909 Planning and Coordination

1. **Fire Support Planning.** The purpose of fire support planning is to optimise the employment of fire support to achieve the designated commander's objectives. Fire support planning is the continuous and concurrent process of analysing, allocating, and scheduling of fire support to integrate it with the forces to maximize combat power.

a. **Commander's Guidance.** Commanders determine how to shape the operational area with fires to assist both maritime and land manoeuvre forces and how to use maritime and land manoeuvre forces to exploit fires. When developing the fire support plan, CATF and CLF will formulate the "commander's guidance for fires." It is from this guidance that supporting and subordinate commanders and fire support personnel begin to frame the role of fire support in the plan. The commander's guidance for fires should articulate the effects desired on the enemy's capabilities and how these effects will contribute to the overall success of the operation. CATF and CLF identify targets that are critical to the success of the operation, force protection issues, and any prohibitions or restrictions on fire support. A clear determination of the enemy's COG, decisive points, and critical vulnerabilities is central to fire support planning.

b. **Basic Fire Support Tasks.** The effectiveness of the fire support effort is measured by achieving desired effects on the enemy, setting conditions for decisive operations, and providing support to the ATF. Effective fire support depends on planning for the successful performance of the following four basic tasks:

(1) **Support Forces in Contact.** The ATF provides responsive fire support that protects and ensures freedom of manoeuvre to forces in contact with the enemy throughout the operational area.

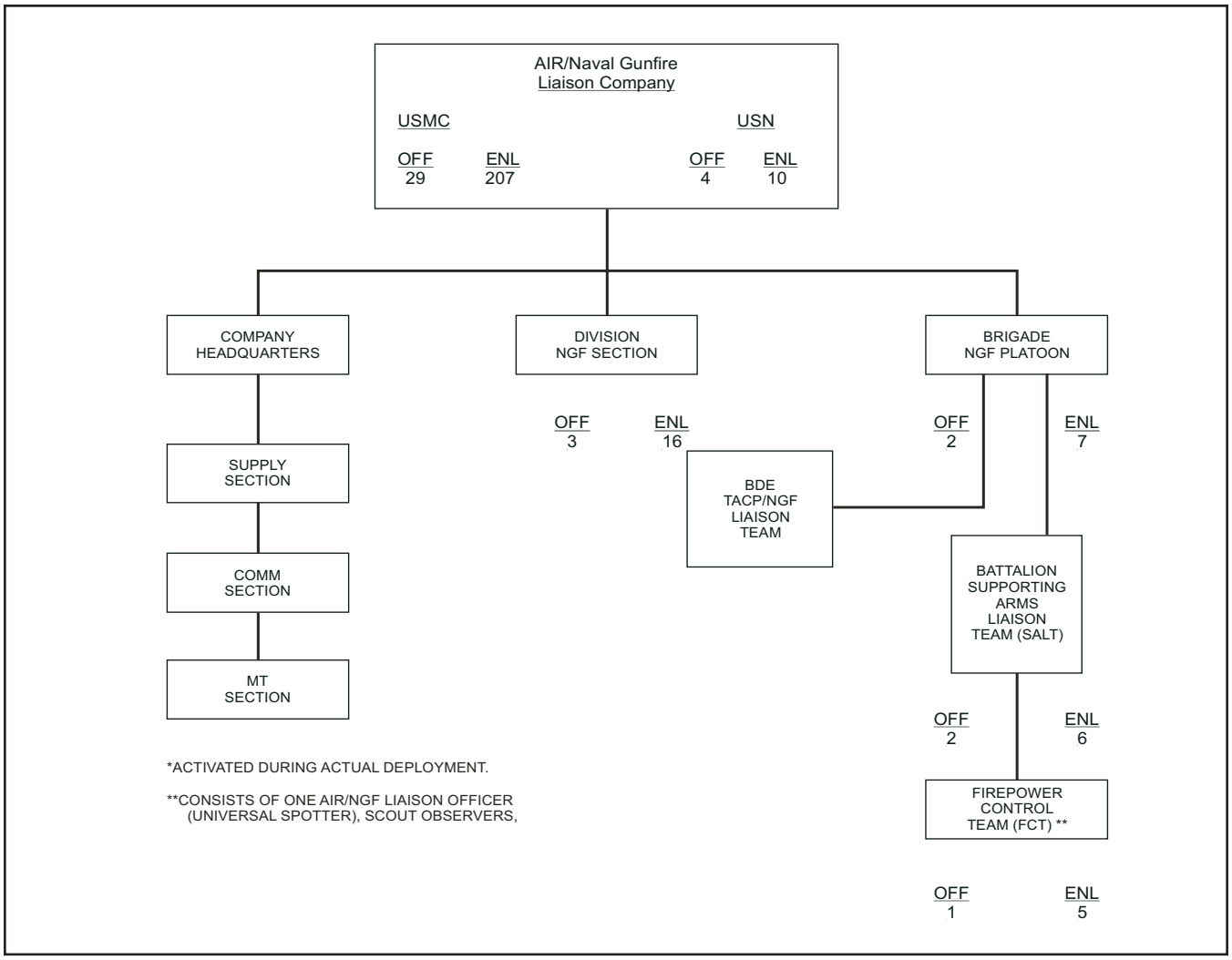


Figure 9-1. ANGLICO Organization

(2) **Support the CONOPS.** Shaping the battlespace and setting the conditions for decisive action are successfully accomplished by achieving the commander's stated effects and attacking high-payoff targets in order to exploit critical vulnerabilities. The destruction or neutralisation of these vulnerabilities significantly contributes to the success of the amphibious operation by defeating the enemy's COG. The focus of effort remains on enemy capabilities, not individual targets.

(3) **Synchronize and Integrate Fire Support.** Fire support is synchronized and integrated through fire support coordination, beginning with the commanders' estimate and CONOPS. Fire support must be planned for continuously and concurrently with the development of the scheme of manoeuvre. Synchronization and integration enable the synergistic combination of all types of fires and manoeuvre to achieve the commander's objectives.

(4) **Sustain Fire Support Operations.** Fire support planners formulate realistic and achievable fire support plans to achieve the commander's stated effects by exploiting logistic capabilities to overcome logistic limitations.

c. **Apportionment and Allocation.** In order to develop the fire support plan, limited attack resources may be considered for apportionment and allocation to the ATF. In the general sense, apportionment is the distribution for planning of limited resources among competing requirements. Specific apportionments (e.g.,

air sorties and forces for planning) are described as apportionment of air sorties and forces for planning, etc. For example, air apportionment is a determination and assignment of the total expected air effort by percentage and/or priority that should be devoted to the various air operations and/or geographic areas for a given period of time. The ATF could use this to influence and shape the conduct of the operation. Allocation, in a general sense, is the distribution of limited resources among competing requirements for employment. Specific allocations (e.g., air sorties, forces, and transportation) are described as allocation of air sorties, etc. For example, air allocation is the translation of the air apportionment decision into total numbers of sorties by aircraft type available for each operation or task. The apportionment and allocation process requires input from the subordinate commands within the ATF to ensure that their requirements are addressed.

d. **Selection of Means.** The selection and allocation of ships and air elements to deliver fire support is a function of the CATF or his designated representative. The selection and allocation of artillery units to deliver the required fires is a function of the CLF. The selections and allocations by both commanders are interdependent, and constant liaison and exchange of information on the subject are essential.

e. **Timing of Missions.** The determination of the time when fire support missions are to be executed is a function of the commander of the supported unit. Plans for this aspect of fire support must conform to his announced requirements as far as practicable.

f. **Wargaming Process.** Fire support personnel are key players in the planning process for amphibious operations and COA wargaming. They advise on the fire support assets available and the most effective use of these assets against the probable enemy COAs. The finished product is a fire support plan integrated and synchronised with the scheme of manoeuvre.

2. **Targeting.** Targeting is the process of identifying an adversary's key vulnerabilities and indicates where they can be attacked to achieve specific effects. It is the process by which force can be applied selectively in support of strategic, operational and tactical objectives. Targeting is the function that can assist the tactical battle but is principally focused on the operational level of war. Targeting is "effects based," coordinated at the JFC level and supports his broader campaign objectives. R

a. **Selection of Targets.** Target selection is the prerogative of the commander being supported.

b. **Target Classification and Priority.** Coordination of supporting arms requires specific analysis of all targets and a determination of methods to be used for their destruction or neutralisation. This analysis of targets leads to a determination of both classification and priority which will inform the joint integrated and prioritised target list (JIPTL).

(1) Classification is assigned to targets as they are added to the target list. A general policy as to classification of targets to be attacked by air and NGS is announced by CATF. Usually, targets are grouped according to the classification shown in Figure 9-2.

(2) Priority is assigned to each target after further analysis, indicating the desired sequence of attack. A general policy regarding the priority of targets to be attacked by NGS and air is announced by CATF. CLF establishes target priorities among those targets which are of primary concern to the LF.

c. **Targeting Cycle Phases.** Targeting is a cyclic process involving six phases, beginning with guidance and priorities issued by the designated commander, proceeding through execution, and ending with a combat assessment.

(1) **Phase I — Commander's Objectives, Guidance, and Intent.** Phase I describes how the commander visualises the operation, or phase of an operation, unfolding based on the selected COA. The commander provides target planning and execution guidance based on the assessment of the desired effects. These effects can be expressed in terms of types of targets, priorities, and restrictions, and may be both lethal and nonlethal. The commander's objectives, guidance, and intent provide the critical basis in the targeting process.

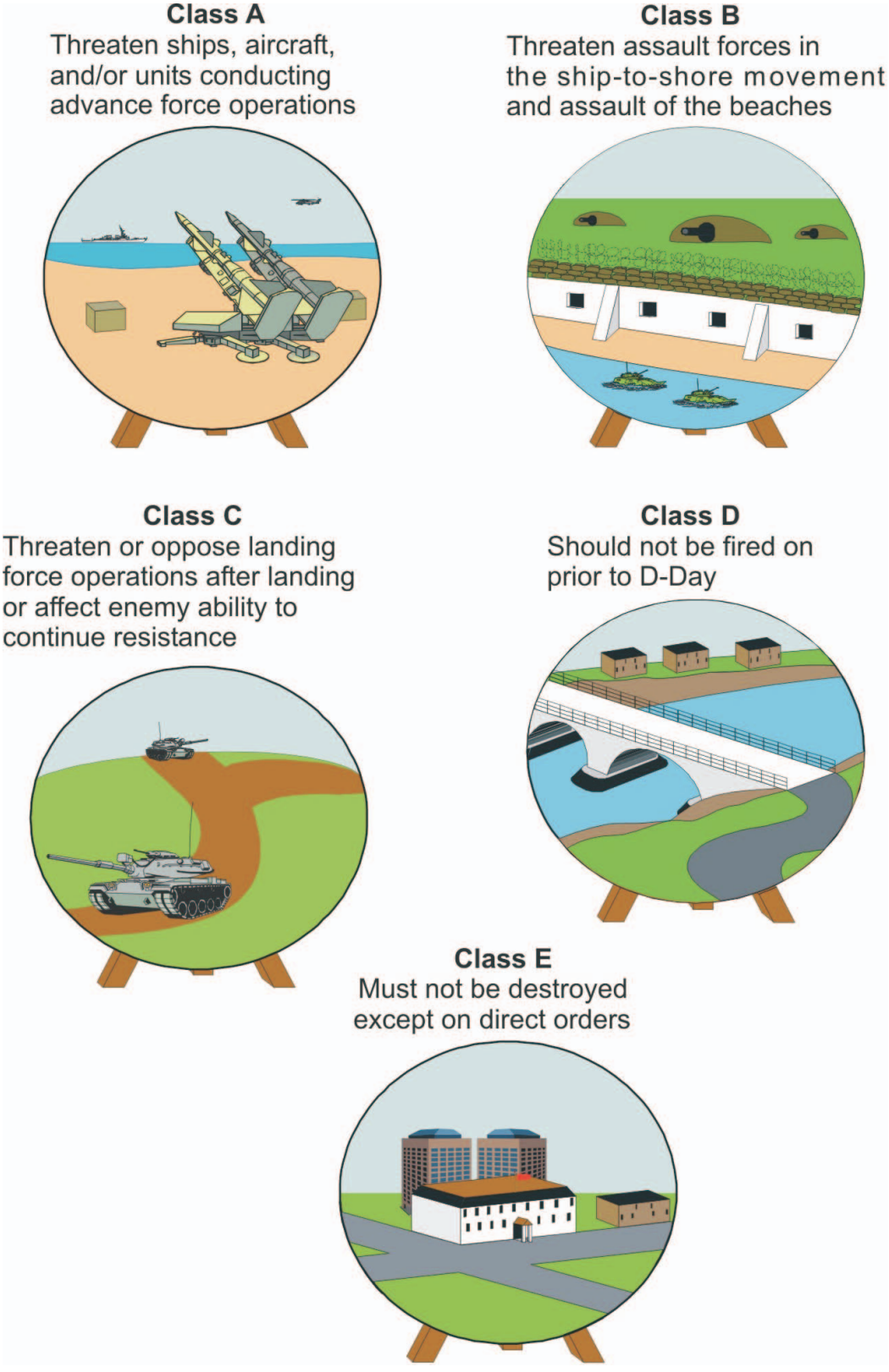


Figure 9-2. Target Classification

(2) **Phase II — Target Development, Validation, Nomination, and Prioritisation.** Phase II analyses potential targets, their components, and elements in order to determine their significance and relevance based on the commander's objectives, guidance, and intent. Targeting strategies are studied in order to determine the best way to achieve the desired effect and stated objectives. Integrating the intelligence planning, collection, execution, and analysis cycle is essential to support the targeting effort. Targets are prioritised based on the commander's prioritised objectives and guidance and then nominated through the targeting board of the ATF for approval by the designated commander.

(3) **Phase III — Capabilities Analysis.** Phase III is a predictive analysis to estimate the most likely outcome when using a lethal or nonlethal capability to achieve an effect against a specific target. Once the predictive analysis is accomplished, target and weapon pairing is conducted.

(4) **Phase IV — Commander's Decision and Force Assignment.** Phase IV includes the development of detailed mission orders, TA, target validation, identification of overall mission support requirements, and rehearsals as needed.

(5) **Phase V — Mission Planning and Force Execution.** Phase V involves the effective coordination, deconfliction, and synchronisation to maximise the effects against targets.

(6) **Phase VI — Combat Assessment.** Phase VI is the assessment of the degree of success attained in the application of fires. Combat assessment is composed of three interrelated components:

(a) BDA.

(b) Munitions effect assessment.

(c) Future COA or reattack recommendations. This phase is the commander's primary feedback mechanism within the targeting process. Assessment mechanisms must be able to provide the commander with a method to gauge the level of success in obtaining desired effects, particularly when those effects are psychological vice physical in nature.

d. **Targeting Board for the ATF.** The ATF normally conducts an integrated targeting board to provide broad fire support and targeting oversight functions. These functions may include:

(1) Coordinating desired effects.

(2) Providing targeting guidance and priorities.

(3) Identifying no strike or prohibited targets; preparing the ATF target list; evaluating the effectiveness of fires; and establishing and shifting of fire support coordination measures (FSCMs). The designated commander during the period within which the targets are attacked has final approval authority over the fire support plan and target list. Those targets to be serviced by organic assets are passed to the appropriate agencies for servicing. Targets identified for servicing by non-organic attack systems are forwarded to the next higher-level targeting board for consideration. The ATF will provide, at a minimum, liaison officers to this targeting board.

(4) Production of a component candidates target list (CTL) and target nominations. These are forwarded to the JFC for approval and inclusion in the joint integrated target list (JITL). Once all targets are approved by the JFC, they are prioritised and join the JIPTL. The servicing of these targets is coordinated by the joint force targeteers under the guidance of the JFC. Lists of restricted and no strike targets will be developed and distributed.

(5) The ATF may be directed to service targets from the JIPTL with its organic assets. The execution of this activity will need to be coordinated with the JF HQ, other components and within the ATF. Appropriate FSCMs must be implemented.

(6) The liaison between the ATF targets intelligence officers and their equivalents both up, down and horizontally across the chain-of-command is crucial.

e. **BDA.** Elements of the ATF may be tasked or equipped to conduct basic initial BDA in support of the JFC's targeting effort. Such tasking will be the product of the JFC's targeting process and its associated boards and meetings.

3. **Fire Support Coordination Principles:**

a. **Plan Early and Continuously.** To effectively integrate fire support with the scheme of manoeuvre, amphibious fire support planning must begin with mission analysis and the designated commander's planning guidance. The fire support personnel should solicit guidance from the commander whenever needed during the planning of an operation. Fire support planning is continuous.

b. **Continuous Flow of Targeting Information.** Fire support planners and/or coordinators should ensure that acquisition requirements for fire support are identified and focused on detecting targets. An integrated TA plan, coupled with responsive communication paths, enhances the continuous flow of targeting information.

c. **Consider the Use of All Available Fires.** Fire support personnel will consider the use of available organic and non-organic lethal and nonlethal assets in support of the designated commander's intent.

d. **Use the Lowest Echelon Capable of Furnishing Effective Support.** The lowest echelon that has the necessary means to accomplish the mission should furnish the fire support. When coordination cannot be accomplished or additional guidance is required, the next higher echelon should be consulted (e.g., a battalion FSCC would contact the regimental FSCC if it lacked the necessary means to accomplish a mission, and the regimental FSCC would contact the SACC or senior FSCC, if required).

e. **Use the Most Effective Fire Support Means.** Requests for fire support are sent to the supporting arm capable of delivering the most effective fires within the required time. Factors to be considered include the nature and importance of the target, the engagement time window, the availability of attack means, and the results desired. The commander may also consider assets to delay or suppress the target until a more effective means to attack it becomes available.

f. **Furnish the Type of Fire Support Requested.** The fire support requester is usually in the best position to determine fire support requirements. However, the SAC or FSC is in a position to weigh the request against the commander's guidance and the current and future needs for fire support. If a request for fire support is disapproved, the SAC or FSC stops the request and notifies all concerned. When possible, the coordinators recommend a new fire support means and alert the agencies that may provide the support to the requesting unit.

g. **Avoid Unnecessary Duplication.** A key task for fire support personnel is to ensure that unnecessary duplications of fire support are resolved and that only the minimum force needed to get the desired effects is used. This does not mean that only one asset is used; taking advantage of the complementary characteristics of different types of assets and integrating their effects provides the synergy of combined arms.

h. **Coordinate Airspace.** Inherent in fire support coordination is the deconfliction of airspace by supporting arms. The collocation of the SACC and TACC can facilitate the coordination and integration of airspace, AD, and fires. FSCMs and coordination procedures are used to provide a measure of protection to the aircraft while incorporating CAS with indirect fires.

i. **Provide Adequate Support.** The mission and the commander's guidance determine the effects that fire support should achieve for the fire support plan to succeed.

j. **Provide Rapid Coordination.** Procedures for rapid coordination ensure speed and flexibility in delivery of fires. SACC and FSCC personnel must know the characteristics of available fire support weapons, the

weapons' status, and maintain situational awareness in order to attack both planned targets and targets of opportunity effectively.

k. **Provide Safeguards and Survivability.** Force protection includes considerations of enemy threats and the potential for fratricide. Detailed integration of manoeuvre and fire support is required to prevent fratricide. SACC and FSCC personnel seek to prevent fratricide through close coordination at all levels and situational awareness. Three-dimensional radars and digital data links should be used for safeguards and for enhancing survivability. Use of FSCMs, coordination of position areas, and the consideration of the locations of friendly forces during target analysis all contribute to safeguarding friendly units.

l. **Establish Communications Support.** Timely and efficient exchange of information is a key requirement for all successful operations. The physical collocation of coordinating agencies (SACC or TACC and FSCC or direct air support centre (DASC)) provides the surest form of communication, but is not always possible or practical. Therefore, reliable and extensive networking among TA assets, the fire support coordination agencies, and attack resources is required to increase the responsiveness of fires in support of the amphibious operation and to increase the ATF's operational tempo. Timely and efficient communications with adjacent forces will also be required.

m. **Establish FSCMs.** FSCMs facilitate the rapid engagement of targets throughout the operational area and, at the same time, provide safeguards for friendly forces. The CLF designates all land FSCMs within the operational area. The CATF designates primary and alternate FSAs as required to support the LF manoeuvre ashore. FSCMs must be coordinated with the air plan.

4. **Other Planning and Coordination Considerations:**

a. **Air Defence (AD).** The CATF usually assigns an anti-air warfare commander (AAWC), normally on the most capable air defence platform, to carry out air defence operations. The AAWC coordinates with the TACC to maintain situational awareness. A coherent air defence plan also requires coordinated planning with the SACC to ensure the physical location of air defence weapons systems afloat, ashore, and aloft. The procedures for identifying aircraft and other relevant information are shared.

b. **Advance Force SACC.** Although normally only one SACC is active at any one time, advance force operations may require the establishment of a fire support agency to coordinate fires in support of the neutralisation or destruction of enemy high value assets or the emergency extraction of SOF or reconnaissance units. The advance force SACC must maintain situational awareness on the insertions and extractions of teams, locations of teams ashore, and mine warfare (MW) operations within the area, to include sea and air assets. The ATF SACC assumes responsibility as the primary fire support agency from the advance force SACC, upon its arrival in the operational area.

c. **NGS Ships in Support of the LF.** During planning, the CLF identifies specific NGS missions to the CATF. Based on the LF requirements, the number of ships available, and their other assigned tasks, the CATF organizes NGS assets and assigns ships in a manner that will best support the LF scheme of manoeuvre ashore.

SECTION III — AIR DEFENCE

0910 Overview

The air defence commander (ADC) bears overall responsibility for air defence activities of a joint force. The anti-air warfare commander (AAWC) bears overall responsibility for the air defence activities of a naval force. The AAW principles and procedures in ATP-1, Volume I, and ATP-31 apply to air defence of the ATF as well. Allied joint air defence operations are described in AJP 3.3 series. Figures 9-3 and 9-4 illustrate the air defence command structures and air defence zones/sectors.

0911 Air Defence Zone

The actual size and shape of an air defence zone (ADZ) is dependent upon the capabilities of air defence platforms assigned to the CATF; the size of the AOA; and agreement between the ATF's AAWC, the (joint) ADC, and supporting force AAWC(s). Within the ADZ, the ATF AAWC maintains positive identification of all aircraft and conducts air defence with the authority to engage in accordance with rules of engagement (ROE) and procedures established by the senior naval officer in the ATF chain of command.

0912 Air Defence Zone Sectors

1. The ATF AAWC will normally divide the ADZ into landward and seaward sectors. The ATF AAWC will assign responsibility for the landward sector to a land based tactical air operations centre (TAOC) once it is established ashore. LF air defence elements then function as another AAW unit stationed ashore. Procedures for operations are identical to the procedures followed by other AAW units afloat. The ATF AAWC may also designate a local anti-air warfare coordinator (LAAWC) to assist in coordinating AAW operations of non-tactical data system (TDS) equipped ships.

2. Once established ashore, the LF air C2 organization acts as another AAW unit, responsible for the landward sector. The TAOC will establish air control capability, voice communications and tactical data link connectivity with the ATF AAWC. The ATF AAWC will assign sector AAW responsibilities for the landward sector of the ADZ to the TAOC. The LF element with its air defence weapons will operate the same as other AAW units. The TAOC will guard the AAW net for coordination and reporting (C&R) and provide a data link interface. One of the most important tasks for TAOC will be to provide the ATF AAWC with early warning of impending attacks. Procedures to communicate these warnings must be extremely robust, as they are essential to ATF survivability.

0913 Passing Air Control Ashore

As combat power is established ashore, a phased transfer of supporting arms control takes place from CATF agencies afloat to the corresponding CLF agencies ashore. Transfer of AAW responsibilities are included in this process. As successive air C2 elements are moved ashore, the ATF AAWC will gradually transfer the air defence functions in the AOA to the LF air C2 element whose primary mission is air defence.

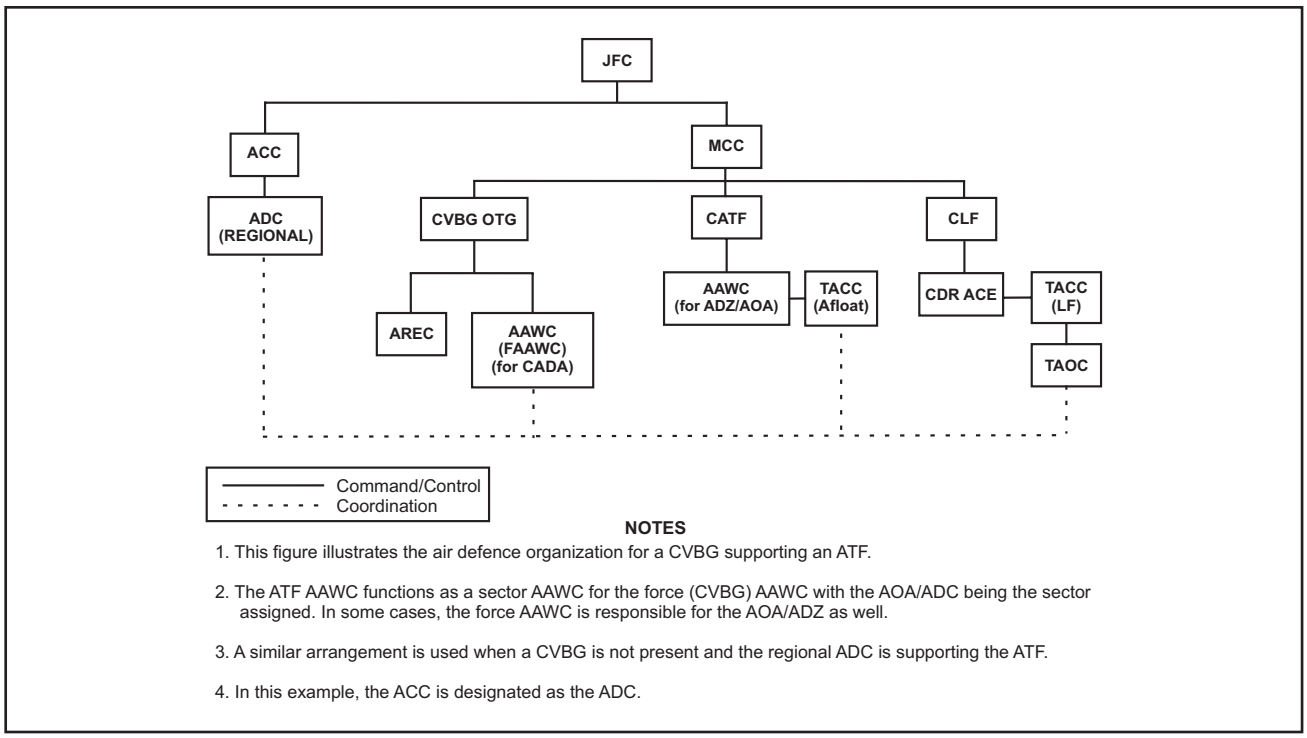
0914 Assets Assigned to the ATF AAWC

1. Assets assigned to the ATF AAWC may include carrier or land-based aircraft, guided missile ships or LF missiles and aircraft ashore. Combatant and amphibious ships with air search radars and close in weapons systems or guns may also be available to the ATF AAWC.

2. The ATF AAWC must ensure that basic procedures and protocols are in place to allow sufficient coordination among naval, air force, and land assets on a real time basis.

0915 Interactions Between the ATF AAWC and Other Warfare Commanders and Coordinators Within the ATF

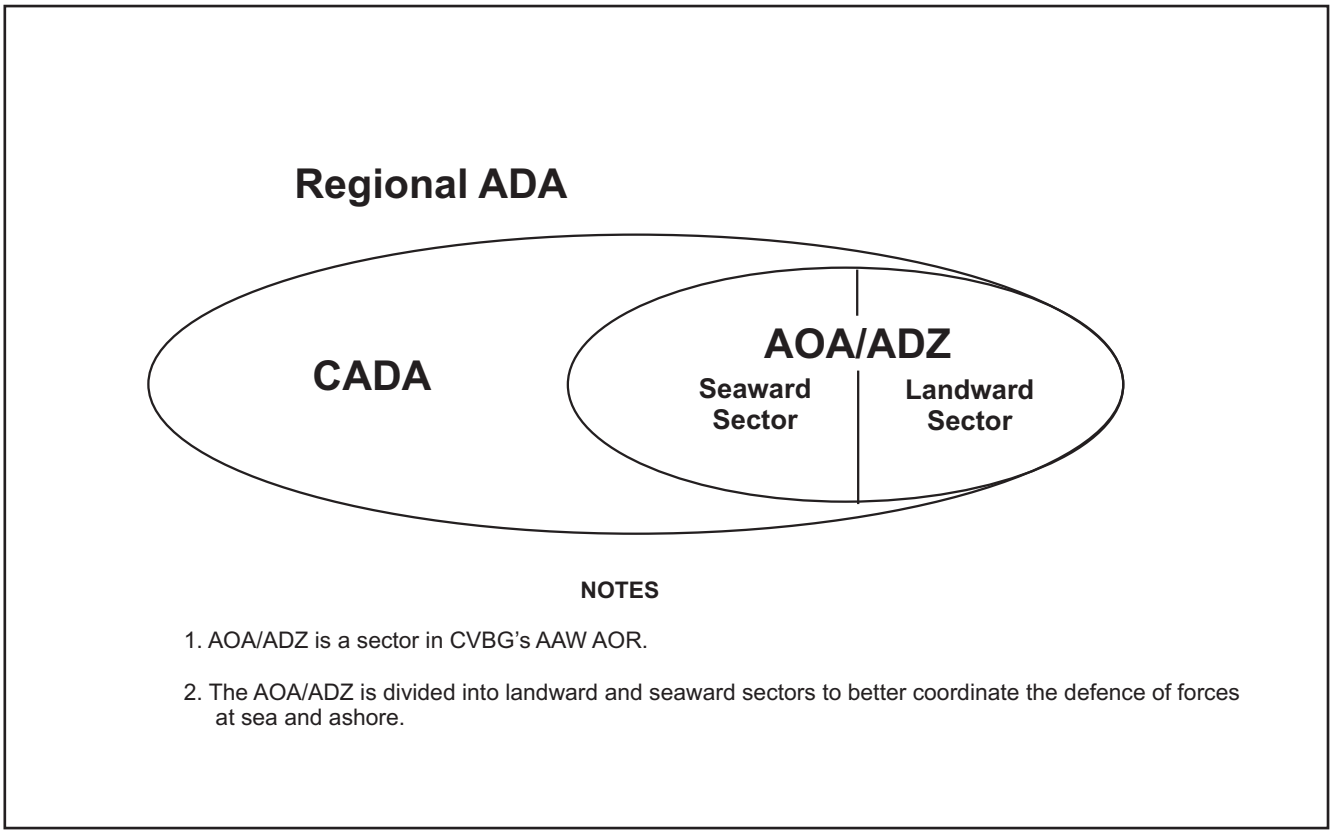
1. The principal warfare commanders work together within the ATF to determine a disposition of forces which will effectively counter air, surface, and submarine threats. When they have conflicting requirements, the CATF is



NOTES

1. This figure illustrates the air defence organization for a CVBG supporting an ATF.
2. The ATF AAWC functions as a sector AAWC for the force (CVBG) AAWC with the AOA/ADC being the sector assigned. In some cases, the force AAWC is responsible for the AOA/ADZ as well.
3. A similar arrangement is used when a CVBG is not present and the regional ADC is supporting the ATF.
4. In this example, the ACC is designated as the ADC.

Figure 9-3. Air Defence Command Structure Example



NOTES

1. AOA/ADZ is a sector in CVBG's AAW AOR.
2. The AOA/ADZ is divided into landward and seaward sectors to better coordinate the defence of forces at sea and ashore.

Figure 9-4. Air Defence Areas

the final authority. The extremely short timelines associated with AAW in the AOA must be a fundamental consideration in any arbitrated decision.

2. All warfare commanders are concerned with force surveillance. The ATF AAWC and antisurface warfare commander (ASUWC) should agree on a common grid reference system. The antisubmarine warfare commander (ASWC) and ASUWC keep the ATF AAWC informed of the positions of potentially hostile submarines and surface units which may pose a threat to the ATF.

3. The ASUWC and ASWC ensure the identity, mission, and AOO of supporting MPA and other aircraft are known to the ATF AAWC. The aircraft must check in with the designated AAW control unit, directly. The controlling command must ensure the ATF AAWC is informed of any changes in the AOA and must notify the ATF AAWC when aircraft are outbound and returning to base. The air resource element coordinator (AREC) is responsible for ensuring that all aircraft are properly briefed on check-in, control, and identification procedures prior to the mission.

4. The electronic warfare coordinator (EWC) manages and coordinates the EW systems of the ATF and coordinates the reporting of EW information; the EWC must be closely linked to ashore EW assets to ensure the fastest possible warning of incoming attack. The EWC provides the following to the ATF AAWC:

a. Advice on procedures for tuning radars and stationing units to minimize electromagnetic interference (EMI).

b. Advice on EMCON procedures to minimize unit exposures while maintaining given levels of AAW readiness.

c. Immediate notification of changes in EMCON condition directed by the officer in tactical command (OTC)/composite warfare commander (CWC).

d. Threat alerts (VAMPIRE, and RACKET reports).

e. Radar contact identification from ESM correlation for unknown or misidentified radar tracks.

f. Notification of intentions and actions related to activation of ECM. (Airborne jamming, point defence jamming, or chaff.)

g. Advice on establishing procedures and sectors for safe operation of own-force ECM.

5. **Interactions With the AREC.** The ATF AAWC coordinates his requirements for CV air assets through the force anti-air warfare commander (FAAWC). The FAAWC then balances these requirements with the other force requirements and tasks the AREC accordingly. The TACC (afloat or ashore, depending on who has control) functions as the AREC for the ATF air assets. The ATF AAWC communicates directly with these agencies and requests assets as needed.

0916 Battle Force Operations

1. Within the FAAWC's organization the ATF AAWC has responsibilities as sector AAWC for the ADZ.

a. **Utilization and Coordination Assets.** The ATF AAWC conducts AAW operations within his sector under the principle of decentralized execution and in accordance with the FAAWC's guidance, standing fighting instructions, and preplanned responses. He coordinates to the fullest extent possible with the battle force AAWC via the AAW intersector C&R net, to support passage of long-range combat air patrol (CAP) through the ATF AAWC. He also coordinates via the AAW intersector C&R net for redirection of CAP as necessary to defend either the ATF or the CV battle force, and for the launch of additional CAP, if needed. The ATF AAWC's actions are subject to command override by the FAAWC, who maintains the overall fleet AD perspective.

b. **Command Structure:**

(1) **Initial Control Afloat.** The ATF AAWC unit afloat has responsibility for and exercises full AAW control in the AOA and coordinates with the FAAWC for fleet AAW duties. Very short range air defence (VSHORAD) units initially will be the only LF AD units ashore. Overall control of these teams will initially fall to the ATF AAWC. As these teams can provide only close in self-defence, positioning and early warning of incoming forces will likely be all the "control" that can be exercised. VSHORAD units ashore will also look for weapon control states from the ATF AAWC. VSHORAD units will not have sufficient organic SA with which to make these decisions.

(2) **Transition.** After the TAOC has been established ashore, CLF will request from CATF that the LF be given AAW responsibility in the landward sector of the AOA. The dimensions of the landward sector will have been predetermined in the planning phase. With CATF's concurrence, the ATF AAWC will pass control of this landward sector to the TAOC while retaining overall AAW responsibility in the AOA as well as coordination duties with the FAAWC. The TAOC will directly control all LF missile units ashore and will also control any CAP aircraft operating in its sector. The ATF AAWC must still exercise advisory control of transiting CAP aircraft until such time as the TAOC assumes that function.

(3) **Control Ashore.** As a prelude to the termination of amphibious operations, total ATF AAWC responsibilities in the AOA will be transferred to the TACC (ashore), upon CLF's request and CATF's concurrence. Since the ADZ may be larger than the AOA, it may be impractical for TACC (ashore) to assume all ATF AAWC responsibilities. Portions of the ADZ outside the AOA may revert to other sector commanders or to allied commands ashore. Proper planning prior to the amphibious operation will ensure a smooth transition from at sea to shore control with no gaps in coverage.

0917 Coordination With NATO Land-Based Air Commanders

1. **Coordination During Combined ATF/Aircraft Carrier Battle Group Operations:** R

a. During aircraft carrier battle group (CVBG) operations within another NATO commander's AD area, a carrier air defence area (CADA) will be mutually agreed and established to define and divide AAW responsibility. If the CVBG is tasked to support the ATF, the CADA should include all AOA airspace. This will preclude any ambiguity over the landward portion of the AOA.

b. To facilitate force coordination, the ATF will provide liaison personnel to the battle force air liaison team sent to the land commanders HQ. The TACC (afloat and ashore) will guard the battle force air liaison team communication net used for coordination of air operations.

2. **During Independent Operations.** During independent ATF operations, CATF will be responsible for coordinating ATF air operations with the responsible NATO airspace control authority and/or air defence commander. Liaison personnel will be exchanged and a communication link established for coordination of operations. The AJP 3.3 series provides additional guidance.

0918 Phasing of AAW Control Ashore

1. Prior to passing control of an AAW sector to the TAOC, the following conditions must be met:

a. CLF determines capability to control an AAW sector.

b. Common AAW axis must be defined.

c. Common air control references must be established.

d. AAW sector to be transferred must be defined in the OPTASK AAW.

e. All aircraft in the AAW sector will be initially identified by the appropriate AAWC and TAOC controller.

f. Positive two-way communications must be established between the TAOC and all CAP aircraft within the sector on appropriate fighter air director (FAD) net(s).

g. Positive two-way communications must be established between AAWC (afloat) and CLF TAOC on a handover coordination net.

h. The data link reference point (DLRP) will be established.

i. Missile engagement zones will be promulgated by AAWC in appropriate OPTASK AAW format.

j. Authority to establish alert and weapons conditions will reside with the AAWC.

0919 Phasing of AAWC Responsibilities Ashore

AAW responsibilities for the entire AOA may be passed ashore when the TACC (ashore) determines that it can accomplish the task, and the CATF and CLF concur with the transfer. Prior to the determination that total AOA AAWC responsibilities can be assumed by the TACC, the following prerequisites must be completed:

a. Completed prerequisites for passing control of an AAW sector ashore.

b. CLF possesses the capability to promulgate an air threat warning within the AOA.

c. CLF possesses the ability to coordinate the employment of AD weapons within the AOA.

d. Until the termination of amphibious operations ashore, TACC designates a seaward AAW sector for CATF control.

0920 General Force Protection Considerations

1. Conflicts of today have experienced a significant transition away from traditional warfare between two regular armed forces. In addition to conventional threats, the ATF might also have to face a non-state actor, a warlord, a terrorist group or a guerrilla-type organization, irregular threats of an unconventional nature, using hit-and-run tactics, or attacks by a more elusive opposition. A militarily weak opponent may also choose an overall asymmetric strategy and avoid a direct confrontation with the ATF.

2. During all phases of an amphibious operation CATF will also have to be aware of asymmetric threats[1] — in addition to all threats normally posed on the battlefield. Attacks can be expected from high-speed surface craft, personal watercraft, midget submarines, swimmers, emplaced improvised explosive devices, unmanned air, sea, or land vehicles to name but a few. Also, such threat does not have any restriction in the time dimension, thus requiring attention before and after the actual conduct of the amphibious operation.

3. Countering the threats relies on adequate intelligence, proficiency in all warfare areas and effective force protection measures. AJP-3.14 (Force Protection) covers more detailed information on force protection. Protective measures against threats include but are not limited to:

a. Effective use of supporting forces/IUW forces/ESM to detect submarines and high-speed surface craft.

b. Mining the flanks of the AOA from the shore seaward to 100 fathoms.

[1] An asymmetric threat has been defined in AAP-6 as *a threat emanating from the potential use of dissimilar means or methods to circumvent or negate an opponent's strengths while exploiting his weaknesses to obtain a disproportionate result.*

c. Detecting asymmetric threats from items such as: lightly armed small boats, fast attack boats, midget submarines, and improvised underwater explosive devices.

d. Maintaining proper lighting conditions.

e. Close-in picket boat patrols.

f. Periodically dropping hand grenades or explosive charges.

g. Keeping screws slowly turning over if anchored and periodically veering or heaving around anchor chains.

h. Helicopter patrols.

i. Special boat squadron patrols for coastal interdiction of small craft and intelligence gathering.

j. Search-and-destroy operations against enemy missile-firing platforms.

k. Maintaining appropriate readiness conditions.

l. Stationing additional lookouts equipped with night observation devices.

m. Operating sonars (if available) in the active mode.

n. Operating bow thrusters (if available) intermittently.

o. Remaining underway or periodically shifting anchorages.

p. Deploying the ATF in a sea echelon for force dispersion and to remain over the horizon.

SECTION IV — PROTECTIVE MEASURES IN THE AMPHIBIOUS OBJECTIVE AREA

0921 Force Protection Coordinator

1. Defensive measures employed against small, technologically unsophisticated forces conducting an asymmetric attack against the ATF operating in the landing area requires well defined C2 procedures. Small forces employed in this manner could remain undetected by warfare commanders postured to encounter traditional AAW, ASUW, and ASW threats. CATF designates a force protection coordinator (formally known as sneak attack defence coordinator (SADC)) in the OPTASK amphibious message to concentrate on detecting and destroying this type of threat. Responsibilities of the force protection coordinator include:

a. Developing plans for detecting and countering asymmetric attacks by any type of swimmers, surface craft, subsurface craft, or aircraft in the assault area.

b. Establishing threat thresholds for increasing or decreasing the ATF's asymmetric attack readiness posture.

c. Coordinating search and attack procedures with warfare commanders and IUW forces.

2. IUW forces are trained and equipped to conduct this mission from shore- or sea-based locations and may be designated as the AADC.

0922 Inshore Undersea Warfare Forces

1. The mission of inshore undersea warfare (IUW) forces is to utilize the capabilities of surveillance and intelligence assets coupled with an organic command, control, and communications capability to detect, localize, and report surface and subsurface activity within a specific area of responsibility. The organic command, control, and communications capability allows IUW forces to interact with the ATF or warfare commanders where the shallow-water environment in the AOA precludes the effective use of deep-water assets. The purpose of IUW forces is to:

a. Provide surface and subsurface surveillance in AOAs, harbours, approaches, and roadsteads.

b. Detect, identify, and track high-speed surface craft and hostile submarines.

c. Detect asymmetric threats from items such as lightly armed small boats, midget submarines, and improvised underwater explosive devices.

d. Collect and disseminate visual, acoustic, and electromagnetic intelligence data.

e. Support surface or airborne mine countermeasure operations.

f. Provide command, control, and communications assets to tactical commanders.

g. Provide navigation data to afloat units.

h. Control ship movements within harbours/anchorages.

2. IUW forces are deployed by air, land, or sea means. These forces are organized into tactical elements with an IUW group providing the OPCON for IUW units. IUW forces can interface with national or NATO tactical units to identify, localize, and neutralize hostile contacts by employing high-speed surface craft or tactical aircraft in offensive roles.

3. **Capabilities.** IUW units operate afloat or ashore from a self-contained equipment shelter with the following capabilities:

a. Surface search radar with a 24-nm range.

b. Passive acoustic detection using sonobuoys.

c. Satellite, voice, and teletype encrypted communications.

SECTION V — ELECTRONIC WARFARE

0930 Introduction

This section addresses the concept, responsibilities, and procedures for the conduct of electronic warfare (EW) in support of amphibious operations. AJP-3.6, Allied Joint Electronic Warfare Doctrine, provides additional guidance on joint EW. ATP-1 Volume I and ATP-31 describe procedures for maritime EW.

0931 General Electronic Warfare Responsibilities

1. Commanders are responsible for the planning and conduct of all operations required for the protection of their forces, including necessary EW measures. CATF is responsible for EW planning from the time of issue of the initiating directive until termination of the operation. The CLF is responsible for the conduct of LF electronic warfare operations ashore, subject to the overall authority of CATF within the AOA. CATF, where appropriate, will coordinate his EW plans with the relevant NATO area commander.

2. Commanders of forces operating within the AOA, but who are not a part of the ATF, and commanders of other maritime forces which pass through, but do not conduct operations within the AOA, will coordinate their EW plans and operations with CATF to avoid mutual interference.

3. The commander exercising overall operational control over amphibious forces and forces supporting an amphibious operation will provide:

a. Directions for the conduct of EW related to, or in support of, the amphibious operation.

b. Coordinating instructions for the ATF, area or host nation commanders, and commanders of other forces directly or indirectly supporting the operation. Specific instructions will be required for:

(1) Electronic warfare support to the ATF.

(2) Availability of friendly EW resources, with tasking authorization and procedures.

(3) Command relationships of supporting EW forces.

(4) Special communications support resources.

(5) A theatre emissions policy.

(6) Designation of responsibilities for the development of subordinate and supplementary plans and operation orders.

0932 CATF Electronic Warfare Responsibilities

1. CATF will assume responsibility for EW plans and operations conducted in support of the mission assigned in the initiating directive. He will coordinate his EW plans and operations with other commanders who are providing support but are not assigned to the ATF.

2. CATF will establish an electronic warfare coordination cell (EWCC) and designate an electronic warfare coordinator (EWC) to plan, execute, and coordinate ATF electronic warfare operations.

0933 CLF Electronic Warfare Responsibilities

1. Subject to the overall authority of CATF within the AOA, CLF is responsible for the conduct of LF electronic warfare operations ashore. CLF may require that coordination of EW operations be retained afloat or transferred to an appropriate HQ ashore.

2. CLF will designate the LF electronic warfare officer (EWO). He will be responsible for EW input into LF operation plans and orders and for the coordination and control of EW operations ashore. The LF EWO will coordinate closely with the ATF EWC.

3. The LF signals intelligence officer (SIO), if designated, is responsible for the coordination and management of ESM assets assigned to support the LF once EW control is transferred ashore. The LF SIO will coordinate closely with all other ATF and LF electronic warfare officers and with EW liaison officers.

0934 Electronic Warfare Responsibilities of Commanders Supported by Amphibious Forces

Commanders receiving support from or planning for amphibious reenforcement including EW resources should:

1. Establish an EWCC to develop a plan for the employment of their total EW resources.

2. Exchange information with CATF and CLF at the earliest possible opportunity concerning:

   a. Mutual EW support and EW force capabilities.

   b. Friendly and enemy EOB.

   c. Communications support arrangements.

   d. Augment EWCC with liaison officers from the ATF.

   e. Provide EW support to elements of the amphibious force, as required.

0935 ATF Electronic Warfare Coordination Cell

1. An ATF electronic warfare coordination cell will be established in the flagship, under the direction of the ATF EWC, to facilitate planning, coordinating, monitoring, and directing assigned EW assets. The EWC will coordinate with other warfare specialists within the ATF and LF on matters of common operational interest. When the LF moves ashore, the naval component of the ATF EWCC will continue to function on board the flagship in support of CATF and CLF. CATF and CLF must ensure that supported commanders are provided with necessary liaison officers to augment their EWCCs.

2. In some instances, CATF will designate an ATF tactical electronic warfare coordinator (TEWC). The TEWC is responsible for the coordination and management of EW operations against communications emitters until EW control is passed ashore. These duties are vital to assist the ATF EWC since communications emitters become of increased interest on approaching the AOA. The TEWC will coordinate with the ATF EWC, LF electronic warfare officer, LF signals intelligence officer, and EW liaison officers.

3. The ATF EWCC, normally collocated with the CATF in the flagship, should be organized to carry out but is not limited to the functions listed below:

   a. **Planning:**

      (1) Prepare EW aspects of operation plans, orders, and databases, including recommendations on EW ROE and NATO precautionary system (NPS) measures.

      (2) Make recommendations to the commander on tasking the component commanders to provide EW support, as required.

      (3) Identify requirements for intelligence support to EW operations.

(4) Plan the implementation and enforcement of EMCON and communications security (COMSEC) policies for the rehearsal, pre-assault (including advance force operations), and action phases. These policies in amphibious operations must be carefully coordinated with ATF and LF staff elements.

(5) Develop a restricted frequency list to control EM spectrum usage and prevent unintentional interference.

b. **Coordinating:**

(1) Coordinate the activities of joint and single service EW components to include land area or host nation commanders and other ATF coordination cells (e.g., TACC, SACC).

(2) Coordinate administrative, logistic, and communications support to EW resources.

(3) Recommend EW targets supporting the command and control warfare plan.

(4) Coordinate and prioritize requests for EW support.

(5) Coordinate EW mutual support.

(6) Maintain a comprehensive EW data base.

(7) Assign EW responsibilities to the advance force commander.

(8) Be prepared to reassume control and coordination of LF EW assets if required.

c. **Monitoring:**

(1) Ensure that all possible sources of EW information are exploited.

(2) Ensure timely dissemination of EW-derived data including tactical EOB updates.

(3) Assist the commander in assessing the effects of hostile and friendly EW as part of the command and control warfare operations plan.

(4) Maintain a current assessment of EW resources. This should include expendables such as chaff, decoys, and jammers.

d. **Directing:**

(1) Allocation of EW resources.

(2) Implementation of EW plans.

(3) Supervision of EW procedures.

(4) Supervision of force EPM, including revising the EMCON policy.

4. Manning levels, commensurate with the scale of EW operations being conducted, should include the following personnel:

a. ATF EWC.

b. LF EWO.

c. ATF TEWC (if designated).

d. LF SIO (if designated).

e. EW liaison officers from the area and/or host nation commander being supported by the amphibious operation.

f. Liaison representatives from major EW units.

g. Contact officers for intelligence, communications, and C2W, as required.

5. The EWCC needs to be located in a secure area suitable for the handling and storage of sensitive intelligence material but within proximity to operations, C2W, intelligence, and CIS staffs. In order to effectively communicate with EW units and other EWCCs, the EWCC needs access to approved CIS systems (e.g., automatic data processing (ADF), secure voice, facsimile, and data transmission).

0936 Landing Force Electronic Warfare Coordination Cell

1. The LF EWCC is activated upon transfer of control ashore. The LF EWCC performs similar functions to those of the ATF EWCC for EW assets assigned to the LF. Its principal additional functions include:

a. Coordination of EW operations with intelligence activities, scheme of manoeuvre, plans for supporting arms, and other LF activities.

b. Advising CLF regarding disruption of enemy communication circuits through jamming or destructive attack or exploitation for their intelligence value.

c. Coordination with the ATF EWCC and other EW organizations, as required.

2. The LF EWCC is a task-organized staff element, the size and composition of which should be determined by the level of EW operations to be conducted and the requirements of the commander. It should normally include the following personnel:

a. LF EWO.

b. LF SIO (if designated).

c. Air EW officer, when EW aircraft are assigned in support of land operations.

d. EW liaison officers from the area or host nation commander and from EW units operating with the AOA.

e. Contact officers for operations, communications, and intelligence matters when required.

0937 Operations

1. Introduction. To achieve maximum combat advantage from EW exploitation of enemy communication and non-communication systems, EW support to CATF/CLF must be provided throughout all phases of amphibious operations. The planning, embarkation, rehearsal, movement, and action support required from the ATF EWC/ATF TEWC is covered in the following paragraphs.

2. Planning Phase

a. During this phase of the operation the following EW support functions are conducted:

(1) **Threat Determination.** The threat to the ATF during movement to the AOA, amphibious assault, and withdrawal of the ATF from the AOA must be determined. EW planning must be consistent with the military objectives of the ATF and the size, composition, and capabilities of enemy communication and non-communication emitters.

(2) **EW Asset ID.** CATF, CLF, and allied EW assets required to accomplish the mission based on the threat must be identified. EW liaison officers can provide assistance in determining assets that can be made available.

b. **Requests for EW Support**

(1) The ATF and LF operation orders must contain specific instructions on the procedures to request EW support from resources within or external to the ATF and on EWCC actions required to coordinate or process these requests.

(2) Units will prioritize their requests as follows:

(a) **Alpha.** The probability exists that losses may be prohibitive or probability of mission accomplishment is marginal unless EW support is provided.

(b) **Bravo.** Lack of EW support may hinder the success of the mission but will not necessarily force its cancellation. There is a significant probability that, without EW support, losses will be higher.

(c) **Charlie.** EW support will enhance the likelihood of mission success but is not essential to it; however, without support, losses may be higher.

(3) ECM requests from tactical land units are to be sent to the LF HQ by secure means and via the appropriate command structure. The minimum information required is:

(a) Target unit (or sufficient information to identify target).

(b) Priority (Alpha, Bravo, Charlie).

(c) Target location.

(d) Time required (start and stop times Greenwich Mean Time (GMT) or "on call").

(e) Tactical operation to be supported.

(f) Desired results of ECM.

c. **NEDB.** The NEDB, covering NATO and non-NATO non-communication emitters, is the only common EW database available to all units and commands. The NEDB spot number system should be used for referring to and reporting emitters.

3. Embarkation Phase

a. CATF's and CLF's EW personnel will be integrated in the ATF flagship to provide cross-training during the transit phase.

b. CATF and other responsible commanders in the embarkation area will prescribe, coordinate, monitor, and enforce appropriate EMCON and COMSEC policies.

c. Upon embarkation operators must be briefed on:

(1) Tactical objectives of the operation.

(2) Anticipated hostile signals environment (i.e., C2W plans, etc.).

(3) Technical materials and assistance available.

(4) Reporting procedures and information flow, both internal to the ship and external.

(5) Activity indicators (friendly and hostile).

4. Rehearsal Phase

a. All EW activities conducted during this phase should reflect those to be employed in the assault. When hostile monitoring of the ATF is likely, measures must be taken to detect unauthorized radiations from within the force and violations of COMSEC.

b. EW plans and procedures will be refined as necessary, based on analysis of the conduct of the rehearsal.

c. The shift of EW responsibility to the LF EWC should be rehearsed along with all other aspects of the landing.

5. Movement Phase

a. During movement to the objective area, CATF retains responsibility for all employment of EW in the ATF.

b. TF EW assets will be employed against air and maritime threats. Employment of all EW resources in a combined carrier/ATF group will be coordinated by the combined battle group EWC. As the ATF approaches the AOA, and during advance force operations, ATF EW resources should be increasingly directed toward the exploitation of land and maritime emitters in the area of operations.

c. Units must be prepared to conduct ECM operations in accordance with the operation order, or as directed.

d. Continued employment of appropriate EMCON and COMSEC procedures will work with other aspects of the deception plan to ensure surprise by denying intelligence to the enemy.

6. Shaping Operations

a. Responsibility for advance force operations, including supporting EW operations, is vested in CATF. Certain specific EW responsibilities are normally delegated to the advance force commander as outlined below:

(1) Advance forces may employ air, maritime, and land EW resources to determine enemy EOB and emitter locations within the AOA. Information thus collected is to be reported to CATF to supplement intelligence concerning the objective area.

(2) The advance force may use ECM for self-protection and protection of other friendly forces. CATF should be informed as soon as practicable of all friendly or enemy use of ECM, either en route to or at the objective area.

(3) Tactical deception operations conducted by the advance force may contribute significantly to the overall success of the amphibious operation.

b. During this phase, EW aircraft should be employed to update enemy EOB. Operating along the periphery

of enemy positions near the AOA will allow location of new and previously mapped emitters and determine the coverage and characteristics of each enemy emitter.

7. Action Phase

a. During the action phase, control of EW operations passes through three stages:

(1) Control by CATF from the Flag Ship. During this stage, CATF should coordinate with CLF on all EW matters.

(2) Transition. Transfer of control and coordination of LF EW operations to CLF, area, or host nation commander designated during planning.

(3) Control by CLF or Designated Commander from His HQ. CLF will continue to coordinate with CATF on all EW matters not purely affecting operations ashore. CATF's EW assets will continue to support CLF's requirements until withdrawal from the AOA.

b. The necessary conditions for the transfer of control and coordination ashore are:

(1) The LF EWCC is established ashore and has satisfactory communications with the ATF EWCC and with the EWCC of the area or host nation commander, as appropriate.

(2) That CLF is satisfied that he can execute his EW mission.

c. Concurrence by CATF, CLF, and the area or host nation commander must be received to complete transfer of control ashore. This will normally be in conjunction with the transfer of responsibility for the AOA to the CLF.

8. Withdrawal of ATF Units. Once control of all LF EW assets has been phased ashore, maritime EW assets will continue to support the LF EW effort whilst in the (former) AOA.

9. Subsequent Operations Ashore. EW operations, upon termination of the amphibious operation and during subsequent operations ashore, will be conducted in accordance with ATP-51, Electronic Warfare in the Land Battle.

0938-0939 Spare

SECTION VI — NUCLEAR, BIOLOGICAL, AND CHEMICAL

0940 Operations in NBC Environments

1. AJP-3.8, Allied Joint Doctrine for NBC Defence, should be referred to as the over-arching publication. The employment or threat of NBC weapons and other toxic materials poses unique challenges when conducting amphibious operations. NBC-capable nations, including many developing nations, may use these weapons to achieve political and military objectives. The NBC threat occurs across the full range of military operations, including crisis response operations (CROs). Improvements in missile technology that increases the range and precision of NBC weapons and the use of mines and barriers to canalise or impede the AF may make it vulnerable to attack. These trends require CATF/CLF to consider the challenges posed by NBC weapons when conducting amphibious operations. There should be a clear understanding of the potential NBC threats, and planning should include plans to minimize ATF vulnerabilities. Defence against NBC weapons includes a combination of intelligence concerning the capabilities and limitations of the enemy, detection and destruction of his delivery systems, and defence measures which will reduce the effect of enemy NBC weapons.

2. CATF is responsible for planning NBC defence measures for the ATF.

3. CLF is responsible for determining and prescribing the active and passive NBC defence measures required for the LF. He then presents to CATF those requirements for active defence measures which should be provided by other forces.

4. **The Components of NBC Defence.** NBC defence is divided into 5 enabling components. The foundations for these components are established prior to operations by the development of appropriate NBC policy, doctrine, equipment, procedures and training. The 5 components are: (See AJP-3.8 for a detailed description of each component.)

a. **Detection, Identification and Monitoring.** These are needed to detect and characterise NBC events, identify the agents and hazards, delineate areas of contamination, and monitor the changes.

b. **Warning and Reporting.** These aid the rapid collection, evaluation and dissemination of data concerning NBC attacks and hazards, including the prediction of hazard areas.

c. **Physical Protection.** Individual and collective protection (COLPRO) are required so that personnel can survive NBC attacks or release other than attack (ROTA) and continue to operate in an NBC hazard environment. Measures to protect equipment are also included.

d. **Hazard Management.** This is needed to limit the operational impact of NBC hazards. Hazard management is based on the principles of pre-hazard precautions and hazard control through avoidance, control of spread, exposure control and decontamination.

e. **Medical Countermeasures and Support.** These are needed both to diminish the susceptibility of personnel to NBC hazards and to treat and evacuate casualties. It includes the treatment and evacuation of conventional casualties in an NBC environment.

0941 Preparation of the NBC Defence Plan

1. **General.** Provisions for active and passive defence against NBC weapons are included in OPLANs.

a. Planning offensive and defensive actions taken by the ATF to minimize the vulnerability to and mitigate the effects of NBC attacks that may impact on the operational area to include the development of branches and sequels.

b. The ATF's planning process must address the capabilities and limitations of an adversary's NBC weapons and delivery systems, their C2 and release procedures, and indicators of intent to employ NBC weapons. The CATF/CLF should provide target planning and execution guidance using the full extent of actions

allowed by the ROE based on the effects needed to be achieved against the adversary's NBC weapons, delivery means, and C2 capabilities.

2. **Active Defence.** In general, the active protective measures which are employed in defence against enemy attack are supplemented for nuclear and chemical defence by plans to:

a. Employ shaping forces or conventional weapons to eliminate the enemy nuclear and chemical capabilities.

b. Destroy enemy launching sites.

c. Increase AD measures.

d. Increase air and ground reconnaissance.

e. Increase COMSEC measures, including the use of countermeasures.

3. **Passive Defence.** Passive protective measures used against other weapons give only partial protection against NBC weapons. Greater emphasis must be placed on unit separation, dispersion, mobility, warning systems, detection systems, protective clothing and equipment, and decontamination systems. Increased mobility during the ship-to-objective movement will allow for greater unit separation and will provide for greater passive defence against NBC weapons. In addition, provisions are made for:

a. Training and indoctrination of personnel.

b. Individual protection.

c. COLPRO.

d. Distribution of trained NBC defence personnel.

e. Decontamination of personnel, equipment, supplies, and terrain.

f. An adequate air radiological monitoring system.

g. Creation of NBC salvage units.

h. Plans for handling mass casualties, including employment of mass evacuation units.

4. **NBC Defence Plan.** An NBC defence plan is prepared when the risk level is suspected or higher. Some of the factors considered in developing this plan are:

a. Developing an alternate landing plan to exploit landing craft, air cushion (LCAC) and helicopter speed and manoeuverability to avoid contaminated areas.

b. Identifying alternate landing areas to take advantage of prevailing wind conditions.

c. Utilizing a sea echelon for ATF dispersal.

d. Reducing the number of exposed personnel on ships and craft to the minimum number to sustain the assault.

e. Establishing decontamination teams for the boat group and shore party to conduct personnel and equipment decontamination and monitoring.

f. Promulgating prophylaxis procedures for nerve agent pre-treatment medicinals.

g. Identifying casualty receiving triage ships (CRTSs) to receive contaminated helicopters, landing craft and troops needing decontamination.

h. Establishing procedures in the medical regulating (MEDREG) plan to decontaminate casualties during triage.

i. Establishing permissible levels of NBC contamination.

j. Designating areas where the residual contamination prohibits access or access is permitted on a controlled or non-stop basis only.

k. Defining COAs for NBC threat levels Zero, Low, Medium, and High for the following situations: before scheduled waves have landed, while the ship-to-objective movement is in progress, and during general unloading. COAs are developed for each warning condition for:

(1) The transport group.

(2) NGS ships.

(3) Landing craft.

(4) Helicopters.

(5) Beach party team/shore party team.

l. Figure 9-5 provides an example of NBC defence instructions that may be implemented when threat level medium is set. ATP-1, Volume I, provides additional instructions.

	Threat Level Medium (NBC Attack Probable)
Transport Group	1. Continue operations as scheduled, unless otherwise directed.
Surface Fire Support Ships	1. Continue NGS operations as practicable and as directed by commander, gunfire support group.
Individual Ships	1. Seal interior spaces to as great an extent as possible. 2. Get underway. 3. Reduce exposed topside personnel to a minimum consistent with operations in progress. 4. Don chemical protective suits and masks. 5. Continue operations as scheduled, unless otherwise directed.
Landing Craft	1. Continue operations as scheduled. 2. If transports sortie, remain in vicinity of primary control ship.
Control Group	1. Continue operations as scheduled unless otherwise directed.
Helicopters	1. Continue operations as scheduled unless otherwise directed.

Figure 9-5. Example of NBC Defence Instructions

0942 Conduct of NBC Defence

1. **Control Centres.** The NBC control centre forms the hub for all NBC defence operations. The control centre monitors and coordinates all NBC defence operations. It is also responsible for collecting, collating, analysing, and disseminating all NBC-related information. NBC information may come from many different agencies or units. As a general rule, NBC information gathering focuses on early warning of NBC attacks, locations of contaminated areas, decontamination sites, and routes from contaminated areas to decontamination sites. These agencies perform the following functions for their respective commanders:

a. Collection, recording, and evaluation of monitoring and casualty data.

b. Control of monitoring teams.

c. Supervision of decontamination installations.

d. Advice to commanders on NBC defence matters, including the determination of ground zero, the execution of special ship-to-objective movement provisions, and rescue and salvage operations.

e. Analysis of friendly positions and areas.

2. **ATF/LF NBC Defence Officer.** The duties and responsibilities of ATF/LF NBC officers are determined by the unit level of assignment. In the broadest terms, their primary concern is the establishment of passive NBC defensive measures. These unit NBC officers:

a. Advise the commander on NBC defence readiness.

b. Advise the commander on operational exposure guidance.

c. Prepare the NBC defence plans, orders, and instructions necessary to implement the commander's policies. This includes SOPs for NBC defence, NBC orders and annexes, and NBC inspections.

d. Determine and recommend requirements for NBC supplies and equipment.

e. Estimate personnel, equipment, and supply requirements to support the NBC defence.

f. Coordinate and develop NBC defence training exercises.

g. Evaluate unit NBC defence readiness.

h. Supervise operation of the NBC control centre.

i. Conduct and supervise NBC equipment inspections.

j. Provide recommendations for the training of the command and for the training of NBC specialists.

k. Provide technical assistance in the examination of captured NBC equipment.

l. Plan and make recommendations for decontamination functions.

m. Perform other duties as directed.

0943-0949 Spare

SECTION VII — ENGINEERS

0950 General

Engineer support to the LF is essential to the success of initial landings and subsequent operations. Extensive reconnaissance is required throughout and massed engineer effort is especially required to ensure mobility for breakout operations.

0951 Planning

During the planning process the LF engineers are engaged as follows:

a. **Engineer Staff Advice to CLF.** The LF senior engineer is in CLF's mission analysis and estimate group providing engineer specific advice throughout.

b. **Terrain Analysis With Intelligence Staff.** Specialist geospatial advice and products can be produced to support the intelligence preparation of the battlespace process as well as staff expertise for terrain analysis.

0952 Embarkation

Engineer equipment such as plant is frequently large and heavy and the engineer resources required to sustain engineer operations are bulky and difficult to move. Careful thought needs to be given to their location and stowage on board amphibious shipping so that access is assured to key engineer mobility assets that will be required in the early stages of a landing.

0953 Tasks

The LF will require the full spectrum of combat engineer support: mobility, counter mobility, sustainment and survivability including explosive ordnance disposal (EOD). Many of these tasks are in common with the land component's engineers but some are specific to amphibious operations:

a. **Initial Landings.** Combat engineer effort to clear beach obstacles, defences and mines and to construct or improve beach exits and holding areas. The most important task for engineer effort is to create passage across the beach and exploitation inland for the LF.

b. **Subsequent Operations.** As the force moves inland, the full range of engineer tasks is likely to arise in both forward and rear areas. Engineer support may be required to improve and maintain lengthening lines of communication. Focus in the rear area will switch to sustainment. Key tasks include: the provision of bulk potable water from a salt or brackish source; the provision of tactical fuel handling equipment and enabling the ship to shore offload of fuel; establishment of forward operating bases (FOBs)/forward arming and refueling points (FARPs) and helicopter landing sites (HLSs) for the aviation supporting the LF.

0954 Organization

LF engineers are light role in nature with a smaller footprint than their land component counterparts. They will be configured for combat support engineering[2] and will typically be focused on mobility and sustainment for expeditionary type operations. They will have only a minimal capability for force support engineering[3] without augmentation from the land component.

---

2. Combat support engineering encompasses those military engineer tasks associated with direct support to current or imminent operations. Each component will have engineer assets providing this support and will usually be organic to that component.
AJP-3.12 Joint Engineering

3. Force support engineering encompasses the deliberate, longer-term preparation for, and indirect support to ongoing or future operations as well as those military engineering tasks associated with the provision of life-support infrastructure and sustainment for the joint force throughout all stages of an operation.
AJP-3.12 Joint Engineering

a. **Command and Control.** LF engineer element requires robust command and control capable of taking under command other component and other nation engineer assets during and after an amphibious operation. The joint force engineer[4] can switch engineer assets between components in line with the JFC's main effort.

b. **Sustainment.** LF engineers capability for sustainment rests with the second- and third-line logistic elements of the ATF including stocks on ship and will be configured differently to the land component engineers because of the unique need in amphibious operations to build up combat power rapidly from an initial zero capability.

4. The joint force engineer (JFEngr) is the principal engineer advisor to the JFC on all military engineer issues. Although he will not act as a commander but as a staff adviser, he will, on behalf of the JFC have coordinating and technical authority over the employment of engineer assets throughout the JF, in order to ensure capabilities and resources are used most effectively.

CHAPTER 10

Logistics Operations

1001 General

1. **Logistics.** Logistics is the science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, logistics includes those aspects of military operations that deal with:

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

b. Movement, evacuation, and hospitalization of personnel.

c. Acquisition or construction, maintenance, operation, and disposition of facilities as well as equipment, weapon systems, and transportation assets.

d. Acquisition and delivery or furnishing of services.

2. **Combat Service Support.** CSS involves the essential logistic functions, activities, and tasks necessary to sustain all elements of operating forces in the AOA. At the tactical level in amphibious operations, CSS includes but is not limited to that support rendered by service troops in ensuring the operational and tactical levels of supply, maintenance, transportation, engineer, health services, and other services required by the amphibious force.

3. **Terms.** This chapter addresses both the external logistic support provided to the amphibious force and the narrower focus of CSS of forces operating within the AOA. Differing primarily in the point of application, the two terms essentially have the same broad meaning, and therefore will be referred to as "logistics" except where distinction is necessary.

1002 Logistic Planning Responsibilities

Amphibious force commanders have specific and often complementary logistics planning responsibilities as listed below:

1. **Commander, Amphibious Task Force.** The CATF is responsible for the following:

a. Coordination of logistic requirements for all elements of the ATF.

b. Determination of requirements that can be met by internal resources. Those which cannot are directed to the maritime component commander (MCC).

c. Establishing priorities and allocating resources to meet the logistic requirements of the ATF.

d. Notification of appropriate responsible agencies early in the planning phase of any unusual requirements or special supplies or equipment needed.

e. Providing the means required for the establishment and operation of a logistics system in the designated AOA.

f. Development of plans for handling enemy prisoners of war and civilian evacuees and internees.

g. Development of the overall plan for health service support, including evacuation of casualties.

h. Preparation of the logistics annex to the OPLAN.

i. Determination of the overall logistic requirements of the force assigned.

j. Determination and allocation of the means to meet the logistic requirements of the forces assigned.

k. Ensuring the promulgation of the overall schedule to include plans for the assembly of shipping at points of embarkation.

l. Review and approval of embarkation and loading plans.

m. Ensuring the organization of assigned shipping into echelons as necessary for continued support of the landing force OPLAN.

2. **Commander, Landing Force.** The CLF is responsible for the following:

a. Determination of overall logistic requirements of the landing force, including units, special equipment, and shipping.

b. Determination and allocation of the means to meet logistic requirements of the LF.

c. Determination of logistic requirements that cannot be met by the LF and submission of these requirements to the supported commander, CATF, or designated commander as appropriate.

d. Development of plans for assembly of supplies and equipment to be embarked, including the supplies and equipment of other assigned forces for which the LF is responsible.

e. Preparation of the LF embarkation and ship loading plans and orders, in coordination with the CATF.

f. Planning for the coordination of logistics required by all elements of the LF.

g. Planning for the conveyance and distribution of logistics required by the LF.

h. Preparation of the logistics annex to the LF OPLAN.

3. **Other Commanders.** Other designated commanders of the amphibious force are responsible for determining their logistic requirements and submitting to the CATF or appropriate commander.

1003 Logistics Planning Considerations and Factors

The requirement for afloat forces to provide seamless support to the LF during the period in which its logistics system is primarily seabased has a significant influence on logistic planning for an amphibious operation. Like all logistic systems, the amphibious force logistic systems must be responsive, simple, flexible, economical, attainable, sustainable, and survivable. Development of effective logistic systems must take into account the planning considerations and factors listed below.

1. **Planning Considerations:**

a. Orderly assembly and embarkation of personnel and material based on anticipated requirements of the LF scheme of maneuver ashore.

b. Establishment and maintenance of a logistic system in the AOA that will ensure adequate support to all elements of the amphibious force and subsequent support of base development and garrison forces as directed.

c. Impetus of logistic support from sea, or the communication zone, and directed forward to the point of application at the using unit.

d. Preservation of tactical security during logistic planning. Nonsecure logistic planning can compromise tactical surprise and landing locations.

2. **Planning Factors:**

a. Character, size, and duration of the operation.

b. Target date.

c. Objective area characteristics:

(1) Terrain and hydrography.

(2) Climate and weather.

(3) Distance from support bases.

(4) Local populace support.

(5) Facilities available.

(6) Transportation systems.

(7) Local resources.

(8) Throughput capacity.

d. Enemy capabilities:

(1) Freedom from interference.

(2) Vulnerability to enemy.

e. Strength and composition of landing force.

f. Distribution means.

g. Lines of communications (LOC) and transportation networks.

h. Support base resupply.

i. Progressive increase in level and form of logistics.

j. Support required for enemy prisoners of war.

k. Depth of logistic systems.

l. Compatibility and capability of logistic systems.

m. Communications means.

n. Base defence and garrison plans.

o. Requirements for rehabilitation or construction of airfields.

p. Impact of weapons of mass destruction.

q. Availability of assault echelon and assault follow-on echelon shipping.

r. Indigenous health risks and prevalent diseases.

1004 Logistic Planning Sequence

Logistic planning begins with receipt of the order initiating the amphibious operation. Planning must be coordinated and proceed concurrently with operations planning during development. Although the major steps overlap, they will usually be accomplished in the following sequence:

1. The CATF and CLF determine overall logistic requirements for the ATF and LF components of the amphibious force.

2. Other designated commanders in the amphibious force determine their logistic requirements and submit those requirements that cannot be met internally to the CATF or as directed by the establishing authority.

3. If logistic requirements are insufficient within the amphibious force, affected commanders will have to adjust plans as appropriate or request additional support from higher authority.

4. The CATF, CLF, and other designated commanders formulate logistic plans.

1005 Logistic Plans

Logistic matters in an amphibious operation that affect only one element of the force are prepared by that individual element. The remainder of this chapter addresses logistic and CSS plans concerning more than one element of the force that require a certain degree of coordination.

The necessity to provide continuing and coordinated logistics to the LF when its logistic system is primarily sea-based requires coordination between the amphibious force commanders to develop a control and delivery system that will ensure that the LF is provided the necessary support from embarkation through rehearsal, movement, action, and continued operations ashore. Wherever possible, sustainment planning should encompass the concept of direct ship-to-user delivery.

Logistic planning is accomplished under two major categories: initial supply and sustainment.

1. **Initial Supply.** Initial supply comprises the logistic levels carried as accompanying supplies in assault shipping, both AE and AFOE, to provide required initial support for the assault landing and initial operations ashore. Plans for initial supply include the following:

a. ATF provisions for:

(1) Loading ships with supplies to prescribed levels as much as practical considering the embarkation of troops.

(2) Rations for LF while embarked.

(a) Special facilities required for refueling and maintenance of aircraft, landing craft, amphibious

vehicles, and other equipment as well as fuel for boat pools, beach groups, transportation pools, and other ashore components.

(b) Water for the LF ashore until supply from sources ashore is available.

(c) Ammunition for the LF ashore.

(d) Medical Role 1 capability and evacuation back to amphibious shipping.

(3) LF provisions for:

(a) Assembly and loading of supplies to be landed with the LF in such a manner as to ensure availability for issue before and during debarkation.

(b) Establishment of prepositioned emergency supplies (floating dumps) containing limited amounts of selected supplies for emergency issue.

(c) Establishment of selected prestaged supplies for ship-to-shore movement by air.

(d) Selective discharge of required supplies in accordance with the landing plan.

(e) Positive and efficient control of the movement of supplies from ship to desired locations ashore.

(f) Establishment of logistic nodes ashore and the distribution of supplies to forward units.

2. **Sustainment.** Sustainment comprises logistic support transported to the landing area or objective area in follow-up shipping and aircraft to support tactical operations ashore.

a. Methods. Sustainment is provided through either one or a combination of the following systems:

(1) Maintaining shipping and aircraft in an on-call status to be ordered into the landing area by the CATF, as requested by the CLF.

(2) Establishing fixed schedules for bringing shipping or aircraft into the landing area automatically as planned by the CLF.

b. Factors. Factors affecting sustainment decisions depend primarily on:

(1) Distance between the landing area and the loading points.

(2) Availability of forward sheltered ports or anchorages for use as regulating stations.

(3) Requirement for convoy escort.

(4) Availability of aircraft dedicated for sustainment lift.

(5) Hostile activity on the LOC.

(6) Plans for civil engineering support, including facilities required to accommodate supplies and the phase-in of the LF units to handle supplies.

(7) Availability of manpower, material handling equipment, and lighterage to offload shipping.

(8) Availability of joint logistics over the shore resources.

3. **Preparation of Plans.** Logistics plans are prepared by the CATF, CLF, and other designated commanders of the amphibious force and include the following:

a. Primary source of supply and responsibilities.

b. Levels of supply to be carried in the AE, AFOE, and follow-up shipping.

c. Control and distribution of supplies.

d. Plan for landing supplies.

e. Resupply responsibilities, schedules, and sources.

f. Air delivery responsibility, procedures, and methods.

g. Captured material disposition instructions.

h. Salvage instructions.

i. Retrograde.

j. Casualties.

1006 Embarkation and Loading Plans

See Chapter 4 for specifics on these plans.

1007 Health Service Support Plans

The health service support (HSS) plan is usually issued as an annex of the OPLAN. It provides for HSS to all elements of the amphibious force in accordance with the foregoing responsibilities.

1. **Medical Regulating Plan.** This plan contains policies and procedures for evacuation and primary medical regulation of casualties to designated casualty receiving and triage ships in the landing area by medical evacuation aircraft or by surface craft and provides for medical services. It also provides secondary medical regulating evacuation of casualties by air to surgical treatment onboard ship, medical treatment facilities outside the AOA, or to national medical facilities.

2. **Planning Responsibilities:**

a. The maritime component commander is responsible for overall preparation of plans, taking into account the following:

(1) Coordinating, with the JFC or establishing authority, patient evacuation by sea or air from the operational area to HSS facilities outside the area.

(2) Air transport of HSS supplies and equipment, which may involve intra-theater airlift assets.

(3) Formulation, in conjunction with amphibious force commanders, of a recommended evacuation policy for the operation.

(4) Establishment of HSS requirements and standards for the civilian population in the AOA, when not prescribed by higher authority.

(5) Development of procedures for regulating movement of casualties and patients within the landing area in conjunction with amphibious force commanders.

b. The CATF is responsible for the following:

(1) Provision for HSS services to include all embarked personnel between points of embarkation and the objective.

(2) Provision for HSS personnel, supplies, and equipment for all units based ashore and not attached to the LF.

(3) In conjunction with the CLF, development of a procedure for movement of patients within the landing area.

(4) Seaward evacuation from the beach, including communications to support movement of patients, receipt of patients, hospitalization afloat within the operational area, and initial casualty reporting for the ATF, LF, and other forces assigned.

(5) Establishment of HSS requirements for the civilian population in the objective area, when not prescribed by higher authority.

(6) Coordination of HSS for the civilian population with nongovernmental organizations (NGO) and coalition forces.

(7) Positioning and employment of hospital ships within the AOA.

c. The CLF identifies and coordinates LF HSS requirements with the CATF. Once command is passed ashore, close coordination with the CATF is still required. The CLF is responsible for preparation of plans, taking into account the following:

(1) Providing HSS to LF personnel before embarkation.

(2) Assistance to ship's HSS department by providing HSS personnel to care for LF personnel while embarked.

(3) Development, in conjunction with the CATF, of the evacuation policy for the operation.

(4) Execution of the patient movement plan to the rear and from the AOA as directed.

(5) Providing HSS to all personnel ashore in the AOA who are not otherwise provided for.

(6) Determination of the HSS requirements of the LF that must be furnished by the other amphibious force commanders and submission of the requirements to the designated commander.

1008 Landing Force Support Party Plans

1. **Landing Force Support Party (LFSP).** The LFSP is a temporary LF organization, composed of ATF and LF elements, that facilitates the ship-to-shore movement and provides initial combat support and CSS to the LF.

2. **Missions of the LFSP:**

a. Facilitate the landing and movement of personnel, supplies, and equipment across the beach into a vertical landing zone or through a port.

b. Evacuate casualties and enemy prisoners of war from the beach.

c. Beach, retract, and salvage landing ships and craft.

d. Facilitate the establishment of the joint logistic support group (JLSG) and/or the multinational logistic command (MNLC).

3. **CLF Responsibilities.** The CLF is responsible for organizing a system to accomplish this mission and other specific support functions within the landing area.

4. **LFSP Commander.** The designated commander of the LFSP controls landing support operations within the landing area. The LFSP commander ensures effective landing support through close coordination with subordinate units, timely reinforcement, and consolidation of shore party and beach party elements.

5. **Shore Party.** The shore party is the LF component of the LFSP. The nucleus for the shore party is the LF combat service support element, augmented with personnel and equipment from the landing force, air component, and JLSG.

6. **Special Attachments.** Special attachments are made as necessary to the LFSP for defence of the beach support area, to provide liaison personnel, and for specialized tasks.

7. **LFSP Plan.** The CLF and appropriate subordinate commanders prepare LFSP plans containing instructions for the functioning of the LFSP. The plan includes the following:

a. Organization and mission of the LFSP.

b. Instructions to all subordinate elements.

c. LFSP communications instructions.

d. Beach, drop zone, and landing zone defense instructions.

e. Administrative instructions.

8. **LFSP Planning Considerations.** In developing the LFSP plans, consideration must be accorded the following factors:

a. Landing force scheme of maneuver and related landing plan.

b. Enemy disposition in the landing area.

c. Mine and obstacle clearance in the landing area.

d. Landing area weather, terrain, and hydrographic conditions.

e. Requirements for multiple, separate logistic installations to provide for passive defense against weapons of mass destruction.

f. Amounts and types of supplies and equipment to be landed.

g. Types of ships, landing craft, and aircraft to be unloaded.

h. Availability of personnel and equipment for landing force support party operations.

i. Policy concerning method of handling and disposition of enemy prisoners of war.

j. Casualty evacuation and health service support regulating policies.

k. Coordination required with other agencies.

l. Provision for inter-Service support.

9. **LFSP Planning Responsibilities:**

a. The CLF is responsible for the timely activation of the LFSP and the conduct of LFSP operations; however, amphibious force elements participate in and contribute to the development of plans for its organization and employment. The CLF is responsible for the tactical employment and security ashore of all elements of the LFSP, and will integrate requirements into the fire support plan. The CLF determines and presents requirements for support of LFSP operations to the CATF. These requirements will be presented as early as possible in the planning phase.

b. The CATF is responsible for preparation of related plans that provide facilities and means to ensure effective support of LFSP operations. Examples of such plans are the pontoon causeway and lighterage plan, unloading plan, casualty evacuation plan, and EPW evacuation plan. Integrated training of shore party and beach party elements will be conducted before embarkation begins.

1009 Pontoon Causeway and Lighterage Plans

1. The CLF is responsible for presenting to the CATF requirements on which plans for pontoon causeways and lighterage support for the operation are based. The CATF prepares the pontoon causeway and lighterage plan in consultation with the CLF considering the following:

a. LF requirements.

b. Hydrographic conditions.

c. Availability of required types of sealift.

2. The plan should include details on loading, transportation, launching, initial operational assignment, and provisions for maintenance and salvage of the causeway and lighterage equipment. It also contains specific instructions for transition of control. The plan will include provisions for retaining lighterage in the area after the assault shipping departs, for use in unloading follow-up shipping, and for other support of tactical operations. The plan is published as an annex to the CATF's logistic plan.

1010 Engineer Plans

Engineer operations support the development of the battlespace for maneuver, enhance strategic and operational movement, and provide infrastructure for force protection. In addition to normal engineer operations (combat, general, and topographic), special considerations must be made for mine countermeasures and amphibious breaching, joint reception, staging, and onward movement (RSOM), integration, offshore petroleum discharge systems, and amphibious assault bulk fuel and water systems connectivity. Involvement of the engineer staff is essential in the planning and execution of all phases of amphibious operations.

1011 Advanced Base Development and Garrison Plans

Advance base development and garrison planning is carried out in accordance with directives of the JFC or higher authority and responds to requirements of the strategic plan. The CATF may be required to include in the plan provisions for initiation of civil engineering support. They are issued separately from plans for an amphibious operation. They are prepared by a level of command higher than the amphibious force commander. Pertinent extracts may be included in the amphibious force plan.

a. General Planning Considerations. Preparation of advanced base development and garrison plans is covered herein only as they influence the planning for an amphibious operation. Because of the progressive

nature of advanced base development, which may commence during the action phase and continue long after the amphibious operation is completed, a high degree of planning coordination must be achieved among the ATF, LF, logistic forces, and other supporting forces.

b. CATF Planning Considerations.

(1) Allocation of shipping from the ATF to lift advanced base development forces.

(2) Embarkation and movement of forces and equipment to the operational area.

(3) Allocation of means to control, support, and coordinate base and garrison operations during the amphibious operation.

c. CLF Planning Considerations.

(1) Plans to initiate advanced base development.

(2) Plans to coordinate, control, and support garrison operations ashore.

(3) Security measures.

CHAPTER 11

Riverine Operations

SECTION I — GENERAL

1101 Riverine Operations

1. **Introduction.** The riverine environment is an inland, coastal or delta area comprising both land and water, characterised by limited land LOC. The area is likely to have extensive water surface and/or inland waterways (including lakes) that provide natural routes for transportation and communications. It is three-dimensional, with surface, sub-surface, and air environments. Waterways serve as primary LOC and frequently constitute key terrain. To control this key terrain, forces operating in a riverine environment must be able to control all three environments. (Riverine operations are distinct from water crossing operations.)

Note

AF are not the only forces that can conduct riverine operations but, by nature of their training and equipment, they can be configured to conduct, or contribute to, riverine operations. However, a detailed mission analysis and threat assessment must always be conducted before committing AF to riverine operations to ensure that their training and equipment is suitable for the mission and threat.

2. **Amphibious Dimension:**

a. Riverine areas may be considered as an extension of the littoral and therefore offer an important conduit for the conduct of amphibious operations. They offer natural littoral penetration points and the possibility of achieving high tempo manoeuvre in a deep, close and rear operational framework, achieving operational and tactical surprise in order to attack the enemy's COG. In short, riverine operations may permit ship to objective manoeuvre — albeit in an environment which may channel movement.

b. ATFs, with their mix of naval units, surface and air movement assets, organic fire support, LF and well developed C2 arrangements may be well suited to form the core of a riverine force.

3. **CONOPS:**

a. Riverine operations seek to project power ashore by exploiting the riverine manoeuvre space. They are based on the principle of manoeuvre and should be conducted by a riverine force task organized to operate within the unique characteristics of a riverine area. A single riverine force commander with his own AOOs, appropriately supported by command, control, communications, computers, intelligence, surveillance, target acquisition and reconnaissance assets, is key to the riverine concept. The riverine force will integrate and employ various types of surface and air movement assets, specialist vehicles, weapons and appropriately trained personnel. There must be the capability to task organize the force, from the insertion of small reconnaissance teams for clandestine operations to the rapid movement of large manoeuvre units to create or exploit the enemy's critical vulnerabilities.

b. The riverine force will seek to use organic and long range fires to fix and strike the enemy from an unexpected direction. In humanitarian operations, "strike" may include the delivery of medical assistance or other aid. Riverine force mobility will be by a combination of surface and air movement.

SECTION II — COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE FOR RIVERINE OPERATIONS

1102 Command Relationships

1. The principles of C2 are defined in AJP-3 Chapter 2. A single riverine force commander functioning at the tactical level will command the riverine force within his own designated AOO. There are three options in designating the riverine force commander outlined below.

a. The JFC appoints an existing component commander (CC), dual hatted, as the riverine force commander. The JFMCC, JF Amphib CC, JFLCC, or JFSOFCC are the most likely to be suitable.

b. A component commander appoints a subordinate as the riverine force commander.

c. The JFC establishes the riverine force commander as a separate additional functional component commander in his own right. (This is the least likely option because, even if the riverine area is so significant that it dominates the landmass within the JOA, it is likely that the LCC will be dual hatted as riverine force commander.)

2. Whichever option is chosen the commander with the preponderance of riverine force assets and the best capability to directly control riverine force operations will normally be designated as the riverine force commander. He will assume TACOM of all additional riverine force elements which are not permanently under his command. The supported/supporting relationship between the riverine force commander and other components or elements of the force will be defined by the JFC.

3. The riverine force commander must coordinate with the combined air operations centre (CAOC) through the appropriate liaison to ensure proper airspace control is provided for the operation.

1103 Command and Control

1. A riverine force HQ, including staff, communications, and life support will support the riverine force commander. Where possible, appropriate staff work should be conducted at higher or rear HQs and made available to the riverine force commander through reliable CIS. The riverine force commander must be able to liaise/communicate with any supported forces. The riverine force commander requires the capability to deploy forward rapidly with a small tactical HQ element afloat.

2. Ideally the riverine force HQ should be embarked in a vessel or craft suitable for the purpose. This provides mobility, enabling the riverine force HQ to move without the need for a step up HQ, enhances protection, and reduces the logistic burden. Much of the life support requirements such as power, light, catering, and accommodation will be integral to the craft. Alternatively the riverine force HQ may be deployed ashore. This will facilitate the use of landline and static satellite ground stations. A possible solution is the use of a craft with communications vehicles embarked to provide the CIS requirement and the ability to deploy the riverine force HQ ashore.

3. Appropriately equipped small fast raiding craft, communications vehicles, and helicopters in the airborne command post (CP) role can provide the platforms for the tactical HQ.

1104 Communication and Information Systems

The CIS requirement will be characterised by the potential need to conduct riverine force operations over extended ranges. This will be complicated by the nature of riverine areas, which are usually low lying estuaries, deltas, or river valleys. Whilst the ability to deploy an afloat riverine force HQ forward may improve the problem of communicating to forward riverine force elements, this may reduce the ability to communicate to higher and flanking HQs. Afloat, shore-based or airborne re-broadcast (REBRO) facilities may have to be established. The riverine force commander will need real time access to the joint operations picture (JOP).

1005 Intelligence, Surveillance, Target Acquisition, and Reconnaissance

1. The riverine force will require access to ISTAR product, and may require its own ISTAR assets. Sensor platforms, to include sub-surface, which can be launched and recovered by organic riverine force assets, are necessary. These sensors must also possess the ability to connect to higher and adjacent elements of command in order to contribute to the compilation of the JOP. The riverine force requires the ability to see in all three mediums of the three dimensional riverine battlespace, to include an enhanced ability to reconnoitre waterways, inspect unknown vessels, and provide MCM ability without loss of initiative or tempo.

2. The riverine force commander will require access to REA to enable him to fully exploit opportunities arising in the complex riverine environment.

SECTION III — PLANNING FOR RIVERINE OPERATIONS

1106 Planning Principles for Riverine Operations

The planning tools and the estimate process described in AJP-3 equally apply to riverine operations. In addition, the principles and planning procedures for various land operations of war and types of amphibious operations should be applied in riverine operations, as appropriate.

1107 Specific Planning Factors for Riverine Operations

As well as the enemy, the factors characteristic of the riverine environment need to be considered in any IPB. The following list of such factors emphasizes the importance of REA, or other knowledge of the riverine environment.

a. **The River:**

(1) **Tidal or Non-tidal Reaches.** Craft may be trapped by falling tides or unable to proceed upriver at low water. Care will be required to prevent salt water corroding vulnerable equipment. The draft of surface craft will vary between salt water and less buoyant fresh water, which may affect performance.

(2) **Stream.** The strength and direction of the current, which may alter with the tide, will affect operations.

(3) **Water.** The nature of the water itself, which as well as salinity, includes visibility, turbidity, and waterborne disease.

(4) **Width.** The usable width of river may limit the type of craft employed. As a general principle craft should not navigate past a point where they cannot turn around quickly and easily.

(5) **Depth.** The minimum depth to be encountered will be a limiting factor for surface craft. The effects of tide and seasonal variations must be considered.

(6) **Riverbed.** The nature of the riverbed will determine if it provides good holding ground for anchorage and if it is suitable for mining. Where the depth is suitable for wading, the riverbed may not support the weight of a man or vehicle.

(7) **River Banks.** Sections of the river banks suitable to land/embark troops or vehicles need to be identified. Craft require sufficient depth of water to access the river banks. The banks may be firm, marshy, forested or inhabited, provide cover from view/fire, and include infra-structure and local resources which can be exploited.

(8) **Traffic.** The riverine force must determine what local craft use the river and how they will affect riverine force operations. Friendly or enemy forces may be able to use them. Changes in normal traffic patterns may be indicators of enemy activity.

b. **Obstacles.** These are anything that could be hazardous to, slow down, or stop a craft. Obstacles will be natural and civilian and military man-made. They will be on, above, and below the surface of the water. Some will be fixed, whilst others will be floating with the current. The effect obstacles have will differ between craft. For example, LCAC will be unaffected by sandbars, but may not pass under low bridges. Obstruction removal and MCM are critical planning considerations.

c. **Riverine Landing Areas (RLAs) and Riverine Landing Sites (RLSs).** A RLA includes a segment of riverbank, or similar, along a waterway over which troops, supplies, or equipment can be landed from craft. A RLA contains one or more RLS which, in turn, contain one or more points at which individual craft land and disembark troops and materiel. The criteria for selecting RLAs are:

(1) Riverine force mission and composition.

(2) Riverine force craft characteristics and capabilities.

(3) Disposition of the enemy.

(4) Hydrography.

(5) Riverbank/terrain (including the hinterland).

(6) Obstacles.

1108 Surface Craft

To a large extent, the flexibility to plan for the riverine force to undertake different missions and tasks is dependent on the surface craft employed. As well as the usual considerations of range, payload, maintenance, and sustainment, survivability/protection is an essential factor. Survivable, deployable surface craft that minimize detection by the enemy and acquisition by advanced weapons are vital. These attributes are achieved through a mix of stealth, speed, manoeuverability and armour.

1109 Aircraft

Fixed- and rotary-wing air operations play a valuable role in the riverine environment. Mission, enemy threat, operational environment, available resources, and support requirements determine the composition of air elements assigned to support the riverine force. The riverine force needs aircraft capable of operating under the conditions found in a riverine environment. Advanced V/STOL aircraft are ideally configured for this role. Air support facilities (arming, refueling, and maintenance) will be required to support aircraft when ranges to the objective area and the need for decreased cycle times necessitates temporary separation from sea-based platforms or land bases outside the riverine area.

1110 Reserves

As in all military operations, the retention of a reserve is essential for the riverine force commander to have freedom of action in dealing with anticipated and unexpected developments. To maintain tempo and exploit fleeting opportunities, the reserve must be held at high readiness. This requires flexibility, careful planning, rehearsal, coordination, and reliable communications between all elements. An airmobile reserve can deploy directly against located enemy positions and is usually the preferred type. Whilst providing the quickest response, maintaining a reserve on airborne alert is very demanding on resources and, therefore, will only be done during critical phases of an operation. Surface-borne reserves can provide a rapid and effective response and will often be the only type available. Reserve forces, at the appropriate readiness, are maintained in assembly areas either ashore or afloat. To facilitate their immediate employment, reserve forces should be prepared for anticipated tasks, including rehearsals where possible.

1111 Force Protection/Safety

Force protection will be a major consideration for the riverine force commander. The requirement for safety precautions specific to riverine operations will have to be balanced against other requirements such as speed. Loading and unloading of personnel is a hazardous operation, especially at night. There is always a danger of personnel falling into the water and being carried away by the current. The following safety precautions will apply particularly to the movement of civilians or non-specialist personnel.

a. Where possible, a safety boat equipped with a swimmer in harness, portable floodlights (night), and life rings attached to lines, shall be positioned close downstream during loading or unloading operations.

b. All personnel and boat crews will wear life jackets during loading and unloading. In the event of falling in the water, troops should be capable of easily ditching any equipment worn. To the maximum extent, all

personnel should have both hands free; they should pass heavy equipment between river assault craft and pontoon piers prior to loading and unloading.

c. Buoy markers should be placed on equipment to facilitate salvage in the event of loss.

SECTION IV — LOGISTICS IN RIVERINE OPERATIONS

1112 General

Logistic support in riverine operations falls into three categories:

a. Logistic support integral to the riverine force.

b. Logistic support provided to the riverine force by others.

c. Logistic support provided by the riverine force to others.

1113 Integral Logistic Support

In designing the riverine force's integral logistics, a balance must be struck between making the riverine force self sufficient for as long as possible and keeping the riverine force as small, agile, and defendable commensurate to the mission. The riverine force should be capable of the following:

a. Obtaining re-supply as necessary, including refuelling.

b. Self maintenance and repair, including damage control and craft recovery (salvage).

c. First aid medical support.

d. The logistics requirements of the entire riverine force should be integrated. The initial load for individual surface craft should include food, water, and ammunition for embarked troops, so that they can operate and be sustained by the same craft from which they fight.

1114 External Support to the Riverine Force

Logistic support provided by external forces and agencies must be responsive to the needs of the riverine force. Re-supply of surface craft in the AOO will be largely dependent upon the duration and expenditure rates of planned operations, as well as the total lift capacity of the force and the geography of the riverine environment. A system must be established with the capability of performing the following functions.

a. The provision and transport of supplies and equipment to locations designated by the riverine force commander. Normal means of re-supply are:

(1) Surface craft.

(2) Air landed.

(3) Overland.

(4) Air drop.

b. Evacuation of casualties that are beyond the medical capability of the riverine force.

c. Maintenance and salvage operations beyond the capabilities of the riverine force.

d. Evacuation of prisoners of war and refugees.

e. Provision of battle casualty replacements.

f. A planning consideration throughout will be the level of overtness/covertness of the riverine operation.

1115 Riverine Force Logistic Support to Others

The provision of logistic support could be the riverine force's main effort, either when the riverine force is in support of other formations or components, or when the riverine force mission is essentially humanitarian. The riverine force could provide a waterborne main supply route (MSR), hold materiel afloat, provide self-contained medical and maintenance facilities, and accommodate and administer troops whilst waiting for or recuperating from operations, thereby preserving and re-generating combat power.

1116 Logistic Concept of Operations

The provision of logistic support to the riverine force follows the same principles as for any other operation. The main difference is the ability to exploit waterways as a medium for movement, and the inherent capacity of surface craft for a range of logistic functions. First line logistic support will be grouped with the fighting echelon. Second line support will be provided from a main operating base (MOB) which will be the focal point for all logistic support. Dependant on the size and composition of the riverine force, together with the extent and nature of the riverine force's AOO and the mission and tasks assigned, the riverine force may also push forward second line support by establishing one or more FOBs. A waterborne MSR may be established along with afloat distribution points (DPs).

1117 Logistic Command and Control

The riverine force commander will appoint a MOB commander who will normally be in overall C2 of waterborne logistic operations. The MOB commander may be collocated with the riverine force HQ or may have a discrete HQ. The C2 arrangements must ensure that riverine force logistic requirements are integrated with those of the JF as a whole.

1118 Main Operating Base

1. The riverine force MOB may be established afloat or ashore. If established afloat, it may be sea based and operating from OTH using a combination of amphibious ships, other naval support ships and commercial shipping. Alternatively, the MOB may use smaller vessels and craft capable of navigating shallower inland waterways. If ashore, the MOB may exploit seaports, inland harbours and other infrastructure or be established in a field site.

2. As well as providing second line support to the riverine force, the MOB will receive third-line re-supply for onward movement and back-load material for third-line support elsewhere. All or part of the riverine force fighting echelon may be collocated in the MOB and use it as a patrol and or fire support base. Likewise, the MOB may also contain the riverine force HQ and aviation assets.

3. Dependent on the circumstances, the MOB may be collocated with other elements of a JF or dispersed. Wherever it is located, the MOB will need protection commensurate to the threat. The MOB commander will be responsible for local security. The riverine force commander will have to allocate resources for the wider protection of the MOB. If the MOB is collocated with other elements of the JF in another commander's AOO, then the riverine force commander may delegate TACON of the MOB to that commander for the purpose of protecting the MOB. If sea based, protection of the MOB will be the MCC/CATF responsibility.

1119 Forward Operating Base

A FOB may be established, as required, and will have many of the characteristics of a MOB. The most likely requirement for establishing a FOB is when the riverine force is operating over extended distances; when the MOB is sea based; or when a phase of an operation requires a surge in logistic support. A FOB is more likely to be held afloat and collocated with elements of the riverine force fighting echelon. Like the MOB, the FOB will need appropriate protection and, to that end, should be capable of moving every 24 hours if necessary.

1120 Waterborne Main Supply Route

The basic principles of moving stocks on road transport apply equally well to waterborne operations. The main difference is in deciding whether it is better to maximise craft lift by transporting stocks only, or reducing loading times and double handling by keeping stocks on vehicles where possible. CPs must be established at each end of the MSR with control parties. These must be capable of organizing reception, parking, embark/disembark, and dispatch of vehicles and craft. Local protection, liaison, and communications will also be required.

1121 Waterborne Distribution Point

The same principles for operating a DP from a craft apply as they would on land. A DP may be established to re-supply other waterborne elements of the riverine force or other forces ashore. If re-supplying other waterborne assets, this can be done underway, at anchor, or moored alongside dependant upon the tactical situation and local conditions. If re-supplying forces ashore, it should be noted that the most effective means is to establish a vehicle exchange point ashore and exchange full for empty vehicles.

SECTION V — OFFENSIVE RIVERINE OPERATIONS

1122 Scope

1. A riverine assault operation commences when troops begin tactical loading at the riverine base or assembly area for an operation (which could be at sea). Termination begins when all forces involved have returned to the base, redeployed for subsequent tasks, or as ordered.

2. The phases of the riverine force assault operations are pre-planning (covered in Section II), tactical loading, movement, landing attack, subsequent operations, and planned withdrawal, if required.

1123 Tactical Loading

Tactical loading of troop units in riverine assault craft from a land or afloat base must be carefully planned and coordinated. Detailed tactical loading procedures must be established and promulgated with the OPORD if they are not covered in the SOPs. Factors that must be considered are:

a. Safety of personnel during loading.

b. Timing.

c. Logistics requirements.

d. Security.

e. Accountability of personnel.

f. Availability of standby craft in the event of a casualty.

g. Dispersal of key equipment.

1124 Tactical Loading Plan

The plan is prepared when surface movement asset availability and troop loading requirements are firmly established. Tactical loading of troops into air movement assets from either land or afloat bases will be in accordance with established service doctrine.

1125 Movement

When transiting waterways to an objective area, riverine assault forces must be prepared for unforeseen situations. Commanders will be provided with a detailed and current intelligence estimate of the AOO and the movement route. In view of the fact that independent action is frequently required by individual craft crews, they must be adequately briefed. As rivers and canals narrow or shoreline vegetation increases, so increases the danger from hostile fire, ambush, and mining. Unit commanders must maintain a readiness posture consistent with the enemy capabilities and threat.

1126 Tactical Organization for Movement

1. The tactical organization for movement should parallel the organization for landing to avoid re-organization upon arrival at the RLA.

2. The waterborne elements of the riverine assault force are task organized to provide an advance guard, a main body, and rear guard. Essential tasks such as reconnaissance, mine clearance, fire support, troop lift, and escort are assigned to movement groups and units, as appropriate.

1127 Command and Control

1. During the movement phase, the commander designated by the riverine force commander exercises OPCON of the forces assigned.

2. Control measures employed normally include the use of water checkpoints and a movement table to regulate the water movement.

1128 Techniques

1. **Escort.** An escort should be provided for transport movement, whenever possible. Escorts could be provided by surface or air assets, depending upon the tactical situation. Provision of escorts is the responsibility of the commander of the unit controlling the movement.

2. **Avoiding Patterns.** When operations are being conducted over an extended period, times of transits and routes for troop rotation or re-supply will be varied, consistent with operational requirements.

3. **Targets of Opportunity.** Targets of opportunity may occur during movements to and from the objective area. These may be waterborne or on land. ROE may require that authorisation be obtained before engaging such targets. Consideration must be given to the assigned mission before taking action which may delay movement of the force.

4. **Attack on the Force.** If the force is attacked during movement, immediate action will be taken to neutralise the hostile fire. C2 boats and troop carriers (with troops embarked) should clear the area of attack at best possible speed, unless the decision is made to assault the enemy. If required, NGS, artillery, and air support will be requested. When the tactical situation permits, a quick-reaction force may be landed to conduct follow-up operations. If the decision is made to counter-attack, river assault craft will land previously designated counter-ambush forces.

5. **Responsibility.** The reaction to unforeseen situations is the responsibility of the element's assigned commander: the person responsible for accomplishing the assigned mission. However, once forces have been landed for ground operations, the authority and responsibility for subsequent action ashore must rest with the CLF.

1129 Landing Attack

1. The landing attack phase begins with the arrival of the main body of the riverine assault force in the landing area and ends with the seizure of initial objectives. It encompasses shaping operations, assault, and seizure of objectives.

2. It is always desirable, and often necessary, to control both banks of rivers on which riverine forces operate. However, it is especially important to control the shore opposite the area in which landings take place. As a minimum, the opposite shore must be controlled by fire and, in many instances, it will be necessary to have troops physically occupy the opposite shore to provide the necessary rear security for the LF making the main attack.

1130 Task Organization

The aim of task organization is to project a tactically configured force ashore immediately ready for combat. The organization should maintain the tactical integrity of assault units, provide flexibility in reacting to the situation encountered, and facilitate control of subsequent manoeuvre. The basic unit is the boat team.

1131 Landing Techniques

1. When making the final approach to the river landing site, artillery, river assault craft gunfire, and air and naval fire may deliver preparatory fires. Pre-designated fire support craft mark the limits on either flank of the RLS. These craft may beach if conditions permit in order to deliver more effective fire as the troops land. A C2 boat should be stationed in the vicinity of the transport craft landing area. Escort craft are stationed to protect the transport craft. Escort

duties may include establishing patrol barriers up and down stream from the RLS to seal river approaches and along the opposite bank to protect the rear of the force.

2. When the transport craft of the first wave reach positions opposite the river landing points, they turn (independently or upon signal) and beach on the shore where troops and vehicles are landed. After disembarkation, the transport craft retract, clear the RLS, and move to act as a blocking force or transit to an assembly area by prescribed routes, avoiding interference with succeeding waves. During landing operations, riverine assault craft may also provide afloat command facilities, close fire support, evacuation, and re-supply.

3. If available, amphibious vehicles may be used to land troops. Depending on the situation, troops may be disembarked or stay aboard amphibious vehicles to achieve the objective ashore.

4. When the landing is completed and the riverine force mission is to operate ashore for a specified period, river assault craft will assemble at a designated staging area, take up patrol, blocking or fire support stations, conduct mine clearance operations, and perform other assigned tasks. If the riverine force is to remain ashore, all or part of the supporting riverine assault craft may be returned to the riverine base, depending upon the mission and the tactical situation.

1132 Scheme of Manoeuvre

1. Riverine operations normally have destruction of the enemy forces as their primary mission and schemes of manoeuvre designed to fix, entrap and destroy a hostile force in a given AOO. The lack of definite intelligence may make it necessary to base the selection of objectives on terrain rather than a hostile force location. However, the primary objective is the hostile force, not the terrain itself.

2. Riverine assault operations capitalise on supporting surface craft capabilities and the tactical flexibility inherent in the continuous availability of assault support craft to support tactical manoeuvre. Craft may:

a. Transport and support units in the assault.

b. Withdraw or re-deploy troops.

c. Act as, or in support of, a blocking force.

d. Conduct waterborne reconnaissance, security, and combat patrols.

e. Transport a raiding force.

f. Deploy crew-served weapons.

g. Transport reserves.

h. Perform re-supply and evacuation.

i. Provide a command platform.

j. Serve as mobile aid stations.

k. Provide direct and indirect fire support.

l. Evacuate friendly personnel, prisoners of war, defectors, or detainees from a threat environment.

m. Perform damage control, salvage, and EOD operations (on a limited basis).

1133 Fire Support

1. The riverine force will use all supporting arms where appropriate. The use of supporting arms will be in accordance with current NATO doctrine. The following is of special note during the landing attack.

a. The use of all means of mobility is a key factor when employing artillery in riverine operations, since artillery frequently must be repositioned prior to the assault landing. This usually requires that artillery positions be supported by air and other artillery during movement. Additional protection/security forces may be required as temporary augmentation to displaced or isolated units.

b. Lack of adequate artillery reserved areas (ARAs) may deny use of the quantity and calibre of artillery normally dictated by hostile strength and area characteristics.

c. Artillery batteries may be deployed by either surface craft, helicopters, or on barges which act as firing platforms.

d. Positions selected for either land or afloat fire support bases should permit providing fire support for the manoeuvre force while en route to or from the AOO.

e. Normally, the lack of commanding terrain in the AOO increases emphasis on aerial observation, particularly during waterborne movement. A combination of aerial observers with forward observers on the ground allows the best artillery coverage, coordination, and surveillance of the battle area.

2. **Assault Craft Fires.** Assault craft fires are supporting direct and indirect fire provided to the riverine force by craft. These craft deliver direct fire with a wide variety of automatic weapons. Craft can also provide indirect fire support with mortars installed on selected craft. A high degree of coordination is required to provide support of troops ashore.

a. The force commander of the riverine assault operation is responsible for coordination of all fires, including assault fires, in support of operations ashore.

b. Once troops begin landing, all assault craft fire into the AOO must be either delivered at the request of the supported units or cleared by the force commander.

c. **Direct Fire Support.** Assault craft providing direct fire in support of a specified unit for one phase of an operation will normally be in direct support of that unit. The boat unit commander advises the supported commander concerning the capabilities of assault craft weapons. These weapons may be given neutralisation, interdiction, harassing, or destruction fire missions. They may augment infantry weapons with fires through gaps in friendly lines. Whatever the mission, their fires must be executed in coordination with the supported unit commander's fire support plan.

(1) **Vehicle-Mounted Weapons.** Vehicle-mounted weapons may provide direct fire support. Depending on their characteristics, vehicle-mounted weapons might be employed whilst still embarked in suitable craft or, once landed, to fire positions on a flank or opposite bank, or with the assaulting force in direct support.

(2) **Indirect Fire Support.** Craft equipped with indirect fire weapons may be employed as a fire unit. With all craft in close proximity, one can direct the fires of all to provide supporting indirect fires. Normally, indirect fire will be observed by an aerial or ground observer who can communicate directly with supporting boats, through the ground unit fire supporting boats, or through the ground unit fire support coordination centre.

SECTION VI — DEFENSIVE OPERATIONS

1134 Purpose

Defensive operations are usually undertaken to defeat or deter a threat in order to set the conditions for offensive action. These operations may be used to gain control of waterways in order to support subsequent riverine assault operations. Defensive operations serve five basic purposes:

a. Protect friendly lines of communication.

b. Deny hostile forces the use of waterways.

c. Collect intelligence information.

d. Perform security missions.

e. Enforce population and resources control.

1135 Concept of Operations

1. Manoeuvre is the decisive element at all levels in defence. The concept of riverine defensive operations is based on mobile riverine force elements, including both surface craft and aircraft, conducting waterway interdiction, barrier, surveillance and security operations. These operations are also highly suited to crisis response missions. The type of craft selected will depend on the environment, the enemy threat, and the assigned mission. The air and surface operations are mutually supporting and may be conducted independently or concurrently. Waterway interdiction, barrier, surveillance, and security operations are achieved by establishing framework patrolling and observation posts (OPs). The principles and types of patrol found in land operations, standing, fighting and recce, apply equally to riverine operations. Surface patrols will be predominantly by watercraft, however, vehicle, foot, or a combination of patrolling methods will also be used. Where possible, patrols should be mutually supporting, requiring close coordination of supporting fires.

2. Effectiveness of the combined surface and airborne operation can be aided by rigid enforcement of curfews and traffic/zone restrictions, as appropriate.

3. Remote sensors used in conjunction with supporting arms or remotely fired demolitions are an effective method of interdiction offering minimal risk to friendly personnel.

4. Effective control of the smaller rivers and canals in the riverine area can best be maintained by controlling the banks and adjacent territory. However, connecting tributaries between major waterways may be controlled by patrol-blocking action. Waterway interdiction, barrier, surveillance, and security forces will conduct patrols and inshore surveillance to enforce curfews and prevent enemy infiltration, movement, and re-supply along and across the major waterways of the area.

5. These operations often will be conducted with the added hazards of operating continuously within weapon range of the enemy.

1136 Command Relationships

The CO of the waterway interdiction, barrier, surveillance and security forces will be designated by the riverine force CO and will exercise TACOM of assigned forces. The command relationship structure should be flexible, with necessary changes being implemented as required.

1137 Tactics and Procedures

This section outlines various tactical considerations and procedures; however, these are not all-inclusive, nor do they necessarily apply to all phases of waterway interdiction, barrier, surveillance, and security operations.

a. **Area Familiarization.** Prior to initial patrols, COs will arrange for area indoctrination and familiarisation of personnel.

b. **Secondary Missions.** Patrols may be modified, at times, to accommodate requests for CS of forces ashore, including blocking and similar operations.

c. **Craft Movement.** The patrol route must be divided into tactical bounds and RV designated. Craft will move in line astern, always keeping in sight of each other, but a tactical distance apart as ordered. Craft move around blind bends as shown in Figure 11-1, always keeping one on the bend to contact craft in either direction.

(1) Where depth of water may be a problem, craft should follow the main tract of the river (outside of bends). Where the presence of hostile forces ashore is anticipated, craft should hug the un-populated or friendly bank if there is one, and if not, take the centre of a waterway.

(2) All feasible landing points should be considered prior to the patrol. These should be noted when moving on the river, while looking for additional landing points.

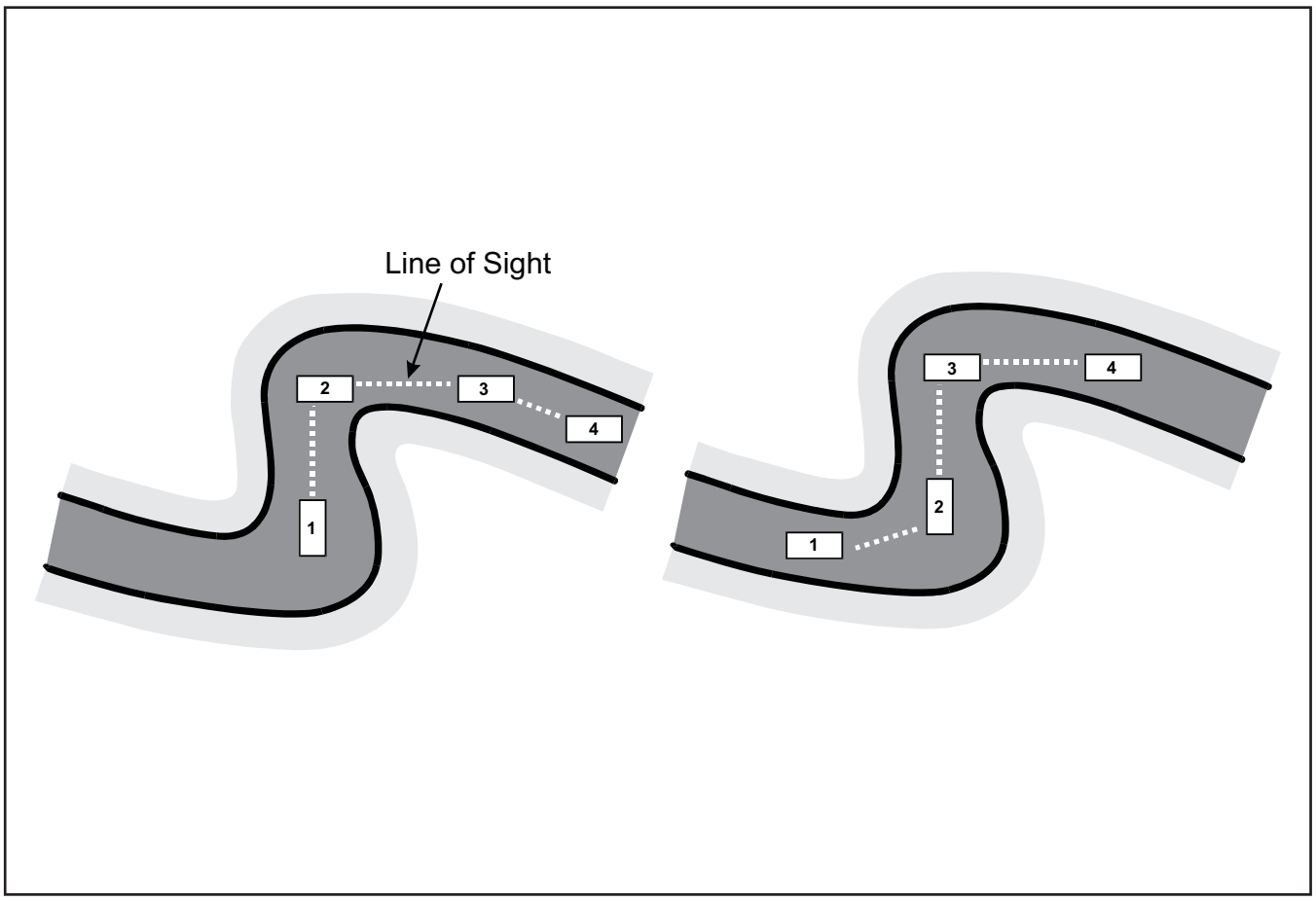


Figure 11-1. Craft Movement

(3) Good communications between craft and between the patrol and the patrol base are essential. Visual signals should be used where possible, while craft must have ID signals for operating at night or in reduced visibility.

d. **Mutual Support.** Multiple boat patrols are frequently useful in providing mutual support.

e. **Rafting Drills/Mooring.** Standing patrols will require to lay up, while there will be other occasions when it will be necessary for craft to lay up. The options are to raft up at anchor in mid-stream, to lie alongside a jetty or bank, or to beach. The method chosen will depend upon a number of factors including likely enemy dispositions, type of craft, and the nature of the river, riverbed and its banks including cover and tidal range. Un-inhabited islands make good defendable lying up areas, but care should be taken to avoid obvious locations. Craft should be camouflaged and troops should provide protection from the banks, if possible. Craft should always be held at very short notice to move, and ideally be able to do so in more than one direction.

f. **Time and Pattern of Patrols.** Boats will conduct a random patrol, and not establish a pattern such as passing through the same points on subsequent passes, or at regular intervals. This may invite mining or ambush.

1138 Ambush

1. Setting friendly ambushes and avoiding enemy ambushes play an important role in waterway interdiction, barrier, surveillance, and security operations. A few examples of likely ambush positions are as follows:

a. Where craft have difficulty manoeuvring (e.g., in fast flowing narrow reaches or shallows).

b. Blind bends.

c. Reaches where craft cannot gain the bank to land own troops for counter attack.

d. Where obstacles force craft to slow down or navigate close to a hostile bank.

e. Where the river is dominated by high ground, such as gorges.

2. Helicopters can be used to spot possible ambush sites and to provide over watch. When patrols cannot avoid likely ambush sites, they can pre-empt them by landing foot or vehicle patrols to provide covering fire.

a. **Craft in Killing Ground.** These can either drive into the ambush bank to carry out a counter attack (Figure 11-2 (a)), or move on as swiftly as possible through the killing ground to the next RV (Figure 11-2 (b)). Other alternatives are for these craft to deploy troops to the opposite bank as covering fire group (Figure 11-2 (c)), or to move further up river on the same bank to act as a stop group or to take part in an encircling movement.

b. **Use of Smoke.** If used carefully, smoke can be advantageous. It can be generated from a canister or smoke dispenser mounted on the craft, from a light mortar or vehicle embarked and capable of firing from a craft, or by smoke grenade. The disadvantage is that the view of following craft may be obscured, reducing their ability to manoeuvre and provide fire support.

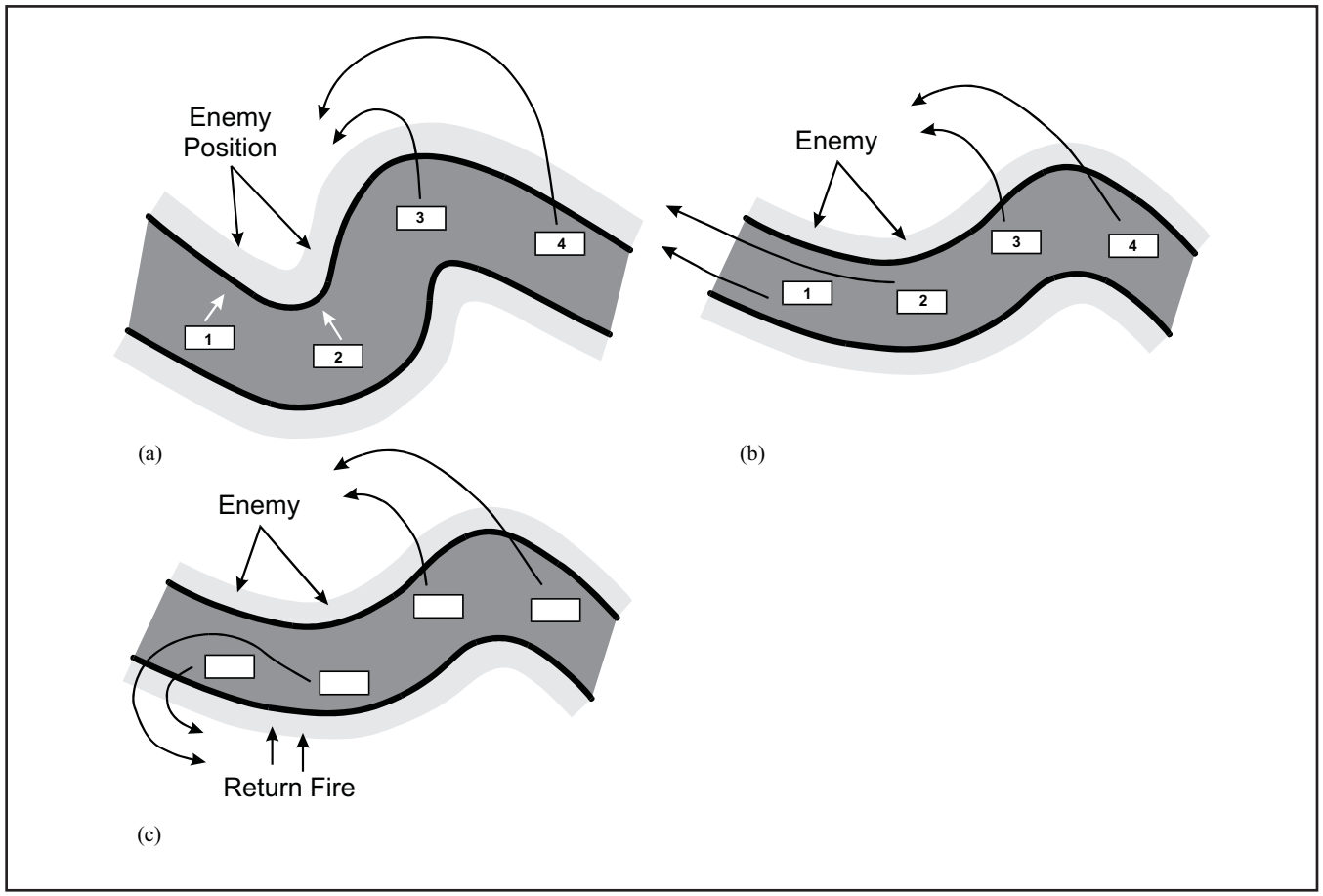


Figure 11-2. Craft in Killing Ground

1139 Response to Hostile Fire

The response must be governed by the type and volume of fire received and the ROE in effect. The presence of civilian populace and/or other friendly forces in the operational area must also be considered. ROE and measures to prevent mutual interference must be observed.

1140 Anti-ambush Drills

During the briefing, arcs of fire and signals for opening fire must be designated. The numerous possible responses to an enemy ambush will depend on the circumstances. Good briefing and communications together with well-practised drills and rehearsals are essential in every case. If craft are moving tactically, the likelihood of more than one craft being caught in the killing area is reduced.

INTENTIONALLY BLANK

GLOSSARY

Terms and definitions from AAP-6 are in italics.

A

action phase. The period of an amphibious operation that begins with the arrival of the amphibious task force in the amphibious objective area, encompasses the accomplishment of the mission, and ends with the termination of the amphibious operation.

administrative loading. *A loading system which gives primary consideration to achieving maximum utilization of troops and cargo space without regard to tactical considerations. Equipment and supplies must be unloaded and sorted before they can be used.*

advance force. *A temporary organization within the amphibious task force which precedes the main body to the objective area. Its function is to participate in preparing the objective for the main assault by conducting such operations as reconnaissance, seizure of supporting positions, minesweeping, preliminary bombardment, underwater demolitions, and air support.*

airspace control. *The implementation and coordination of the procedures governing airspace planning and organization in order to minimize risk and allow for the efficient and flexible use of airspace.*

air transport group. A task organization of transport aircraft units that provides air transport for landing force components or provides logistic support.

amphibious assault. *The principal type of amphibious operation which involves establishing a force on a hostile or potentially hostile shore.* See also amphibious operation.

amphibious assault echelon. That echelon of assault troops, vehicles, aircraft, equipment, and supplies that is required to initiate the assault.

amphibious assault follow-on echelon. *See assault follow-on echelon.*

amphibious command ship. *A naval ship from which a commander exercises control in amphibious operations.*

amphibious construction battalion. A commissioned naval unit, subordinate to the naval beach group commander, designed to provide an administrative unit from which personnel and equipment are formed in tactical elements and made available to appropriate commanders to operate pontoon causeway transfer barges, warping tugs, and assault bulk fuel systems and to meet salvage requirements of the naval beach party.

amphibious demonstration. *A type of amphibious operation conducted for the purpose of deceiving the enemy by a show of force with the expectation of deluding the enemy into a course of action unfavourable to him.*

amphibious force. *1. A naval force and landing force, together with supporting forces that are trained, organized and equipped for amphibious operations. 2. In naval usage, the administrative title of the amphibious type command of a fleet.*

amphibious group. *A command within the amphibious force, consisting of the commander and his staff, designed to exercise operational command of assigned units in executing all phases of division-size amphibious operation.*

amphibious objective area. *A geographical area, delineated in the initiating directive, for purposes of command and control within which is located the objective(s) to be secured by the amphibious task force. This area must be of sufficient size to ensure accomplishment of the amphibious task force's mission and must provide sufficient area for conducting necessary sea, air and land operations.*

amphibious operation. *A military operation launched from the sea by a naval and landing force embarked in ships or craft, with the principal purpose of projecting the landing force ashore tactically into an environment ranging from permissive to hostile.* See also amphibious assault; amphibious demonstration; amphibious raid; amphibious withdrawal.

amphibious raid. *A type of amphibious operation involving swift incursion into or temporary occupation of an objective followed by a planned withdrawal.* See also amphibious operation.

amphibious reconnaissance. *An amphibious landing conducted by minor elements, normally involving stealth rather than force of arms, for the purpose of securing information, and usually followed by a planned withdrawal.*

amphibious reconnaissance team. An element of an amphibious reconnaissance unit. Each team is normally assigned one specific reconnaissance mission, which determines the composition and size of the team.

amphibious reconnaissance unit. A unit organized, equipped, and trained to conduct and support amphibious reconnaissance missions. A unit is made up of a number of amphibious reconnaissance teams.

amphibious task force. *A task organization of naval forces and a landing force, with their organic aviation and other supporting forces, formed for the purpose of conducting an amphibious operation*.

amphibious vehicle availability table. A tabulation of the type and number of amphibious vehicles available primarily for assault landings and secondarily for other operations.

amphibious vehicle employment plan. A plan that indicates in tabular form the planned employment of amphibious vehicles, including their employment after the initial movement to the beach.

amphibious vehicle launching area. *An area, in the vicinity of and to seaward of the line of departure, to which landing ships proceed and launch amphibious vehicles.*

amphibious withdrawal. *A type of amphibious operation involving the extraction of forces by sea in naval ships or craft from a hostile or potentially hostile shore.* See also amphibious operation.

approach and retirement route. The track or series of tracks relative to the Earth's surface over which helicopters move to and from a specific landing site or landing zone.

approach channel. The path that begins at the sea echelon area and terminates in the transport area or fire support area.

approach lane. The extension of a boat lane from the line of departure toward the transport area. It indicates the exact route displacement landing craft use to approach the line of departure from the transport area in a static launch from amphibious ships.

approach lane control officer. An officer embarked in the approach lane marker ship responsible for controlling the movement of waves between the seaward end of the approach lane and the line of departure.

approach schedule. *In amphibious operations, the plan indicating, for each scheduled wave: a. the time of departure from the rendezvous area; b. the time when the line of departure is to be crossed; c. the times when other control points are expected to be crossed; d. the estimated time of arrival at the beach.*

assault area. That area that includes the beach area, the boat lanes, the lines of departure, the landing ship areas, the transport areas, and the fire support areas in the immediate vicinity of the boat lanes.

assault area diagram. A document that contains extracts from other pertinent landing forms and normally shows diagrammatically the beach designations, the boat lanes, the organization of the lines of departure, the scheduled waves, the landing ship areas, the transport areas, and the fire support areas in the immediate vicinity of the boat lanes.

assault craft unit. A permanently commissioned naval organization, subordinate to the naval beach group commander, that contains landing craft and crews necessary to provide additional lighterage required in an amphibious operation.

assault echelon. *The element of a force which is scheduled for initial assault on the objective area.*

assault follow-on echelon. That echelon of assault troops, vehicles, aircraft, equipment, and supplies that, though not needed to initiate the assault, is required to support and sustain the assault.

assault schedule. A document that prescribes the formation, composition, and timing of waves landing over the beaches.

B

backshore. That portion of a beach from the mean high-water mark inland to that portion of the shoreline, normally well defined, where extreme-storm wave action ends and hinterland vegetation normally grows.

beachhead. *A designated area on a hostile or potentially hostile shore which, when seized and held, provides for the continuous landing of troops and materiel, and provides manoeuvring space required for subsequent projected operations ashore.*

beach length. The lateral dimensions of the beach, measured at the line of extreme low water. *See also beach width.*

beachmaster. The naval officer in command of the beachmaster unit of the naval beach group.

beachmaster unit. A unit of the beachmaster group which facilitates the landing and movement of troops, equipment, and supplies across the beach between the surf zone and high-water mark. It assists in the retraction and/or salvage of landing craft and in the evacuation of casualties and prisoners of war.

beach organization. In an amphibious operation, the planned arrangement of personnel and facilities to effect movement, supply, and evacuation across beaches and in the beach area for support of a landing force.

beach party. The naval component of the shore party. It provides close off-shore control to facilitate beaching of landing craft, landing ships, and amphibious vehicles. It assists as required in the retraction and salvage of landing craft and landing ships and provides facilities for communicating with the naval forces afloat.

beach party commander. The naval officer in command of the naval component of the shore party.

beach reserves. *In an amphibious operation, an accumulation of supplies of all classes established in dumps in beachhead areas.*

beach support area. The area to the rear of a landing force or elements thereof, established and operated by shore party units, that contains the facilities for the unloading of troops and material and for the support of the forces ashore. It includes facilities for the evacuation of wounded, prisoners of war, and captured material.

beach width. The horizontal dimensions of the beach measured at right angles to the shoreline from the line of extreme low water inland to the landward limit of the beach. *See also beach length.*

boat assembly area. An area designated for assembling empty landing craft prior to their being called alongside a ship for loading.

boat flotilla. An organization of two or more boat groups, organized to facilitate control when the operation of two or more boat groups demands the presence of a common commander.

boat group commander. An officer assigned to be embarked in a control boat displaying the Zero flag over the beach designation flag and responsible for discipline and organization within the boat group to complete the assigned mission.

boat lane. *A lane for amphibious assault landing craft, which extends seaward from the landing beaches to the line of departure. The width of a boat lane is determined by the length of the corresponding beach.*

boat team. The troops assigned to one landing craft or amphibious vehicle for the ship-to-objective movement in an amphibious operation.

boat wave. The landing craft or amphibious vehicles within a boat group that carry the troops that are to be landed simultaneously.

breaker types. The classification of the types of waves (breakers) that are found in surf zones. The types are: a. Spilling: A break that becomes unstable at the crest and forms white water at the crest. The white water (foam) expands slowly down the front face of the breaker. Breaking action is mild. b. Plunging: A breaker whose crest advances so much faster than the base of the wave that the crest falls almost into the trough, with a violent action. The resulting foam appears almost instantly over the complete front. Breaking action is almost explosive. c. Surging: A breaker whose crest tends to advance further than its base, suggesting the formation of a plunging breaker. However, just before breaking completely, the wave base advances faster than the crest and the plunging is arrested. Breaking action of this type is generally found at steep gradients.

break-up point. An air control point at which helicopters, returning from the landing zone, break formation and are released to return to individual ships or are dispatched for other employment. The break-up point may be at the same geographic location as the departure point.

C

call fire. Fire delivered on a specific target in response to a request from a supported unit.

casualty receiving and treatment ship. In amphibious operations, a ship designated to receive, provide treatment, and transfer casualties.

causeway launching area. An area located near the line of departure but clear of the approach lanes, where ships can launch pontoon causeways.

central control officer. The officer designated by commander, amphibious task force for the overall coordination of the waterborne ship-to-objective movement. He is embarked in the central control ship.

close air support. *Air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.*

close covering group. A task organization of naval combatants that provides protection against air, surface, and subsurface threats.

close support areas. Those parts of the ocean operating areas nearest to, but not necessarily in, the objective area. They are assigned to naval support carrier groups, surface action groups and search attack units, and certain logistic support components.

close support mission. A mission with the primary purpose of close support of friendly ground forces in the accomplishment of their immediate task and/or the prevention of frontline enemy forces from accomplishing their missions. Close coordination of air, naval, and ground activities is required prior to and during the mission. This coordination may include ground-to-air control, air-to-air control, and the positive establishment of bombing, strafing, and no-fire lines prior to the mission. All available fire support means may be employed in close support missions.

coloured beach. That portion of usable coastline sufficient for the assault landing of a regimental landing team or similar-sized unit. In the event that the landing force consists of a single battalion landing team, a coloured beach will be utilized and no further subdivision of the beach is required.

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.*

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.

combat service support. *The support provided to combat forces, primarily in the fields of administration and logistics.*

combat service support area. An area ashore that is organized to contain the necessary supplies, equipment, installations, and elements to provide the landing force with combat service support throughout the operation.

combat service support troops. Landing force units that render support to combat units in supply, maintenance, transportation, evacuation, hospitalization, and related service matters.

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.

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.

commander, amphibious task force. The naval officer designated in the initiating directive as commander of an amphibious task force.

commander, landing force. The officer designated in the initiating directive to command the landing force.

concentrated movement pattern. A pattern for surface ship-to-objective movement that provides for concentration of landing craft. This pattern is used when the nuclear weapon threat is not a major factor.

conduct of fire. The technique by which effective fire is placed on a selected target.

control. *That authority exercised by a commander over part of the activities of subordinate organizations, or other organizations not normally under his command, which encompasses the responsibility for implementing orders or directives. All or part of this authority may be transferred or delegated.*

control group. Personnel, ships, and craft designated to control the waterborne ship-to-objective movement.

control of fires. The control function involving the assignment of fire support missions directly to the fire unit, including supervision over the execution of these missions.

control ship station. A station assigned to control ships for the ship-to-objective movement. The station should not of necessity be on the line of departure and may be assigned as an underway sector to avoid the shore-based threat.

D

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.*

deliberate fire. Fire delivered at a rate intentionally less than normal to permit adjustment corrections, meet specific tactical requirements, or conserve ammunition.

demonstration. *An attack or show of force on a front where a decision is not sought, made with the aim of deceiving the enemy.* See also amphibious demonstration.

departure point. *1. A navigational check point used by aircraft as a marker for setting course. 2. In amphibious operations, an air control point at the seaward end of the helicopter approach lane system from which helicopter waves are dispatched along the selected helicopter approach lane to the initial point.*

direct air support centre. A subordinate operational component of a tactical air control system designed for control and direction of close air support and other tactical air support operations. It is normally collocated with fire support coordination elements.

E

electronic warfare. *Military action to exploit the electromagnetic spectrum encompassing: the search for, interception and identification of electromagnetic emissions, the employment of electromagnetic energy, including directed energy, to reduce or prevent hostile use of the electromagnetic spectrum, and actions to ensure its effective use by friendly forces.*

electronic warfare coordination cell. A coordination agency established jointly by commander, amphibious task force/commander, landing force to coordinate the electronic warfare assets and efforts of the force in support of the amphibious task force electronic warfare plan. When the landing force moves ashore, commander, landing force will establish an electronic warfare coordination cell ashore and assume control of landing force electronic warfare assets.

electronic warfare officer. A landing force staff officer who advises the operations officer on electronic warfare, prepares the electronic warfare input to operation plans and orders, prepares and coordinates electronic countermeasures tasking, and assists in the operation of the amphibious task force/landing force electronic warfare coordination centre.

electronic warfare support measures. *That division of electronic warfare involving actions taken to search for, intercept and identify electromagnetic emissions and to locate their sources for the purpose of immediate threat recognition. It provides a source of information required for immediate decisions involving electronic countermeasures, electronic protective measures and other tactical actions.*

embarkation. *The process of putting personnel and/or vehicles and their associated stores and equipment into ships or aircraft. Note: In French, the word "embarquement" applies to rail and road transport in addition to ships and aircraft.*

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.*

embarkation group. The highest echelon in the organization for embarkation. It consists of two or more embarkation units, elements, or teams as appropriate.

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

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.

embarkation team. A team consisting of the troop units and supplies and equipment embarked in a single ship.

embarkation unit. A unit consisting of two or more embarkation teams and/or elements, as appropriate, grouped together to conform to the organization for landing.

emission control. *Selective control of emitted electromagnetic or acoustic energy. The aim may be twofold: a. to minimize the enemy's detection of emissions and exploitation of the information so gained; b. to reduce electromagnetic interference thereby improving friendly sensor performance.*

essential elements of information. The critical items of information regarding the enemy and the environment needed by the commander by a particular time to relate with other available information and intelligence in order to assist in reaching a logical decision.

F

fire support area. *An appropriate manoeuvre area assigned to fire support ships from which to deliver gun-fire support of an amphibious operation.*

fire support coordinator. The officer in charge of the fire support coordination centre. He is the direct representative of commander, landing force.

fire support group. *A temporary grouping of ships under a single commander charged with supporting troop operations ashore by naval fire. A fire support group may be further subdivided into fire support units and fire support elements.*

floating dump. Emergency supplies preloaded in landing craft, amphibious vehicles, or 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.

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

follow-up echelon. *In air transport operations, elements moved into the objective area after the assault echelon.*

foreshore. That portion of the beach from the mean low-water line to the mean high-water line.

G

general support. *That support which is given to the supported force as a whole and not to any particular subdivision thereof.*

general support fire. Those artillery and naval gunfires delivered for the support of the landing force as a whole by ships or artillery units not providing direct support.

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.

H

helicopter availability table. A tabulation of the number and types of helicopters available for a proposed helicopter operation. The table is used as a basis upon which the helicopter-borne unit determines the employment of available helicopters early in the planning phase.

helicopter direction centre. *In amphibious operations, the primary direct control agency for the helicopter group/unit commander operating under the overall control of the tactical air control centre.*

helicopter employment and assault landing table. A document that contains the detailed plans for the movement of helicopter-borne troops, equipment, and supplies.

helicopter enplaning schedule. A schedule that provides for the orderly enplaning of troops, supplies, and equipment for the helicopter-borne ship-to-objective movement.

helicopter flight. An individual helicopter, or two or more helicopters grouped under a flight leader and launched from a single helicopter transport or base at approximately the same time.

helicopter flight rendezvous. An air control point in the vicinity of a helicopter transport or base where helicopters are assembled into flights prior to proceeding to the wave rendezvous. It is designated by code name.

helicopter landing diagram. A document that portrays graphically the routes between the helicopter transport ships and the landing zones.

helicopter landing zone. A specified ground area for landing assault helicopters to embark or disembark troops and/or cargo.

helicopter support team. *A task organization formed and equipped for employment in a landing zone to facilitate the landing and movement of helicopter-borne troops, equipment and supplies, and to evacuate selected casualties and prisoners of war.*

helicopter transport area. An area to the seaward and on the flanks of the outer transport and landing ship areas, but preferably inside the area screen, to which helicopter transports proceed and launch or recover helicopters.

helicopter wave. One or more helicopters grouped under a single leader and scheduled to land in the same landing zone at approximately the same time. A helicopter wave is composed of one or more flights and can consist of helicopters from more than one ship.

heliteam wave and serial assignment table. A tabulation of the tactical units, equipment, and supplies that are to be loaded into each helicopter. The table identifies each heliteam with its assigned serial number, and the serial number with the flight and wave.

helicopter wave rendezvous. An air control point where helicopter flights are assembled into helicopter waves prior to executing a mission. It is designated by a code name.

H-hour. *The specific time at which an operation or exercise commences, or is due to commence (this term is used also as a reference for the designation of days/hours before or after the event).* In an amphibious operation, H-hour is the time at which the first landing craft of the waterborne wave is scheduled to touch down on the landing beach.

horizontal stowage. The lateral distribution of units, equipment, or categories of supplies so that the ship can be unloaded simultaneously from two or more holds. If the term is applied to a single hold or cargo compartment, it means the distribution of like items in horizontal layers throughout the hold or cargo compartment.

I

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.

initiating directive. The directive initiating an amphibious operation.

inner transport area. An area as close to the landing beach as depth of water, navigation hazards, boat traffic, and enemy action permit, to which transports may move to expedite unloading.

inshore undersea warfare group. A task organization that provides surface and subsurface detection of enemy targets in the seaward approach to the amphibious objective area. It is ordinarily composed of one or more inshore undersea warfare surveillance units.

J

joint. *Adjective used to describe activities, operations and organizations in which elements of at least two services participate.*

joint intelligence centre. An agency jointly manned by naval and landing force personnel to coordinate the collection of information by, and the production and timely dissemination of, derived intelligence to all interested agencies and commands of the amphibious task force.

joint operations area. *A temporary area defined by the Supreme Allied Commander Europe, in which a designated joint commander plans and executes a specific mission at the operational level of war. A joint operations area and its defining parameters, such as time, scope of the mission and geographical area, are contingency- or mission-specific and are normally associated with combined joint task force operations.*

L

landing area. *1. The part of the objective area within which the landing operations of an amphibious force are conducted. Note: It includes the beach, the approaches to the beach, the transport areas, the fire support areas, the airspace occupied by aircraft in close support and the land included in the advance inland to the initial objective.* Also called "amphibious assault area." *2. The area used for air landing of troops and materiel.* 3. A specially prepared or selected surface of land, water, or deck designated or used for takeoff and landing of aircraft.

landing beach. *The portion of a shoreline required for landing a battalion landing team, which can also be used as a tactical locality over which a force larger or smaller than a battalion landing team may be landed.*

landing craft and amphibious vehicle assignment table. A tabulation that indicates the organization of landing force units into boat teams, and the assignment of boat teams to a wave or to a nonscheduled unit.

landing craft availability table. A tabulation of the types and number of landing craft available from each ship in the transport organization, for use in the ship-to-objective movement.

landing craft employment plan. The plan for the assignment and movement of landing craft from the various ships to satisfy naval and landing force requirements.

landing diagram. *A graphic means of illustrating the plan for the ship-to-shore movement.*

landing force. *The task organization of ground and aviation units assigned to an amphibious operation.* Related term: amphibious force.

landing force supplies. Those supplies remaining in assault shipping after initial combat supplies and floating dumps have been unloaded. They are landed selectively in accordance with the requirements of the landing force until the situation ashore permits the inception of general unloading.

landing group. *A subordinate task organization of the landing force capable of conducting landing operations, under a single tactical command, against a position or group of positions.*

landing plan. *See plan for landing.*

landing sequence table. A document that incorporates the detailed plans for ship-to-objective movement of nonscheduled units.

landing site. *1. A site within a landing zone containing one or more landing points. 2. In amphibious operations, a continuous segment of coastline over which troops, equipment and supplies can be landed by surface means.*

L-hour. In amphibious operations, the time at which the first helicopter of the helicopter-borne assault wave is scheduled to touch down in the landing zone.

low-visibility landing. A landing in reduced visibility in which the ship-to-objective movement is executed and at least the initial objectives captured under cover of darkness, or under limited light conditions imposed by fog, rain, snow, or smoke.

M

medical regulating. The actions and coordination necessary to arrange for the movement of patients through the echelons of care. This process matches patients with a medical treatment facility that has the necessary health service support capabilities, and it also ensures that bed space is available.

medical regulating control officer. The medical regulating control officer is usually an officer or senior enlisted person from the medical staff of the amphibious task force or landing force. He directs and supervises the operations of the medical regulating team and is net control for the medical regulating communications net. He also keeps amphibious task force and landing force surgeons informed on the current status and operations of medical movement within the task force.

medical regulating officer. A medical administrative officer who controls and coordinates the evacuation of casualties from and within the amphibious objective area. He is normally embarked in the amphibious task force flagship.

medical regulating system. The medical regulating system coordinates the orderly movement of a casualty from the site of wounding or injury or the onset of disease through the successive echelons of care to that medical treatment facility that can provide the treatment required. The medical regulating system has three principal elements, each with its own specific responsibility.

mine warfare group. *A task organization of mine warfare units for the conduct of minelaying and/or mine countermeasures in maritime operations.*

movement plan. The naval plan providing for the movement of the amphibious task force to the objective area. It includes information and instructions concerning the departure of ships from loading points, the passage at sea, and the approach to and arrival in assigned positions in the objective area.

N

naval beach group. *A permanently organized naval command, within an amphibious force, comprised of a commander, his staff, a beachmaster unit, an amphibious construction battalion, and an assault craft unit, designed to provide an administrative group from which required naval tactical components may be made available to the attack force commander and to the amphibious landing force commander to support the landing of one division (reinforced).* See also shore party.

nearshore approach. That portion of the sea approach from the 5-fathom (9.1440-metre) line landward to the mean low-water mark.

numbered beach. A subdivision of a coloured beach designated for the assault landing of a battalion landing team or similar-sized unit.

O

objective area. *A defined geographical area within which is located an objective to be captured or reached by the military forces. This area is defined by competent authority for purposes of command and control.* See also amphibious objective area.

offshore approach. That portion of the sea approach seaward of the 5-fathom (9.1440-metre) line. See also nearshore approach.

on-call waves. Formations of landing craft, amphibious vehicles, landing ships, or helicopters carrying those elements of the landing force for which an early need ashore is anticipated, but whose time and place of landing cannot be accurately predicted and therefore are not specified.

operational command. *The authority granted to a commander to assign missions or tasks to subordinate commanders, to deploy units, to reassign forces, and to retain or delegate operational and/or tactical control as the commander deems necessary. Note: It does not include responsibility for administration.*

operational control. *The authority delegated to a commander to direct forces assigned so that the commander may accomplish specific missions or tasks which are usually limited by function, time, or location; to deploy units concerned, and to retain or assign tactical control of those units. It does not include authority to assign separate employment of components of the units concerned. Neither does it, of itself, include administrative or logistic control.*

organization for embarkation. The administrative grouping of the landing force for the overseas movement. It includes, in any vessel or embarkation group, the task organization that is established for landing as well as additional forces embarked for purposes of transport, labour, or for distribution to achieve a maximum of security.

organization for landing. The specific tactical grouping of the landing force for the assault.

outer landing ship area. An area to which landing ships proceed initially after their arrival in the objective area. They are usually located on the flanks of the outer transport areas.

outer transport area. An area inside the area antisubmarine screen to which assault transports proceed initially after arrival in the objective area.

P

parallel chains of command. A parallel system of command, responding to the interrelationship of naval and landing force tasks, wherein corresponding commanders are established at each subordinate level of both components to facilitate coordinated planning for, and execution of, the amphibious operation.

patrol plane group. A task organization of patrol aircraft units that conduct such missions as scouting, reconnaissance, and antisubmarine operations while the amphibious task force is en route to, and in, the objective area.

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.* See also landing diagram, ship-to-shore movement.

planning directive. The plan issued by commander, amphibious task force, following receipt of the initiating directive, to ensure that the planning process and interdependent plans developed by the amphibious task force headquarters and assigned major forces will be coordinated, the plan completed in the time allowed, and important aspects not overlooked.

planning memoranda. Memoranda containing fragmentary information and instructions issued by a commander in advance of formal plans to ensure that subordinate commanders are in possession of all available details that will affect their own planning.

planning program. The program prepared and issued by a commander that prescribes the schedule of planning events for his staff.

plunging breakers. *See breaker types.*

potentially hostile shore. An allied shore within tactical weapon delivery range of enemy land, sea, or air forces.

prearranged fire. *Fire that is formally planned and executed against targets or target areas of known location. Such fire is usually planned well in advance and is executed at a predetermined time or during a predetermined period of time.*

pre-H-hour transfer. The transfer of control and tactical-logistic parties from their parent ships to assigned control ships, and the transfer of the necessary troops and accompanying equipment from transports to landing ships and/or transports in preparation for the ship-to-objective movement.

prelanding operations. The initial events of the assault phase, encompassing (1) the continuation of similar preparation of the landing area initiated by an advance force (if employed), and (2) final preparation for the ship-to-objective movement.

primary control officer. 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 coloured beach.

priority sequence table. A timetable showing the order in which ships of the sea echelon are to proceed to the transport area for unloading. The priority sequence table will normally show the scheduled time of arrival in the transport area and the berth assigned.

Q

quiet landing. The conduct of the initial assault portion of an amphibious operation without the use of radio communications.

R

rate of advance. The average rate of movement of landing force units from beaches and/or landing zones toward initial landing force objectives, expressed in metres per hour.

reconnaissance and underwater demolition group. A task organization including ships, embarked reconnaissance troops, and underwater demolition teams, which conduct reconnaissance, hydrographic surveys, and demolition of natural or manmade obstacles.

recovery (amphibious reconnaissance). In amphibious reconnaissance, the physical extraction of landed forces and/or their link-up with friendly forces.

regulating point. An anchorage, port, or ocean area to which assault and follow-up echelons proceed on a schedule, and at which they are retained by commander, amphibious task force until needed in the transport area for unloading.

S

screen. *An arrangement of ships, aircraft and/or submarines to protect a main body or convoy.*

sea echelon. *A portion of the assault shipping which withdraws from, or remains out of, the transport area during an amphibious landing and operates in designated areas to seaward in an on-call or unscheduled status.*

sea echelon area. An area to seaward of a transport area from which assault shipping is phased into the transport area, and to which assault shipping withdraws from the transport area.

sea echelon plan. The plan for reduction of concentration of amphibious shipping in the transport area, to minimize losses due to enemy attack by mass destruction weapons and to reduce the area to be swept of mines.

selective loading. *The arrangement and stowage of equipment and supplies aboard ship in a manner designed to facilitate issues to units.* See also selective unloading.

selective unloading. *In an amphibious operation, the controlled unloading from assault shipping, and movement ashore, of specific items of cargo at the request of the landing force commander.* See also selective loading.

serial assignment table. A document that contains the serial numbers in numerical order, the unit (or part) making up the serialized unit, the number of personnel, the ship from which the unit is to be unloaded, the material in the serial, the minimum number and smallest types of landing means that can land the serial, and special information.

serial number. An arbitrary number assigned to each unit or grouping, including its equipment, which is (1) embarked entirely in one ship, (2) to be landed as a unit on one beach or helicopter landing zone, and (3) to be landed at approximately the same time.

shaping operations. Shaping operations consist of supporting, advance force, and prelanding operations that aim to isolate the objective area(s), gain information about the adversary, and/or prepare the AOA.

ship-to-shore movement. *That portion of the assault phase of an amphibious operation which includes the deployment of the landing force from the assault shipping to designated landing areas.* See also plan for landing.

shore party. *A task organization of the landing force, formed for the purpose of facilitating the landing and movement off the beaches of troops, equipment, and supplies; for the evacuation from the beaches of casualties and prisoners of war; and for facilitating the beaching, retraction and salvaging of landing ships and craft. It comprises elements of both the naval and landing forces.* Also called "beach group." See also naval beach group.

signals intelligence. *The generic term used to describe communications intelligence and electronic intelligence when there is no requirement to differentiate between these two types of intelligence, or to represent the fusion of the two.*

signals intelligence officer. A landing force staff officer who advises the intelligence officer on signals intelligence, prepares signals intelligence input to operation plans and orders, prepares and coordinates signals intelligence tasking, and assists in the operation of the amphibious task force/landing force electronic warfare coordination centre.

special unloading berths. Berths established in the vicinity of the approach lanes into which transports may move for unloading, thus reducing the running time for landing craft and assisting in the dispersion of transports.

spilling breakers. *See breaker types.*

splash line. In night operations, a point off the enemy beach at which swimmers are put into the water from rubber boats. It must be sufficiently distant from the beach to allow completion of the task without detection.

stowage. The method of placing cargo into a single hold or compartment of a ship to prevent damage, shifting, etc.

subsidiary landing. *In an amphibious operation, a landing usually made outside the designated landing area, the purpose of which is to support the main landing.*

support carrier force. A task organization of aircraft carriers with embarked aircraft and supporting ships that provides naval air support to the amphibious task force.

supporting arms coordinator. The officer in charge of the supporting arms coordination centre. He is the direct representative of the Navy commander who is charged with supporting fire coordination at the time. He integrates the fire plans of the supporting arms to ensure their most effective use in furthering the landing force scheme of manoeuvre ashore.

supporting operations. *In amphibious operations, those operations conducted by forces other than those assigned to the amphibious task force. They are ordered by higher authority at the request of the amphibious task force commander and normally are conducted outside the area for which the amphibious task force commander is responsible at the time of their execution.*

surf zone. *The sea area from where waves start to break up, to the waterline.*

surging breakers. *See breaker types.*

T

tactical air control groups. Shipborne organizations necessary to operate a tactical air control centre and a tactical air direction centre (afloat) for the control of air operations.

tactical air coordinator (airborne). An officer who coordinates, from an aircraft, the action of other aircraft engaged in close support of ground or sea forces.

tactical air direction centre. An air operations installation under the overall control of the tactical air control centre (afloat)/tactical air command centre, from which aircraft and air warning service functions of tactical air operations in an area of responsibility are directed.

tactical air groups (shore-based). Task organizations of tactical air units assigned to the amphibious task force that are to be land based within, or sufficiently close to, the objective area to provide tactical air support to the amphibious task force.

tactical command. *The authority delegated to a commander to assign tasks to forces under his command for the accomplishment of the mission assigned by higher authority.*

tactical control. *The detailed and, usually, local direction and control of movements or manoeuvres necessary to accomplish missions or tasks assigned.* See also operational command.

tactical deception group. A task organization that conducts deception operations against the enemy, including electronic, communication, visual, and other methods designed to misinform and confuse the enemy.

tactical-logistic group (U.S.). In amphibious operations, a group organized from personnel within the landing force to advise naval control officers on landing force requirements during ship-to-objective movement. These groups are located with the primary and central control officers and helicopter direction centres. They are not normally found below regimental levels unless battalions are landed at widely separated beaches, precluding adequate regimental control.

tactical signals intelligence coordinator. A naval staff officer who directs the operation of the ship's signals intelligence facility and advises the intelligence officer on signals intelligence, prepares signals intelligence input to amphibious task force operation plans and orders, prepares and coordinates signals intelligence tasking, and assists in the operation of the amphibious task force/landing force electronic warfare coordination cell.

technical material. *1. In intelligence, equipment, materiel, systems and procedures, technical developments and capabilities intended for operational activities, from which intelligence may be derived. 2. In signals intelligence, data concerning cryptographic systems, communication systems, procedures and methods, signal characteristics, equipment and procedures.*

transfer berth. A berth located off a landing beach in proximity to the transfer line. A crane-equipped ship or barge is usually stationed in the transfer berth to assist in transferring troops, supplies, and equipment from landing craft to amphibious vehicles.

transfer line. The transfer line is a designated line to seaward of the surf line, off a landing beach, where personnel and material are transferred from landing craft to amphibious vehicles. It is established when troop plans, terrain, or hydrographic conditions dictate.

transfer of authority. *Within NATO, an action by which a member nation or NATO Command gives operational command or control of designated forces to a NATO Command*. In amphibious operations, transfer of authority is a step in the transitional command and control procedure in which command may be transferred in accordance with the initiating directive.

transport area. An area assigned to a transport organization for the purpose of debarking troops and equipment.

transport groups. Groups that provide for the embarkation, movement to the objective, landing, and logistic support of the landing force; they comprise all shipping in which the landing force is embarked.

U

underwater demolition and reconnaissance. A group of officers and men specially trained and equipped for making hydrographic reconnaissance of approaches to prospective landing beaches; effecting demolition of obstacles; clearing mines in certain areas; locating, improving, and marking of usable channels; channel and harbour clearance; acquisition of pertinent data during pre-assault operations, including military information, and visual observation to gain information useful to the landing force; and performing miscellaneous underwater and surface tasks within their capabilities.

unit loading. *The loading of troop units with their equipment and supplies in the same vessels, ships, aircraft, or land vehicles.*

V

vertical stowage. A method of stowage in depth within a single compartment by which the loaded items are continually accessible for unloading, and the unloading can be completed without corresponding changes or prior unloading of other cargo.

W

wave commanders. Officers assigned to form waves and control them in all subsequent movements under the direction of a boat group commander.

wave guide. A wave guideboat with embarked wave guide officer to assist in the navigation of amphibious vehicles to the beach.

wave number. The number assigned to surface and helicopter waves employed in the scheduled ship-to-objective movement. Waves are numbered successively from front to rear as first wave, second wave, etc.

ACRONYMS AND ABBREVIATIONS

A

AAW	anti-air warfare (naval air defence only)
AAWC	anti-air warfare commander
AC	air coordinator
ACA	airspace control authority
ACC	air component commander
AD	air defence
ADC	air defence coordinator
ADZ	air defence zone
AE	assault echelon
AF	amphibious forces
AFOE	assault follow-on echelon
ANGLICO	air/naval gunfire liaison company
AOA	amphibious objective area
AOO	area of operations
ARA	artillery reserved area
AREC	air resource element coordinator
ASUW	antisurface warfare
ASUWC	antisurface warfare commander
ASW	antisubmarine warfare
ASWC	antisubmarine warfare commander
ATF	amphibious task force

B

BDA	battle damage assessment
BMU	beach master unit
BPT	beach party team
BSA	brigade support area
BST	beach support team

C

C&LAT	cargo and loading analysis table
C&R	coordination and reporting
C2	command and control
C2W	command and control warfare
C3	command, control, and communications
C3I	command, control, communications, and intelligence
C4	command, control, communications, and computers
CADA	carrier air defence area
CAOC	combined air operations centre
CAP	combat air patrol
CAS	close air support
CATF	commander, amphibious task force
CCO	central control officer
CCS	central control ships
CEI	communications-electronics instructions
CIS	communication and information systems
CLA	landing craft, air cushion launching area
CLF	commander, landing force
CLZ	cushion landing zone
CO	commanding officer
COA	course of action

COG	centre of gravity
COLPRO	collective protection (NBC)
COMSEC	communications security
CONOPS	concept of operations
CRO	crisis response operation
CRTS	casualty receiving triage ship
CS	combat support
CSAR	combat search and rescue
CSS	combat service support
CSSE	combat service support element
CTL	candidates target list
CVBG	aircraft carrier battle group
CWC	composite warfare commander

D

DF	direction finding
DIRLAUTH	direct liaison authority
DLRP	data link reference point
DOS	days of supply
DP	distribution point
DTG	date-time group
DZ	drop zone

E

EA	electronic attack
EMCON	emission control
EMF	embarked military force
EMI	electromagnetic interference
EOD	explosive ordnance disposal
ESM	electronic warfare support measures

EW	electronic warfare
EWC	electronic warfare coordinator
EWCC	electronic warfare coordination cell
EWO	electronic warfare officer

F

FAAWC	force anti-air warfare commander
FARP	forward arming and refueling point
FOB	forward operating base
FSA	fire support area
FSC	fire support coordinator
FSCC	fire support coordination centre
FSCM	fire support coordination measure

G

GPS	global positioning system

H

HCS	helicopter coordination section
HCSO	helicopter coordination section officer
HDC	helicopter direction centre
HIDACZ	high-density airspace control zone
HLS	helicopter landing site
HLSC	helicopter logistics support centre
HLZ	helicopter landing zone
HSS	health service support

I

INFOSEC	(electronic) information security
IPB	intelligence preparation of the battlefield
ISB	intermediate support base
ISR	intelligence, surveillance, and reconnaissance

ISTAR	intelligence, surveillance, target acquisition, and reconnaissance
IUW	inshore undersea warfare

J

JF	joint force
JFC	joint force commander
JIC	joint intelligence centre
JIPTL	joint integrated and prioritized target list
JITL	joint integrated target list
JLSG	joint logistic support group
JOA	joint operations area
JOP	joint operations picture
JTFHQ	joint task force headquarters

L

LAAWC	local anti-air warfare coordinator
LCAC	landing craft, air cushion
LF	landing force
LFSP	landing force support party
LIM	linear metre
LOC	lines of communications
LOD	line of departure
LZ	landing zone

M

MCC	maritime component commander
MCM	mine countermeasures
MEDEVAC	medical evacuation
MEDREG	medical regulating
MNLC	multinational logistic command
MOB	main operating base

MOU	memorandum of understanding
MPA	maritime patrol aircraft
MSR	main supply route
MW	mine warfare

N

NATO	North Atlantic Treaty Organization
NBC	nuclear, biological, and chemical
NEO	non-combatant evacuation operation
NGFO	naval gunfire support forward observation
NGO	nongovernmental organization
NGS	naval gunfire support
NPS	NATO precautionary system

O

OE&AS	organization for embarkation and assignment of shipping
OP	observation post
OPCOM	operational command
OPCON	operational control
OPGEN	general operational messages
OPLAN	operation plan
OPORD	operation order
OPSEC	operations security
OPTASK	operational tasking
OTC	officer in tactical command
OTH	over-the-horizon

P

PCO	primary control officer
PCS	primary control ship
PMC	personnel, mail, and cargo

POD	point of debarkation
POE	point of embarkation
POL	petroleum, oil(s), and lubricants

R

RAS	replenishment at sea
RC	regional commander
REA	rapid environmental assessment
REBRO	re-broadcast
RLA	riverine landing area
RLS	riverine landing site
ROE	rules of engagement
ROTA	release other than attack
RSOM	reception, staging, and onward movement
RV	rendezvous

S

SACA	subordinate airspace control authority
SACC	supporting arms coordination centre
SADC	sneak attack defence coordinator
SC	strategic commander
SCS	secondary control ship
SIO	signals intelligence officer
SLCP	ship’s loading characteristics pamphlet
SOF	special operations force
SOP	standing (standard) operating procedures
SPOD	seaport of debarkation
SSR	supported/supporting relationship
STOM	ship-to-objective manoeuvre

T

TA	target acquisition
TACC	tactical air control centre
TACGRU	tactical group
TACLOG	tactical logistics
TACOM	tactical command
TACON	tactical control
TACP	tactical air control party
TAO	tactical air officer
TAOC	tactical air operations centre
TDS	tactical data system
TEWC	tactical electronic warfare coordinator
TIC	target information centre
TOA	transfer of authority

U

UAV	unmanned aerial vehicle

V

VSHORAD	very short range air defence
VSTOL	vertical/short takeoff and landing
VTOL	vertical takeoff and landing

LIST OF EFFECTIVE PAGES

Effective Pages	Page Numbers
Original	I, II
Original	III, IV
Change 3	V, VI
Original	VII, VIII
Original	IX, X
Change 3	XI thru XX
Change 3	1-1 thru 1-6
Change 3	2-1 thru 2-6
Change 2	2-7 thru 2-10
Change 1	3-1, 3-2
Change 3	3-3, 3-4
Change 1	3-5 thru 3-8
Change 2	4-1, 4-2
Change 1	4-3, 4-4
Original	4-5, 4-6
Original	5-1, 5-2
Change 2	5-3, 5-4
Change 1	6-1 thru 6-4
Original	6-5, 6-6
Change 2	6-7, 6-8
Change 1	6-9, 6-10
Change 3	7-1, 7-2
Change 1	7-3, 7-4
Change 3	7-5 thru 7-12
Change 1	8-1 thru 8-6
Change 3	8-7 thru 8-12
Change 3	9-1 thru 9-34
Change 3	10-1 thru 10-10
Change 2	11-1, 11-2
Change 3	11-3 thru 11-18
Change 3	GLOSSARY-1 thru GLOSSARY-16
Change 3	ABBREVIATIONS-1 thru ABBREVIATIONS-8
Change 3	LEP-1, LEP-2

INTENTIONALLY BLANK

ATP-8(B), VOLUME I