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DOCTRINE FOR JOINT RIVERINE OPERATIONS



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Subject: Joint Test Pub 3-06, "Doctrine for Joint Riverine
Operations"

1. This test publication contains proposed joint doctrine to guide the activities and employment of the Armed Forces of the United States in conducting joint riverine operations.
2. Joint test publications are developed and issued in accordance with Joint Pub 1-01. This test publication has been staffed with the Services and combatant commands. It is now ready to undergo evaluation in the field. After a thorough evaluation is accomplished, and feedback from the evaluation process is considered, the publication will be implemented under the provisions of CJCS MOP 9.
3. The lead agent for this publication is the US Navy. The Joint Staff doctrine sponsor is J-7.

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RECORD OF CHANGES FOR JOINT TEST PUB 3-06
(DOCTRINE FOR JOINT RIVERINE OPERATIONS)

RECORD OF CHANGES

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While this publication is in the "Test Pub" stage, change recommendations should be submitted through the chain of command to the Joint Doctrine and Allied Interoperability Division, Operational Plans and Interoperability Directorate (J-7), Joint Staff, Washington, DC 20318-7000, in accordance with guidance provided in Joint Pub 1-01.

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PREFACE

1. Purpose. This publication sets forth doctrine to govern the conduct of joint riverine operations of the Armed Forces of the United States. It provides guidance for the planning and execution of joint riverine operations. Further, this doctrine is intended to facilitate interoperability between the Services conducting joint riverine operations.

2. Application

a. Doctrine established in this publication applies to commanders of unified and specified commands, subordinate unified commands, joint task forces, and components. The doctrine and guidelines contained herein provide for the planning and execution of joint riverine operations across the operational continuum, from peacetime competition through war.

b. If conflicts arise between the contents of this publication and the contents of Service publications, this publication will take precedence unless the Chairman, Joint Chiefs of Staff, has provided more current and specific guidance.

3. Scope. The doctrine herein applies to joint riverine operations from the planning stage to the termination stage. Since the tasks to be performed in any riverine operation are functionally the same, the doctrine is applicable to all riverine operations. It is written for those who:

a. Provide strategic direction to joint forces (Secretary of Defense, Chairman of the Joint Chiefs of Staff, and commanders of combatant commands).

b. Employ joint forces (commanders of unified commands, sub-unified commands, or Joint Task Forces).

c. Support joint forces, or who are supported by joint forces (commanders of specified commands, component commands, joint task forces, and Chiefs of the Services).

4. Basis. This publication was sponsored by the Joint Staff and developed by the US Navy, in coordination with the Services, unified and specified commands, and the Joint Staff, for use by the US Armed Forces.

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CHAPTER I

CONCEPT

1. Concept of Riverine Operations

a. Joint riverine operations integrate and employ various types of ground, maritime, air, and special operations forces in a concerted effort to gain and/or maintain control of riverine, coastal, or delta areas. These operations will be conducted under the command of a single joint riverine force commander (CJRF). Command and organization will be in accordance with Chapter 3 of Joint Pub 0-2, "Unified Action Armed Forces (UNAAF)." The establishing authority may organize on an area, function, or Service basis. This doctrine is not intended to direct the use of either Service or functional components. Service command and organization responsibilities are well established. Functional relationships are less well understood. Therefore, this publication provides guidance based on functional relationships wherever appropriate.

b. The riverine area is an inland or delta area comprising both land and water, characterized by limited land lines of communication with extensive waterways that provide natural routes for transportation and communications. Where navigable waterways exist and roads do not, or where forces are required to use waterways, an effective program to control the waterways and/or interdict hostile movement becomes paramount. The riverine area requires unique capabilities and tactics to achieve success against hostile forces.

c. The primary advantage of a joint riverine force (JRF) is its ability to concentrate a mix of forces effectively for operations in the riverine area, including the ability to attack selected targets throughout that area. Riverine operations exploit the advantages of the waterways for movement, capitalizing on mobility to find, fix, and destroy hostile forces. Surface mobility is achieved primarily by riverine craft maintaining control of water LOCs and providing combat support and combat service support.

d. Because of the inherent waterborne mobility and unique capabilities of a riverine force, it is

appropriate to concentrate these forces on their primary riverine role, rather than divert them to maintaining territorial control beyond the limits of a riverine area. However, JRFs can contribute to wide-area territorial control by performing the riverine operations set forth in subparagraph 1f below, in support of other forces.

e. Environmental factors that can affect the composition and employment of the JRF include:

- (1) Shallow water.
- (2) Large tidal range.
- (3) Swift currents.
- (4) Narrow waterways.
- (5) Natural or man made obstacles.
- (6) Bridges.
- (7) Lack of suitable areas for ground force maneuver, staging, and/or resupply.
- (8) Concentrations of population (friendly, hostile, or neutral) along the waterways.
- (9) Dense vegetation, and in some cases, essentially impassable riverine terrain.

f. The entire riverine operation may include:

- (1) Intelligence collection.
- (2) Planning.
- (3) Embarkation of troops and equipment.
- (4) Patrol/barrier, interdiction, and surveillance operations.
- (5) Riverine assault operations.
- (6) Close fire support.
- (7) Suppression of enemy air defenses.

- (8) CAS.
- (9) Naval surface support.
- (10) Repositioning of forces.
- (11) Resupply of the riverine force until termination of the operation.
- (12) Support for PSYOP and civic action programs.
- (13) Reembarkation or withdrawal.
- (14) Support for FID.
- (15) Offensive or defensive mining and mine countermeasures.
- (16) Support of humanitarian requirements and disaster relief.

g. A riverine operation may include helicopter operations conducted by elements of the JRF, including heliborne, airborne, and ground operations conducted by other forces in conjunction with JRF operations.

2. Types of Riverine Operations. The JRF conducts operations in areas where local response may range from hostile action to a friendly welcome. The two general types of riverine operations, assault and interdiction, are defined below and described in Chapters XII and XIII.

a. Assault. These operations employ maritime, ground, air, and/or SOF to achieve one or more of the following objectives:

- (1) Establish control of waterways in a geographic area.
- (2) Establish control of land areas, population, and resources.
- (3) Locate and destroy hostile forces, enemy installations, and enemy supplies.
- (4) Establish and secure an area for a combat support base.

b. Waterway Interdiction, Surveillance, Barrier, and Security Operations. These operations employ ground, maritime, air, and/or SOF to achieve one or more of the following objectives:

- (1) Protect friendly LOCs.
- (2) Deny hostile forces the use of waterways.
- (3) Collect intelligence information.
- (4) Perform security assistance missions.
- (5) Enforce population and resources control.

c. Supporting Operations. Guidance for command relationships of attachment and support is outlined in Joint Pub 0-2 "Unified Action Armed Forces". Operations in support of the JRF may be required. Although these supporting operations normally will be at the request of the CJRF, they will be directed by higher authority and may be conducted inside or outside the JRF area of operations. The commander of forces conducting supporting operations will coordinate with the CJRF. Examples of supporting operations are:

- (1) Feints or demonstrations intended for purposes of deception.
- (2) Isolation of the area of operation by interdiction of enemy forces.
- (3) Operations to assist gaining or maintaining air, ground, or maritime superiority.
- (4) Air, surface, or SO to secure information.
- (5) PSYOP and UW operations.

d. Operations conducted by elements of the JRF in the riverine area (or en route to an objective area) before riverine assault forces arrive are considered preassault rather than supporting operations. Examples of such operations are waterway patrol and interdiction, mine countermeasures, obstruction clearance, and swimmer detection and defense.

e. Supported Operations. Riverine operations are frequently conducted as an adjunct to an amphibious landing; however, these operations may also be conducted in support of other commands or with other commands in mutual support. The CJRF must remain prepared to conduct short-term or protracted operations in support of taskings by the theater, combatant, or joint force commander. In particular, the JRF area of operations may overlap or be adjacent to the naval coastal warfare (see Joint Pub 3-10) area of operations. If such a situation occurs, a program of mutual support with early liaison will benefit both commands. The following areas of mutual concern should be coordinated closely:

- (1) Intelligence collection.
- (2) Base location, including a possible joint command post.
- (3) Patrol or barrier, interdiction, and surveillance operations.
- (4) Security.
- (5) Assault operations.
- (6) Supporting arms.

3. Composition of Force. The composition of the JRF will be determined by the assigned mission, special characteristics of the particular riverine area of operations, and enemy capabilities. Interoperability of C3 systems within the JRF is a primary consideration. For detailed information on Service riverine assets and capabilities, see Appendices A through E.

CHAPTER II

COMMAND AND ORGANIZATION

1. General

a. Guidance on the exercise of COCOM and OPCON is provided in Joint Pub 0-2. A commander of a unified command, in the exercise of COCOM, has full authority to organize and employ commands and forces considered necessary to accomplish assigned missions. OPCON will be exercised through the commanders of subordinate organizations, normally through the Service component commander.

b. The CJRF's staff should be allocated so that Service representation generally reflects the overall composition of the force. The staff will usually be sourced from within the JRF, at the discretion of the CJRF.

2. Initiating Directive for Joint Riverine Operations

a. An initiating directive from the commander having overall responsibility for the operation directs the MRF. The directive may be an OPLAN or OPORD, a letter of instruction, or an order to execute an already existing plan or order.

b. The initiating directive:

- (1) Establishes the JRF and assigns the mission.
- (2) Defines command relationships.
- (3) Defines the AO.
- (4) Provides an operation nickname or code word and sets target dates to execute the operation.
- (5) Contains instructions on the allocation, employment, and control of special ordnance.
- (6) Provides information or assigns responsibility for the conduct and coordination of combat, combat support, and combat service support and of Special Operations (SO) related to or in support of the riverine operations.

(7) Provides instructions governing termination of riverine operations and, if feasible, command arrangements and disposition of forces to occur at that time.

(8) Provides information concerning possible operations to be conducted after termination of riverine operations.

(9) Provides communications-electronics instructions to ensure that joint interoperability requirements are satisfied.

(10) Provides special instructions on ROE.

(11) Provides for coordination with other forces whose operations affect the JRF or the AO.

(12) Deconflicts simultaneous operations within the AOR.

(13) Provides instructions for combined operations with indigenous military and paramilitary forces, if needed.

(14) Provides instructions for civil-military operations, if needed.

(15) Contains instructions concerning intelligence support responsibilities, including joint or Service-component intelligence production responsibilities, and clarifies JRF intelligence tasking authority.

(16) Contains instructions concerning tactical counterintelligence support responsibilities.

3. Joint Riverine Force Organization

a. The combat commander, or his appropriate subordinate commander, having overall responsibility for the operation will designate the CJRF. The objective in organizing for riverine operations is the formation of a fully integrated combined arms force specifically tailored to provide the necessary mobility, unity of effort, and fire superiority to achieve the assigned task. The force may be organized along either functional or Service component lines, as best suited to meet the mission. Service component organization is the norm. Figure II-1a

provides a sample task organization along functional lines, Figure II-1b provides a task organization along service component lines.

b. This publication is written to support execution of riverine operations in both functional and Service component organizations.

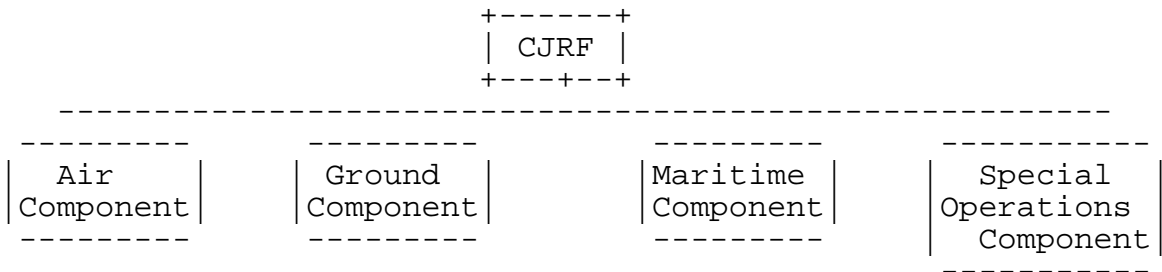


Figure II-1a Sample JRF Task Organization (Functional)

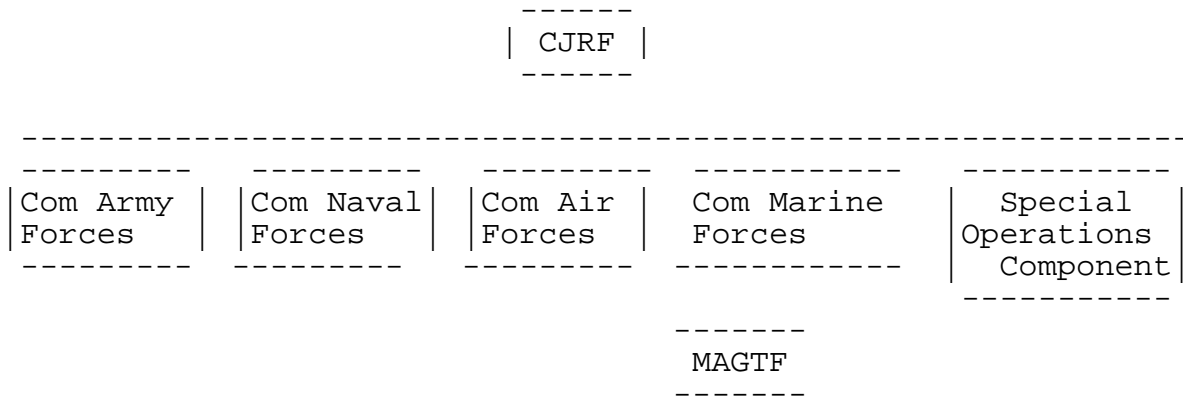


Figure II-1b Sample JRF Task Organization (Service Component)

b. A typical riverine assault or patrol group would normally consist of the following elements:

- (1) C3I.
- (2) Assault.
- (3) Combat.
- (4) Combat service support.
- (5) Craft with assigned crews capable of lifting troops and supplies.

- (6) Mine countermeasures craft with assigned crews.
- (7) Fire support craft with assigned crews.
- (8) Escort craft with assigned crews.
- (9) Aircraft support.

CHAPTER III

APPROACH TO PLANNING

1. Basic Considerations. Planning for riverine operations is a continuous process from receipt of the initiating directive to termination of the operation. It necessitates concurrent, parallel, and detailed planning by all participating forces. Plans must be detailed enough to give all participants complete information, while being simple and flexible enough to be modified as the tactical situation changes.

a. Plans for a riverine operation will be based on the mission, forces available, and intelligence concerning hostile forces, terrain, and weather.

b. The assigned mission must be analyzed to identify specific and implied tasks. A coordinated plan must be developed for the accomplishment of each of these tasks. The concept of operations must be such that the operation can be supported by the forces available and, therefore, must be examined by all commanders concerned to determine its feasibility in this respect. The concept of operations, commander's intent, and commander's guidance must be promulgated by the CJRF in the planning phase to facilitate detailed planning.

c. Enemy capabilities, limitations, and modes of operation must be estimated. Information on the enemy order of battle must be updated and refined during the planning phase of the operation.

d. Weather, terrain, and hydrography take on significant importance in riverine operations. Under some circumstances, they may even be controlling factors in any concept of operations. Consequently, thorough knowledge and consideration of the environment are extremely important in planning riverine operations. Because of the problems associated with position location and orientation in various environments, use of gridded aerial mosaics should be considered to supplement topographic maps.

e. Mine countermeasures and obstruction removal are critical considerations when planning for riverine operations.

f. Plans for countering an ambush will depend on whether the JRF is to force passage through the ambush or to land and destroy the ambushing force. If the mission of the JRF specifies the destruction of ambushing forces encountered en route, plans for landing combat elements ashore could be required.

g. Logistic plans should include equipment, levels of supplies to be embarked, resupply, and evacuation instructions. In general, embarked troops should be equipped for highly mobile operations. The remaining supplies and equipment should remain with the JRF, consistent with its resupply capability. Detailed logistic planning is covered in Chapter VIII.

h. Supporting arms plans will be developed in consonance with the scheme of maneuver. Detailed supporting arms planning is covered in Chapter V.

i. Civil affairs and civic action plans must be developed in coordination with the local government.

j. The JRF should plan and conduct its operations in accordance with international law. This includes the Law of War Program (such as the rules for targets and protection of noncombatants) domestic US laws and regulations, and laws pertaining to military justice, claims, and disposition of captured property. Training of riverine forces should ensure knowledge by members, commensurate with their duties and responsibilities, of the principles and rules of the Law of Armed Conflict, including the duty to report alleged violations. ROE should delineate the circumstances and limitations under which US forces will initiate and/or continue combat engagement with enemy forces. The Law of Armed Conflict provides the framework within which US ROE are formulated. Because ROE also reflect operational, political, and diplomatic factors, they often restrict combat operations more than the requirement of international law alone. The rationale for this restriction is that the original statement on US ROE confused military justice terminology (e.g., search and seizure) and the Geneva Convention on POWs with the ROE pertaining to use of force. The revised paragraphs more clearly define the applicable legal concepts and terms.

k. If assigned forces have not had previous experience or training in riverine operations, plans should provide

for training of joint and subordinate riverine commanders and staffs in the peculiarities of riverine operations planning and coordinating. This training should include joint training, if feasible, and training in control and coordination of assault craft, direct and indirect gunfire, mine countermeasures, helicopter gunships, and fixed-wing aircraft in the often densely vegetated riverine environment. If possible, ground forces scheduled for riverine employment should conduct advance-maneuver training in a similiarly difficult riverine terrain environment.

1. Communications plans will be developed in consonance with the concept of operations.

2. Concurrent Planning. Each echelon of the JRF should participate in the development of a joint riverine OPLAN. To expedite the preparation of plans, major commanders should be designated as soon as the decision has been reached to conduct a riverine operation. Early and efficient assembly of assault craft, support craft, ships, aircraft, and other resources necessary to the operation depend on expeditious and thorough concurrent planning. Initial planning must be originated by subordinate commanders on the basis of preliminary information provided in concepts of operations, outline plans, warning orders, planning memorandums, and decisions emanating from higher authority. The recommendations and estimates of subordinate commanders produced often influence the final plans and decisions of senior commanders.

3. Planning by Parallel Chains of Command. The concurrent participation by joint forces requires coordinated planning between corresponding echelons of command. Basic decisions, even those primarily the responsibility of an individual commander, must be reached on the basis of understanding the mission, objectives, tactics, capabilities, and limitations of the command. At the higher command levels, parallel planning commences with the inception of the operations. At the lower levels, it usually begins on receipt of an initiating directive and continues for successive operations. Commanders other than those assigned to the MRF, may be directed by higher authority to provide necessary liaison for planning and coordination of supporting operations.

a. Detailed planning. Detailed plans must be made for movement, base support, and logistics, as well as for operations to be conducted, including air support.

Specific attention should be given to the water movement and assault. When appropriate, this should include close integration and optimum employment of assault craft with the assault element scheme of maneuver and correlation with helicopter assault planning.

b. Collection and Dissemination of Intelligence. Current, accurate intelligence is a prerequisite to sound planning; therefore, prompt collection of essential information is necessary for timely development of plans. Collection can be complicated by the following factors:

(1) The objective area may be relatively inaccessible because of location and/or enemy defense.

(2) Real-time enemy information may not be available.

(3) Many available collection agencies are not part of the JRF.

(4) The necessity to avoid revealing future operations may require extensive compartmentalization by collecting agencies.

(5) Sufficient time may lapse between the start of planning and the execution of the operation that the enemy situation and characteristics of the area may change significantly.

(6) Specific provisions must be made to ensure that timely, accurate intelligence is disseminated by the most rapid means available.

c. Security. Security of planning is the responsibility of all echelons of command. The assembly of staffs and the concentration of forces tends to disclose the nature of projected operations, making concealment difficult. Special attention must be given to OPSEC.

4. Planning Procedures

a. In planning, decisions by a commander at one level may affect the plans of other commanders on the same or other levels. To keep all commanders and staffs informed during the planning phase, there must be early and continuous dissemination of planning data by each commander to his senior, subordinate, and corresponding echelon commanders. Early exchange of liaison officers is also desirable.

b. The basic documents employed in planning for a joint riverine operation are set forth in the following subparagraphs:

(1) Planning Directive. Following receipt of the initiating directive, the CJRF issues a planning directive to ensure that interdependent plans will be coordinated, will be completed in the time allowed, and will not overlook importance aspects. The planning directive specifies the principal plans to be prepared. It also establishes time limits for the completion of each major step in the planning process for the force headquarters and major forces assigned. The planning directive contains the commander's analysis of the overall mission, previous decisions about related operations, relevant assumptions, and the necessity for alternate plans.

(2) Planning Schedule. Using the planning directive as a guide, each commander prepares a schedule of planning events for his force.

(3) Planning Memorandums. As additional information, guidance, and instructions are received, commanders may issue planning memorandums in advance of the preparation of formal plans to ensure that subordinate commanders are informed of all available details that will affect their planning.

c. Planning for Continuing Operations. Planning for continuing riverine operations will follow the basic steps outlined herein; however, once SOPs have been established, planning is normally abbreviated and less formal in context and may use the technique of fragmentary orders.

d. Distribution of Draft. Drafts of OPLANS and OPOEDs, or portions thereof (such as annexes and appendixes), should be distributed to other commanders as appropriate to keep them abreast of current planning for the operation.

5. Basic Decisions. Basic decisions must be made at the highest level within a JRF before detailed planning for a riverine operation can proceed. Since the factors on which these decisions must be based are interrelated, and since the decisions will have some effect on every element of the JRF, each factor must be considered from the viewpoint of all participants. This section deals with these basic decisions,

delineates the participation of various commanders in making them, and sets forth considerations affecting them.

a. Determination of Mission Taskings and AO. The initiating directive will normally specify the AO and the mission. Mission taskings are promulgated by the CJRF to subordinate commanders to initiate detailed planning for specific objectives in support of the given mission.

(1) If the mission assigned the JRF by the initiating directive does not include a clear designation of the area or areas to be controlled, the CJRF may select the area best suited to accomplish the assigned mission.

(2) For complementary supporting operations, the CJRF may further subdivide the area of operations; this may be necessary if the objective areas are so widely separated as to preclude effective control by a single commander. These areas should be large enough to include land areas and waterways necessary for maneuver and support of the force and the reconnaissance and surveillance needed for target acquisition and security. Primary consideration is given to terrain, hydrography, and enemy combat power and modes of operations.

b. Concept of Operations

(1) Scope. The concept of operations embodies the scheme of maneuver and plan of supporting fires. It includes:

- (a) Allocation of forces.
- (b) Landing areas.
- (c) Subsequent maneuver.
- (d) Objectives.
- (e) Tactical control measures.
- (f) Plan of supporting fires (surface and air).
- (g) Alternate or contingency plans.
- (h) Designation of main effort.

- (i) Promotion for unity of effort.
- (j) Tasks to JRF components.
- (k) Priority of organic intelligence collection effort.

(2) Principal Considerations. Principal considerations in the formulation of the concept of operations are:

- (a) Mission.
- (b) Enemy capabilities and limitations.
- (c) Terrain, climatology, and hydrography.
- (d) Forces available.
- (e) Logistic supportability.
- (f) Fire support available.
- (g) Nature and extent of landing areas, helicopter landing zones, and terrain suitable for fire support bases.

(3) Selection of Riverine Landing Areas and Sites. The CJRF selects the riverine landing areas based on the recommendations from the land subordinate commanders. Landing areas are segments of a river bank or similar feature on which troops, supplies, or equipment can be landed by watercraft. A river landing area contains one or more points at which individual craft can land and disembark troop units. Whenever possible, river landing areas are selected to avoid opposition and facilitate the rapid and orderly debarkation of ground combat units. Primary considerations in the selection of riverine landing areas are:

- (a) Scheme of maneuver.
- (b) Enemy situation.
- (c) Hydrography.
- (d) Obstacles.

(e) Terrain river bank.

(4) Selection of Waterway Routes and Patrol Areas. To select the most favorable waterway route and/or patrol areas, multispectral imagery from satellites can provide current information on area hydrography and terrain/bank characteristics. Primary considerations in the selection of waterway routes between the mobile riverine base and the selected landing areas are:

(a) Asset capabilities and limitations.

(b) Mission objective.

(c) Hydrography.

(d) Enemy capabilities.

(e) Capabilities to support primary and alternate plans.

(f) Terrain/bank characteristics.

(5) If not prescribed by the CJRF, waterway routes are selected by the maritime component commander in coordination with the ground and/or SO component commanders.

(6) Selection of Helicopter Landing Zones. The primary considerations in selection of helicopter landing zones are:

(a) The concept of operations.

(b) Enemy capabilities, disposition, and known counterhelicopter tactics.

(c) Friendly capabilities to suppress enemy air defenses and to provide air, artillery, and naval gunfire support for ground operations.

(d) Ease of identification from the air.

(e) Firm, dry ground suitable for landing helicopters (this frequently may not be available). Accurate data on the depth of water in inundated landing zones and the location of

minor waterways within the landing zones is essential to prevent unnecessary loss of life and inordinate delay in troop reorganization upon landing when jumping from hovering helicopters becomes necessary.

(f) Adequate obstacle clearance for approach and departure routes.

(g) Advice and recommendation of subordinate force commanders.

(h) Potential for establishment of combat service support area.

c. Selection of Base Sites

(1) Criteria. The CJRF selects the sites of riverine bases, either ashore or afloat, based on the mission, concept of operations, and recommendations of subordinate force commanders. Riverine base sites must meet the following criteria:

(a) Be within an area that can be defended by available forces without jeopardizing the offensive capabilities of the JRF.

(b) Be able to provide for mooring assigned ships and craft and, when necessary, sufficient area and facilities to accommodate forces ashore.

(c) Be within operational and communications range of deployed elements of the JRF so the base site can facilitate its logistic support as well as serve as a C3 center.

(d) Have the potential for deployment of combat service support.

(2) Other Factors to be Considered are:

(a) If the mobile riverine base element does not include a helicopter landing capability, it may be desirable to locate the afloat base, if one is established, adjoining a land area suitable for staging and loading helicopters.

(b) Defense plans should permit rapid establishment of defense on land and along waterways.

(c) Mine countermeasures and antiswimmer defenses must be provided.

(d) The location of the afloat base of operations, if one is established, should permit safe passage of other waterway traffic.

(e) Alternate waterway traffic routes should be available to the base.

d. Selecting Tentative Operating Dates and H-Hours

(1) The Joint Riverine Force Commander. The CJRF selects tentative operating dates and H-hours after consultation with land, maritime, air, special operations component commanders, and other commanders, as appropriate. During planning, tentative operating dates for operations are based on:

- (a) Availability of forces.
- (b) Readiness of forces.
- (c) Present and projected enemy situation.
- (d) Seasonal climatology in the AOs.
- (e) Local tides and currents.
- (f) Directives of higher headquarters.
- (g) Requirement to coordinate with other friendly forces.

(2) Principal Factors. The principal factors in selection of tentative H-hours are:

- (a) Known enemy routine.
- (b) Duration of daylight.
- (c) Need for tactical surprise.
- (d) Concept of operations.

(e) Favorable conditions of wind, current, tide, and phases of the moon.

(f) Requirement to conduct certain operations or movements during hours of darkness.

(g) Most effective employment of supporting arms.

6. Rehearsals

a. Rehearsals are designed to test command structures, communications, fire support, information flow, and adequacy of plans. The complex interdependence of joint forces in riverine assault operations makes rehearsals essential if the forces involved have not previously operated together in riverine operations.

b. Rehearsals may take the form of maneuvers, command post exercises, or communications exercises.

c. Early in the planning phase, a decision must be made whether to conduct a rehearsal. If a full scale maneuver is not feasible, a rehearsal of communication plans, fire support procedures, and information flow should be conducted as a minimum.

7. Operations Security. Operations security (OPSEC) is a process of analyzing friendly actions attendant to military operations to identify those actions that can be observed by adversary intelligence systems, determining which indicators hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries, and selecting and executing measures to eliminate or reduce the vulnerabilities of friendly actions to adversary exploitation. OPSEC measures cover a spectrum ranging from routine protection of classified material through protection of classified transmissions during an operation.

CHAPTER IV

SO PLANNING

1. Special Operations. SO may be conducted in support of riverine operations. For example, SOFs can perform specific missions in support of assault, riverine patrol, and reconnaissance operations. As a category or form of warfare, SO is characterized by a unique set of objectives, weapons, and forces (Joint Pub 3-05, "Doctrine for Joint Special Operations"). A mission under a certain set of environmental constraints may require the application of SO skills and techniques.

2. Missions. SOF can perform five principal missions in support of the JRF (explained in detail in Joint Pub 3-05): UW, DA, SR, FID, and CT.

3. Planning Considerations. Planning considerations for SO in support of a JRF begin on receipt of the initiating directive. Because of the unique considerations involved in the conduct of an SO, the CJRF must have personnel with SO experience assigned or attached to the JRF joint Staff. This expertise can also come from a Joint Special Operations Task Force. The planning of an SO without current SO expertise within the planning staff may seriously jeopardize the success of the mission. A detailed list of planning considerations for the employment of SOF is provided in Appendix D, to Joint Pub 3-05. Also see Joint Pub 3-05.5, "Joint Special Operations Targeting and Mission Planning Procedures," for additional planning considerations.

CHAPTER V

SUPPORTING ARMS PLANNING

1. Fire Support Planning

a. Commander, Joint Riverine Force. The CJRF is responsible for coordination of all fire support planning. The CJRF normally establishes fire support coordination elements at subordinate or appropriate echelons. These elements should provide the capability to transfer fire support coordination/control from afloat to shore and back, as required. For fire support coordination with commands not within the JRF, or with higher echelons, the CJRF should ensure that the requisite liaison is established with these commands. See Joint Pub 3-09, "Doctrine for Joint Fire Support."

b. Subordinate Commanders. The JRF component commanders are responsible for preparing the supporting arms plans to support their operations. Through the CJRF, these commanders request support from other JRF components. Subordinate component commanders will provide liaison officers, as required, to supported or supporting components as the situation dictates.

c. Selection of Targets. Target selection is the prerogative of the commanders being supported, subject to the ROE and law of war.

d. Target Classification and Priority. Coordinating supporting arms requires specific analysis of all targets and a determination on methods to be used for their destruction, suppression, or neutralization. This analysis of targets allows determination of both classification and priority. Planners should be aware that the Services have different procedures for target classification and priority.

e. Classification. Classification is assigned to targets as they are added to the target list. A general policy for classification of targets to be attacked by supporting arms should be promulgated by the CJRF. Usually, targets are grouped according to their classification.

f. Priority. Priority is assigned to each target, indicating the desired sequence of attack. The supported commander recommends target priorities for targets that are primary concerns of his force.

g. Selection of Means. The selection and allocation of which supporting arms will deliver fire support is a function of the CJRF or a CJRF designated representative. The proposed selections, allocations, and availability of fire support means are interdependent, and constant liaison and exchange of information on the subject are essential.

2. Supporting Arms Requirements

a. Maritime Forces Requirements. Operations such as riverine force movement, hydrographic survey, removal of underwater obstacles, minesweeping, sensor employment, and patrols could require support from all supporting arms. Definite provisions should also be made for artillery, aircraft, and suitable water craft to maintain protective screens for the mobile riverine base element. Maritime forces will require fire support from artillery, naval surface fire, and fixed- and rotor-winged aviation.

b. Ground Forces Requirements. Ground forces may require reconnaissance, artillery, RAC fire, naval surface fire, and air support before, during, and after the initial landing to destroy, suppress, or neutralize hostile forces capable of opposing the assault and to provide covering screens. Ground forces fire support plans may include:

- (1) Artillery fire plan.
- (2) Assault craft gunfire plan.
- (3) Naval surface fire plan.
- (4) Air support plan.

c. Aviation Forces Requirements. Aviation forces may require assistance in security of forward landing zones, suppressing enemy air defenses (SEAD), recovering downed aircrews, and searching landing zones/bases.

d. Special Operations Forces. SOF may require supporting arms to cover insertions, extractions, movements, or actions at the objective area.

3. Fire Support Coordination

a. Plans for the supporting fires of artillery, RAC, naval gunfire ships, and aircraft must be coordinated to ensure those arms are economically employed with maximum effectiveness and the requisite degree of safety. Coordination in planning is achieved by:

- (1) Avoiding unnecessary duplication of missions.
- (2) Adhering to call for fire procedures.
- (3) Eliminating mutual interference between supporting units.
- (4) Ensuring that each means of support is employed on missions best suited to its capabilities consistent with the situation, time available, relative amounts and types of ammunition on hand, and ammunition logistics considerations.
- (5) Assigning responsibility for control of fires to the lowest echelon having the necessary C2 of the supporting arms.
- (6) Assigning responsibility for final coordination of fires to the lowest echelon able to effect complete coordination for the particular mission. Fires are coordinated at each echelon to the degree with which that echelon is affected by the mission.
- (7) Maintaining common system of target designation used by all supporting arms.
- (8) Understanding completely the ROE.

b. The defeat of hostile force with minimum loss of noncombatant lives and property in densely populated areas requires a thorough understanding of the ROE established by higher authority. ROE within a riverine area may vary from locale to locale because of social and/or political considerations.

4. Special Considerations. Commanders at all levels should consider certain factors unique to the employment of supporting arms in a riverine area.

a. Artillery. Current Service doctrine for the employment of artillery is applicable in the riverine area; however, planning must consider factors unique to the area, which may include:

- (1) Ability of surface craft or barges to provide mobility and/or firing platforms.
- (2) Requirements to pre-position artillery in advance of assault operations to avoid premature disclosure of the planned operation.
- (3) Firing positions of limited size that may dictate the number and caliber of weapons employed.
- (4) Lack of firing positions in defilade.
- (5) Absence of survey control and concurrent use of observed fire gunnery procedures.
- (6) Limited ground observation.
- (7) Requirement for helicopter-transportable artillery firing platforms for use in inundated areas, if barge-mounted or boat-mounted artillery is not available. Because of the hydrography, area fire weapons play a greater role in fire support than precision fire support. In addition, special consideration for weapon fuzing must be made.
- (8) Difficulty in defining unit boundaries.
- (9) Requirement to provide mutual support in the event of split battery operations.

b. Assault Craft Gunfire. Fire support planning must include a system for control and coordination of riverine assault craft fire in supporting the scheme of maneuver.

c. Naval Gunfire. The demoralizing effect of naval gunfire, combined with the difficulty of providing artillery fires in the normal volume, justifies heavy use of naval gunfire whenever range permits. In delta areas, the distance naval gunfire can extend inland may be restricted by mud flats and sandbars extending several miles to sea. Under optimum conditions, ships may be able to provide support from principal rivers.

d. Observation of Fire. Lack of vertical relief in most riverine areas severely limits surface observation and adjustment of supporting fire. Ground observers must position themselves to accurately direct effective fire. Unusual dependence on aerial observers may be essential.

e. Special Operations. The SR capability of SOFs can provide vital information for target selection, acquisition, fire adjustment, and battle damage assessment, which can augment supporting arms operations normally available to conventional forces.

5. Air Operations. Present doctrine, tactics, techniques, and equipment for aviation are readily adaptable to riverine operations. Although present publications do not address the term "riverine," they provide most of the information and doctrinal guidance required to plan and execute the air portion of riverine operations. Therefore, this section will be limited to aspects of air operations that are unique, require emphasis, or result from recent developments and advancements in technology.

a. Organization. The composition of aviation elements assigned to support riverine operations is determined by the mission, enemy threat, operational environment, available resources, and support requirements.

b. Helicopter Support. The helicopter plays a vital role in riverine operations. The JRF must have the capability to conduct air reconnaissance, air surveillance, air support, evacuation operations, airborne control, armed escort, and close-in fire support. If there is no riverine land base of operations, provisions must be made to include a helicopter support ship in the riverine base element. As a minimum, the JRF must be able to provide landing platforms, fuel, emergency repairs, and ammunition.

c. Close Air Support. CAS for waterborne units will be provided by using current doctrine, principles, and procedures. Effective CAS requires distinct marking of friendly elements as well as positive and reliable communications between the supported unit and the attacking aircraft. Aircraft must be under control of the fire support coordinator when delivering ordnance to ensure the safety of friendly forces. Control measures must be sufficient to help ensure coordination of fire among forces and safety of friendly forces. Although

both preplanned and on-call CAS missions are envisioned, the nature of the threat to waterborne units emphasizes the need for immediately available CAS.

d. Air Interdiction. AI operations can be an especially effective method of attacking hostile movement in riverine, coastal, or delta areas. Often, air-delivered mines are more effective for interdiction than directly delivered munitions such as bombs, because mines continue to be effective after delivery aircraft have left the area. Also, enemy uncertainty regarding the presence of mines can result in excessive delays, diversion of resources into time-consuming mine countermeasures, and reduced enemy morale. AI employing mines should complement surface riverine operations.

e. Supporting Arms. Supporting arms are used during the landing attack primarily for close support of the riverine assault force and require the coordinated employment of artillery, assault craft fire, naval gunfire, and CAS. The use of supporting arms will be in accordance with current joint and Service doctrine, tactics, techniques and procedures.

(1) Artillery. Standard artillery procedures should be followed and each battery should be capable of conducting independent fire direction from craft, barges, or ashore.

(a) The use of all means of mobility is a key factor when employing artillery in riverine operations because artillery frequently must be repositioned before the assault landing. This usually requires that artillery displacements be supported by air and other artillery during movement. Additional security forces may be required as temporary augmentation to the displaced unit.

(b) Lack of adequate position areas may deny use of the quantity and caliber of artillery normally dictated by hostile strength and area characteristics. Positions will usually be relatively small and established in insecure areas. The absence of firing positions in defilade, lack of cover and concealment, and

positioning in insecure areas will frequently require use of direct-fire techniques and heavy expenditures of anti-personnel ammunition for self-defense.

(c) Because of the lack of survey control and concurrent meteorological data, adjusted fires will be the primary method used to obtain maximum effect on the enemy.

(d) Artillery batteries may be deployed by either surface craft, helicopters, or on barges that act as firing platforms.

(e) Buoy markers should be placed on artillery weapons and prime movers to facilitate possible salvage operations.

(f) Positions selected for either land- or afloat-based fire support should allow for providing fire support for the maneuver force while enroute to or from the AO.

(g) Normally, the lack of commanding terrain in the AOs increases emphasis on aerial observation, particularly during waterborne movement. A combination of aerial observers and forward observers on the ground allows the best artillery coverage, coordination, and surveillance of the battle area.

(h) Support of water movements and patrols requires special emphasis on replotting targets and establishment of control points from which firing data can be transferred.

(2) Assault Craft Gunfire. Assault craft gunfire can provide direct and indirect fire to the ground force. These craft deliver direct fire with a wide variety of automatic weapons. Craft can also provide indirect fire support with naval mortars installed on selected craft. A high degree of coordination is required to provide support of troops ashore.

(a) The riverine ground component commander 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 AOs must be either delivered at the request of the supported unit or cleared by the on-scene commander of the assaulting forces.

(3) Direct-Fire Support. Assault craft providing direct fire in support of a specified ground unit for one phase of an operation will also 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 neutralization, interdiction, harassing, or destruction fire missions. They may augment infantry weapons with fires through gaps in friendly fires. Whatever the mission, fires must be executed in coordination with the supported unit commander's fire support plan.

(4) Indirect Fire Support

(a) 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.

(b) Normally, indirect fire will be observed by an aerial or ground observer who can communicate directly with supporting boats or through the ground unit fire-support coordination center.

(5) Naval Surface Support

(a) Naval surface support can be used for riverine operations. For current doctrine and procedures refer to NWP 22-2.

(b) Shore fire control parties are assigned to ground forces, as required.

(6) Close Air Support. CAS will be provided, using current doctrinal principles and procedures.

CHAPTER VI

INTELLIGENCE PLANNING

1. Scope of Intelligence Planning

a. The nature of the riverine AOs places an increased importance on intelligence. Intelligence planning must be designed to give commanders accurate and timely information concerning the enemy threat and the status of the AOs in order to assist him in the determination of objectives and operations planning.

b. Intelligence planning for riverine operations is divided into three phases:

(1) Determination of intelligence requirements and planning for the collection, processing, and dissemination of that intelligence required for operational planning.

(2) Preparation of the Intelligence Annex to OPLANs or OPORDS.

(3) Preparation and dissemination of intelligence plans, estimates, reports, and summaries during operations.

2. Intelligence Planning Responsibilities

a. Upon receipt of a mission, the CJRF initiates planning procedures. He prepares an estimate of the situation based on the mission and available intelligence on the area of operations. With the assistance of the intelligence officer, J-2, he identifies intelligence gaps and requirements for update/currency. These are levied on JRF intelligence organizations for collection, analysis, production, and dissemination; those that cannot be accomplished by JRF assets are validated and passed up the chain of command. Each level of command responds and/or passes the unsatisfied requirements until they reach the national level agencies.

b. The CJRF tasks subordinate intelligence units with continuing intelligence or special collection missions and requests higher headquarters to execute such mission requirements that are beyond the capabilities of subordinate units. Additionally, he directs requirements for finished intelligence products to include priorities.

c. Responsibilities of Component Commanders. JRF component commanders are responsible for:

- (1) Determination of intelligence requirements for planning and making these requirements known to the CJRF through the submission of intelligence requirements requests.
- (2) Collection and processing of information and dissemination of intelligence to major elements of the JRF.
- (3) Establishing liaison with subordinate intelligence units and the JRC to assist in the collection, production and dissemination of intelligence.
- (4) Obtaining and distributing maps, charts, photographs, and special intelligence materials.
- (5) Preparation of intelligence estimates.
- (6) Security and counterintelligence measures, in addition to those specified by higher authority.

d. Intelligence Requirements. The CJRF requires current, useable intelligence in a timely manner in order to plan and direct operations, achieve mission success, and protect his force. While some intelligence needs are one time, many are recurrent or standing. New requirements are submitted via intelligence channels for validation by the chain-of-command. The following is a list of generic, standing requirements.

- (1) Hydrographic information, including waterway depth, length, width, bottom composition, tidal ranges/currents, and bank characteristics (e.g., length, bedrock/soil composition and trafficability).
- (2) Navigational hazards, including natural and manmade waterway obstacles such as vegetation, debris, fish traps, and barricades.
- (3) Location of bridges and clearances underneath bridges.
- (4) Real-time locations, capabilities, limitations, activities, and probable courses of action of enemy units in the objective area.

- (5) Loading, departure, and delivery points for hostile watercraft.
- (6) Routes followed by the enemy on inland waterways, including staging areas.
- (7) Evasion tactics used by the enemy, including camouflage and deception.
- (8) The enemy logistic system, with emphasis on waterborne transport routes.
- (9) Location of arms and supply caches.
- (10) Identification of warning systems used by the enemy against patrol craft.
- (11) Identification of points where the enemy usually crosses rivers and canals.
- (12) Identification and capabilities of enemy watercraft. Emphasis should be placed on determining whether they are owned by the enemy or are impressed from the local populace.
- (13) Enemy swimmer capabilities, equipment, and methods of operation.
- (14) Enemy mining, including tree-mounted directional antipersonnel mines, ambush operations (with particular emphasis on early warning of ambush sites), and mining tactics.
- (15) Enemy tactics concerning antipersonnel devices such as command and trip-wire-detonated claymore mines, grenades, traps, camouflage pits, and stakes or spikes driven into the ground.
- (16) Location, capabilities, and tactics employed by enemy antiaircraft elements.
- (17) Identification of enemy intelligence and counterintelligence elements in the AO.
- (18) Susceptibility of the populace to pressure from the enemy to provide information on friendly forces and operations.

(19) Identification of guerilla, paramilitary, or similar groups in the objective area.

(20) Identification of individuals, groups, or organizations in the objective area that may be exploited by the enemy for espionage, sabotage, or subversive activities or by friendly forces for intelligence.

(21) Weather, including temperature, precipitation, humidity, visibility, wind, fog, cloud cover, ice incidence (including normal locations and thickness of surface ice in specific weather/temperature conditions), and the effect of weather at various seasons on the river's characteristics.

(22) Astronomical conditions, including sunrise, sunset, moon rise, moon set, and phase of the moon.

(23) Identification of civilian uses of waterways, including type of craft, traffic pattern and density, and civil registration and licensing system.

(24) Determination of medical characteristics of the AO, including plant and animal ecology, terrain, climatological and disease incidence data, and sanitary conditions ashore.

(25) Identification of helicopter landing zones.

3. Intelligence Sources and Collection. All sources and methods of collection should be applied. Riverine Operations are generally conducted in areas of heavy vegetation and that change regularly due to the action of river water, tides and storms. As a consequence, hydrographic charts and maps become outdated. In order to obtain current map and chart information the full range of human, imagery, and unique sensor collectors may have to be applied to gain the requisite intelligence to support operations.

4. Environmental Considerations

a. Requirements. Terrain analysis and route reconnaissance have a direct effect on operational planning. Detailed intelligence is necessary on the width and depth of waterways, velocity and nature of currents, tidal changes, bottom characteristics, gradient

of possible river landing sites, condition of the banks, location of debris, vegetation, obstacles, and topography. Accurate intelligence concerning terrain and hydrographic conditions is generally lacking. The physical characteristics of a riverine environment are not stable, as stream courses may change and sand bars constantly shift positions.

b. Characteristics of Waterways. Major rivers and inland waterways can be placed in one of the following categories:

(1) Headwaters or Upper Sector (Type 1). In this category, the river is variable, unpredictable, and usually not navigable by motorized craft.

(2) Central Valley or Middle Sector (Type 2). The waters in this category can usually be navigated by small motorized craft. The upper portions of this type of waterway have river bedrock formations and conditions similar to the headwater sector. Multiple channeling often occurs in the lower portion of this type of waterway. Accurate information becomes more significant because deep channels are either scarce or nonexistent in multiple channeling areas. The channel with the strongest current is usually the deepest.

(3) Delta or Lower Sector (Type 3). This category is the widest part of the river. The current is usually slower than upstream and may change or even reverse with the tide. Channels that are navigable by ships are often found in the lower sector. Numerous low-lying islands and locations where the primary or secondary river channels double back exist in this type of waterway; therefore, this category requires special attention and tactics.

(4) Canals (Type 4). Canals may be encountered and used in an operation. Since canals are manmade, their characteristics are usually predictable, and they are often navigable by shallow draft boats. Entrances and exits are the critical points on canals, and special emphasis should be placed on obtaining information about these areas. It should be noted that enemy tactics include using deceptive mud or wood barricades to open or close manmade canals.

c. Biological and Medical Factors. Biological and medical factors must be included in the intelligence assessment. Information on diseases endemic to the area, such as malaria, cholera, typhus, and so forth, should be provided. Harmful insects and poisonous snakes, marine life, leeches and other parasites, and harmful plants native to the area must also be identified. Other anticipated medical problems, such as intestinal disorders, immersion foot, and conjunctivitis, that may be contracted by personnel living and operating in the area, and general health and sanitation standards must be identified.

d. Weather. Adverse weather conditions can either enhance or degrade riverine operations, and the ability to predict weather conditions accurately in a given locale must be included in the intelligence estimate. For example, although the reduced visibility caused by heavy rains or fog can be exploited in the movement of a riverine assault force, the detrimental effects of severe weather on communications, river navigation, force integrity, and safety may outweigh any potential benefits derived. Further, seasonal or other prolonged periods of extreme weather (i.e., heat, cold, rain, etc) may have a significant effect on the endurance and alertness of assigned personnel, as well as contribute to degraded performance of equipment.

5. Sociological Considerations. In a riverine area, extensive river and canal systems are the principal LOCs. The population tends to settle along these waterways, which are often their only LOCs. Civilian traffic and congested settlements provide cover for clandestine movements by hostile forces and help to conceal their mining and ambush efforts. Sociological and civil conditions are tied closely to the physical characteristics of the environment. Waterways may be used extensively by local government agencies to establish and maintain control in the riverine area.

6. Security

a. Efforts to maintain the security of tactical operations may be hampered because the forces involved will be under observation by the local population, a portion of which may support the enemy. In these circumstances, every individual and unit must understand and practice security measures.

b. To prevent sabotage, security of the riverine base must be maintained, since absolute control of waterways is usually not possible. Only carefully screened, essential civilians, excluding those with appropriate security clearances and those previously determined not to require an escort, should be permitted inside land or afloat base areas, and they must be kept under constant control and supervision. The CJRF's enforcement of curfews on waterway are by time and area, and enforcement in coordination with existing authorities is an effective security measure.

7. Intelligence and Counterintelligence Estimates. The CJRF is responsible for maintaining the intelligence and counter-intelligence estimates. These estimates should analyze enemy activity and the counterintelligence threat to riverine forces, and they should provide appropriate recommended plans to neutralize threats, using both passive and active security measures, and aggressive counterintelligence operations.

8. Intelligence Annex. The Intelligence Annex to the OPORD or OPLAN should be formatted in accordance with JOPS Volume II and should be a means of disseminating information and intelligence concerning collection management, intelligence tasks assigned (i.e., collection, reporting, dissemination, sensor employment, etc), and other tasks or procedures, as necessary. At the JRF level, the Intelligence Annex includes the reconnaissance/surveillance plan, reference to current intelligence estimates and summaries, special reports, and studies on the enemy and enemy AOs (particularly, those studies concerned with weather, terrain, hydrography, sociology, economics, and politics). If not previously distributed, such studies are included as appendixes to the Intelligence Annex.

9. Riverine Force Intelligence Support. In support of the intelligence mission, all components of the JRF will accomplish the following tasks:

- a. Collect and report any information which could support the current operations and the Essential Elements of Information of the JRF.
- b. Develop the capability to meet collection requirements assigned by higher authority with available assets.
- c. Evaluate collected information in accordance with unit capability.

- d. Maintain a capability to report and disseminate collected intelligence rapidly.
- e. Conduct intelligence liaison with other US and friendly forces, when feasible and as operations permit.
- f. Determine and request from higher authority those intelligence requirements that cannot be satisfied by organic JRF collection assets.

CHAPTER VII

COMMUNICATIONS PLANNER

1. Scope and Requirements

a. Riverine operations require reliable, secure, and rapid communications systems. Several special forms of control and lateral communications between elements of the force must be exercised in the execution of common or coordinated functions.

b. Flexibility. The JRF communications system must be flexible enough to support modified or new taskings. Common facilities must be used where practical to decrease frequency requirements. Alternate methods of communication other than electrical must be exploited to ensure the most rapid and secure delivery of information between widely dispersed forces.

2. Considerations

a. In as much as the JRF may contain maritime, ground, air, and SOF components, and since information and orders must be provided to all elements of the JRF, a joint communications plan should be prepared. Accordingly, planning should be a joint effort and carefully coordinated at each echelon of command in order to meet the requirements of the force.

b. All communications requirements tasked to units not a part of the JRF must be thoroughly coordinated.

c. The communications requirements of the JRF vary with the size and composition of the force. Planning to meet these communications requirements commences with other planning and is conducted concurrently. It also includes ensuring that communications are adequate to support the planning process itself. The following factors must be carefully considered during the planning process:

(1) Each component of the JRF must have communications compatible with the tactics and techniques employed. The channels provided must ensure effective exercise of command, coordination of supporting fire, and administrative and logistic support. Because of the dissimilar nature of the forces involved, additional circuits may be required to permit the desired degree of C2.

(2) Elements of the JRF may operate in widely separated areas during some phases of the operation. Communications capabilities of major units must be adequate to support all operations.

d. Environmental Effects and Operating Conditions. Environmental effects may vary widely between areas of operation; however, some problem areas in planning remain constant. For example, vegetation absorbs radiated radio frequency energy, and terrain may mask receiving stations. A study of the specific physical environment, with emphasis on the adverse effects of weather, geography, vegetation, and terrain may enable communications planning to overcome some of the limitations imposed.

e. Climatology. Climate will affect equipment and radio propagation characteristics. For example, high temperatures and humidity normally associated with riverine operations will reduce both shelf life and operating life of batteries and will decrease the power output and sensitivity of radios.

f. Terrain and Vegetation. Flat terrain generally permits greater operating ranges to be obtained with line-of-sight, VHF, and UHF communications. However, in delta areas, the dense vegetation frequently encountered along these waterways will absorb transmitted energy and reduce the usual terrain advantages. To overcome the absorbent effects of vegetation, antennas should be raised above the tree tops, if possible. Additionally, antennas that provide horizontal polarization may be used to lessen the effects of vegetation absorption.

g. Equipment. The communications equipment used by ground force units has been developed specifically for the ground environment. Equipment of mobile ground forces is usually portable, lightweight, easy to operate, equipped with several options of antennas and transmitting and receiving devices, rugged, and resistant to environmental conditions. Communications equipment employed by sections of the JRF must have compatible components, parts, and test equipment to reduce logistic support problems. Planning for the choice of communications media will require consideration of the following:

(1) Radio. In view of the wide dispersion of forces, and the inherent mobility of the JRF, radio is the primary means of communications. Radio nets must be structured to support the tactical organization.

(2) Wire. The only foreseeable use of wire communications is for intrabase use. The area commander coordinates requirements and provides external integrated wire and radio communications.

(3) Multichannel Radio Systems. Tactical ground-based multichannel radio systems are characterized by directional line-of-sight propagation, which may serve to minimize the probability of enemy interception, jamming, and direction finding. However, since multichannel equipment transmitters must be continuously keyed and since it may not always be possible to orient directional antennas away from enemy listening stations, the vulnerability of multichannel radio systems to interception, jamming, and radio direction finding is increased. With these constraints in mind, multichannel radio systems can support the various components of the JRF.

(4) Signal Communications. Signal communications, judiciously employed by ships and craft in a riverine environment, may offer significant advantages to the maritime component commander. The use of semaphore, flag hoist, directional flashing light, infrared flashing light, and/or hand signals can be an effective means of communication, even in the confusion and uproar of an ambush. In addition, the use of signal communications with brevity or code words can be an effective, simple means of "secure" communications.

(5) Messenger Service. Bulky materials such as maps, overlays, charts, and lengthy low-precedence message traffic can be economically delivered by aircraft or by watercraft couriers. A planned courier system should take advantage of the numerous liaison and logistic craft that support the riverine force away from its base. A well-planned system will relieve the radio communication networks of much superfluous traffic and permit rapid radio transmission of essential messages.

(6) Air Drops. Message air drop and pickup techniques are satisfactory for use in riverine operations. There are simple procedures that involve marking the pickup site, indicating wind direction, and rigging the pickup device.

(7) Airborne Radio Retransmission or Satellite Communications. Airborne radio relay or satellite communications techniques can be employed to extend radio communications. This technique can extend the range of the effects of terrain, such as masking or absorption.

(8) Sound Communications. Sound amplifiers are particularly effective in a riverine environment. Relatively low-level audio signals are capable of traveling great distances over water and flat marshlands. Extensive use of helicopter-mounted sound systems are useful in PSYOP and civic action programs.

g. Radio Circuit Requirements

(1) C2 Craft. The C2 craft assigned to the JRF must have adequate communications facilities to meet the requirements of the force as a whole.

(2) River Assault Craft. RAC must have adequate communications facilities for control of waterborne movement and support of the overall scheme of maneuver. A minimum of two transceivers will be required for riverine operations.

3. Responsibilities

a. The CJRF:

(1) Determines and consolidates communications requirements for the JRF as a whole.

(2) Acquires and assigns the necessary technical facilities to subordinate elements of the force.

(3) Determines, consolidates, and coordinates the ECCM requirements of all participating forces.

(4) Promulgates guidance for cover and deception plans for the operation.

(5) Provides requirements for establishing communications liaison between commands of the participating forces for communications planning.

(6) Prepares and promulgates a complete and coordinated communications plan.

(7) Assigns frequencies and call signs.

b. Component commanders:

(1) Determine and submit requirements for use of communications facilities controlled by higher headquarters.

(2) Develop EW plans and requirements for EW support.

(3) Provide planning coordination requirements to subordinate JRF units and supporting forces.

(4) Develop and promulgate a complete and coordinated communications plan to support the plan of the CJRF.

4. Communications Security. The CJRF is responsible for COMSEC. This is accomplished by the development of communications security plans and procedures that should consider the following:

a. The use of earphones and voice-muffling devices on voice circuits and continuous wave transmission, when practicable.

b. Communications should be prepared and authenticated to prevent analysis and imitative deception by the enemy.

c. Since recognition and identification signals may become known to the enemy, they should only be regarded as evidence -- but never as proof -- of friendly identity.

d. Visual communications may be used in preference to radio communications, when practical.

e. When communicating by light, care should be taken to use light of minimum brilliance and to employ proper directional procedures.

f. Locally generated substitution and authentication codes not approved by the National Security Agency will not be used.

g. Secure voice equipment should be used on all tactical radio nets and as practical on administrative nets. At least one tactical radio net common to all units will be kept uncovered for emergency communications. Code changes will be made as directed by the CJRF.

5. Communication Deception and Countermeasures. The scope of employment of imitative communications deception is usually specified in directives from higher authority. In the case of manipulative communications deception, the CJRF may initiate it if he has the available assets and if he has thoroughly coordinated the effect beforehand.

6. The Communications Plan. The JRF communications plan is based on the operation and administrative plans that it supports. The communications plan fulfills the requirements of the operation in terms of circuits, channels and facilities, and policies, and it governs the procedures for operation and coordination of the overall system. The plan is prepared in detail to facilitate its use at all echelons and normally includes:

a. General coverage of the communications situation, guiding principles, and the concept of operational employment.

b. The communications mission.

c. Delegation of tasks and responsibilities.

d. Detailed instructions relative to the organization, installation, operation, and coordination of the communications system.

e. Assignment and use of call signs, frequencies, cryptographic aids, and authentication systems.

f. Instructions on countermeasures, cover and deception, security, recognition and identification, and other special communications and electronics functions.

- g. Instructions concerning communications and electronics logistic support.
 - h. Instructions for medical evacuation that are compatible with all deployed units and medical aid craft.
 - j. Special planning considerations to ensure joint coordination in the allocation, use, and monitoring responsibilities of frequencies.
7. Rehearsals. Full rehearsals of the communications plan are important to identify unrealistic requirements and identify COMSEC weaknesses.

CHAPTER VIII

LOGISTIC PLANNING

1. Scope. The mission of the JRF will determine the logistic support required. Although accepted principles remain generally valid for riverine operations, variation from normal logistic techniques may be necessary to cope with the riverine area. Consideration must be given to special items of equipment; prescribed loads; levels of supplies; distribution; services; and engineer, maintenance, transportation, and medical support. This chapter deals with logistic planning matters peculiar to a riverine area of operations that may require special emphasis.

2. Logistic Planning Considerations

a. The CJRF will coordinate all logistic support. Although the extent of the logistic control exercised by the CJRF will be established by his commander, such control will normally be limited to what is necessary to meet logistic needs essential to the success of the mission. The CJRF must constantly strive for economics and efficiencies of efforts.

b. Logistics is a Service responsibility, and each component of the JRF must ensure that appropriate support is provided by the parent Service or through validated agreements established during the planning phase.

c. Each Service is responsible for the logistic support of its own forces in a combatant command, except when logistic support is otherwise provided by agreements or assignments for common servicing, joint servicing, or cross-servicing. Logistic procedures at all levels must provide for coordinated and continuing support, including the use of common facilities by Service component forces in the riverine AOs. For detailed information on joint logistic planning, see Joint Pub 4-0, "Logistics Support of Joint Operations."

d. Logistic planning to support riverine operations is divided into two categories:

(1) Logistic support provided to the JRF from external sources.

(2) Organic logistic support provided by the JRF.

e. A characteristic of logistic support in riverine operations is the near total reliance on ships and small craft to provide not only transportation, but also storage, maintenance, and billeting facilities. The afloat basing of logistic support, either riverine or sea based, increases flexibility and provides facilities essential to the conduct of riverine operations while reducing security requirements.

f. Logistic Functions. Logistic planning for riverine operations must provide for the following:

- (1) Embarkation of personnel and equipment in the riverine afloat base of operations.
- (2) Tactical loading of personnel and supplies from the riverine base of operations to assault craft.
- (3) Establishment and maintenance of an inter-Service logistic support system.

g. Logistic Planning Factors. The following factors exert a marked influence on logistic planning for riverine operations:

- (1) Number of units to be supported.
- (2) The availability and accountability of equipment.
- (3) The size of the area over which the equipment is to be distributed.
- (4) Type of equipment essential to the success of the mission.
- (5) Length of time before equipment is readily available.
- (6) Source of resupply.
- (7) Base defense plan.
- (8) Character and expected duration of the contemplated operation.
- (9) Distance of the area of operations from the riverine base and of the base from its sources of supply.

- (10) Freedom from the enemy disrupting supply lines, both maritime, aerial, and land.
- (11) Availability of logistic means.
- (12) Progressive increase in the level and form of logistics support that may be required in the AOs.
- (13) Climatology and astronomical conditions for the AOs.
- (14) Terrain and hydrography in the AO.
- (15) Availability of host nation resources.
- (16) Support required for enemy POWs and the civilian population.
- (17) Medical support requirements.
- (18) Helicopter landing-site availability.
- (19) Support required for SOF and other unique elements that employ SOFs peculiar equipment.
- (20) Durability and suitability of emergency and life support equipment for the climatic and hydrographic conditions.

h. Riverine Base of Operations

(1) Requirements. Even when a JRF is introduced into an AO by means other than amphibious shipping, or when riverine operations are conducted after termination of the amphibious operation, a riverine base of operations is established. The base may be located afloat or ashore.

(a) Forces assigned to the riverine base of operations should be capable of performing all essential logistic functions so that the JRF is logistically self-sufficient except for periodic resupply and major maintenance on equipment.

(b) Whether the base is afloat or on land, storage and maintenance space will normally be at a premium in the riverine area. Space within

shallow-draft ships and craft used to form riverine bases is limited and must be used efficiently. Supply and maintenance operations of the component services must be integrated to permit maximum use of space available.

(c) Afloat basing, sea or riverine, allows for maximum support and flexibility while placing only the requisite forces ashore. Riverine afloat basing reduces security requirements and provides excellent facilities for C2, maintenance, billeting, medical, and helicopter operations. However, storage space on most ships suitable to riverine operations is limited. Multiple platforms for helicopter operations permit launching of forces from diverse locations, adding maneuverability to the ground forces and to the operation's deceptive plan. Optimum logistic support may be attained through a combination of both types of afloat basing.

i. Transportation. In a riverine area, an adequate road system capable of handling heavy logistic traffic normally does not exist. Railroads are either nonexistent or very limited, and they are easily interdicted. Airfields are scarce and usually inadequate for handling heavy loads. Consequently, unusual dependence is placed on water transportation, using the existing network of rivers and canals. In general, bulk movements of supplies, personnel, and equipment to support riverine operations will be accomplished principally by water.

(1) Ships and craft for riverine logistic support must be of shallow draft. For either afloat or land bases, these craft may be required to transport resupply items from the designated source to such bases. It is usually preferable to provide additional ships or craft to shuttle between the riverine base and its sources of supply (service force ships, shore-based depots, or other sources), rather than to move ships of an afloat base to the depots for resupply. Such movements will normally lessen the capability of the base to provide continuous support of tactical operations. In general, the degree of logistic support, which can be

provided by a riverine afloat base of operations, will depend on the amount and type of resupply shipping available, as well as the composition of the maritime riverine base element.

(2) Helicopters are especially well-suited for resupply and evacuation missions because of their speed and high degree of flexibility.

3. Logistic Planning Responsibilities. The CJRF and his component force commanders have specific and complementary logistic planning responsibilities.

a. Joint Riverine Force Commander. The CJRF is responsible for:

(1) Determining overall logistic requirements of the JRF, including units, special equipment, and shipping.

(2) Allocating the means to meet logistic requirements of the JRF.

(3) Planning for coordination of logistic support.

(4) Providing base development planning.

(5) Approving component commander's logistics, embarkation, and tactical loading plans.

b. Component Commanders. The subordinate component commanders of the JRF are responsible for the following:

(1) Developing plans, in coordination with the CJRF and other JRF component commander for the accomplishment of logistic functions.

(2) Determining logistic requirements of their components, including special equipment and shipping requirements.

(3) Determining transportation requirements, and requesting support, through the CJRF, from other components as required.

(4) Developing plans, in coordination with the supporting commander, for assembly, embarkation, or tactical loading of personnel, supplies, and equipment aboard riverine assault craft, ships, or aircraft as appropriate.

(5) Providing logistic support for component forces deployed in forward operating areas.

(6) Accomplishing logistic and support requirements and function, assigned by the CJRF.

(7) Allocating resources of their forces to meet consolidated logistic requirements.

(8) Providing Service-peculiar items to other components as required.

4. Logistic Plans

a. Only logistic planning affecting the JRF as a whole is set forth in this chapter. Service and individual component logistic planning guidance will normally be found in service SOPs and specific OPLANS or OPORDs.

b. Embarkation and Loading Plans. The planning tasks enumerated for embarkation and loading refer only to that phase during which the ground components, together with their supplies and equipment, initially embark on assigned shipping of the JRF. Plans for tactical loading are set forth in Chapter XII.

c. Supply

(1) Requirements. Supply planning is accomplished under two major categories:

(a) Initial supply. This comprises the level of supplies carried by the JRF in order to provide the required support for riverine operations. Riverine craft should carry sufficient quantities of Classes I, III, and V supplies to accommodate all embarked personnel for the length of the operation.

(b) Resupply. This is replenishment of the JRF's level of supplies or from the riverine base of operations to an objective area for support of tactical operations. Resupply of those forces operating away from the riverine base will be accomplished by riverine assault craft, aircraft, or riverine ground force vehicles, as appropriate. Pre-positioned loads of ground component supplies aboard riverine

assault craft will substantially increase flexibility and responsiveness of resupply for high-use items.

(2) Responsibility. Coordination of supply support for the JRF is the responsibility of the CJRF.

(a) The originator of the initiating directive may assign responsibility for providing common-item supplies. If this responsibility is not assigned in the initiating directive, the CJRF should encourage component commanders to conclude appropriate cross-servicing agreements for supply as early as practical.

(b) Service-peculiar supply items will be the responsibility of the Service concerned.

(c) If the riverine base of operations is afloat, the riverine maritime component commander will develop a plan for storing and distributing supplies. If a riverine land base is employed, the riverine ground component commander will normally be assigned this function.

(3) Maintenance. Riverine component commanders retain responsibility for maintenance of assigned and organic equipment.

(a) Space limitations dictate the merging of maintenance facilities to the maximum extent feasible. If maintenance responsibilities are not assigned in the initiating directive, component commanders should be encouraged to conclude cross-servicing agreements at an early stage.

(b) To conserve space, maximum use of mobile maintenance teams should be planned.

(c) Maintenance and overhaul schedules for assigned ships, boats, aircraft, and vehicles should be developed early in the planning phase and be provided to operational planners to facilitate forecasting of operational availability. Operational planners must be kept advised of changes to the forecast availability.

5. Medical Planning. Coordination of medical planning for riverine operations is the responsibility of the CJRF. In addition to the general health of the force, plans must provide for early, adequate, and definitive treatment of casualties as outlined in Joint Pub 4-02, "Doctrine for Health Service Support in Joint Operations". This latter requirement is the principal goal of medical planning. Medical facilities in the afloat base of operations may be the only ones reasonably accessible.

a. Medical Planning Considerations

- (1) Overall mission of the JRF and the supporting medical mission.
- (2) Policies of higher commands.
- (3) Characteristics of the riverine AO, including plant and animal ecology, terrain, climatology, disease incidence data, sanitary conditions, and available cover.
- (4) Preventive medicine, hygiene, and sanitation measures that must be instituted before and during the riverine operation. This should include recommendations on the type of preventive measures that ground maneuver units must take to operate in a riverine environment.
- (5) Physical and psychological factors affecting own personnel.
- (6) LOCs and evacuation routine.
- (7) Evacuation policies and treatment procedures.
- (8) Specific medical supplies required.
- (9) Size and types of forces involved and their tactical employment.
- (10) Estimated numbers and types of casualties based on the projected strength and type of enemy opposition and on the character, probable duration, and objectives of the riverine operation.
- (11) Medical personnel available and status of training, including adequacy of medical facilities.

(12) Medical needs for the civilian population and enemy POWs.

(13) Need for medical units, including surgical teams.

(14) Use of specifically designated and outfitted river assault craft and helicopters to provide ambulance facilities.

(15) Use of specific ships designated as hospital ships to meet anticipated hospitalization requirements. These ships should be capable of providing surgical, morgue, and holding facilities.

(16) The use of specially configured craft as medical treatment and evacuation stations.

6. Engineer Planning

a. The mission of engineer units will be diversified. Engineer units normally operate under the centralized control of the CJRF when stability permits; however, as units become more dispersed and support requirements more varied, decentralized employment of engineer teams will be required to a greater extent. Engineer unit commanders must plan for and be prepared to accomplish their mission with little, if any, of their heavy equipment because of the environment in the riverine AO. Joint Pub 4-04, provides additional guidance concerning joint engineer support.

b. Engineer Tasks. Engineer planning for riverine operations may include the following special tasks:

(1) Providing engineer reconnaissance.

(2) Obstacle breaching, including underwater obstacles.

(3) Removing and/or raising bridges that are a navigational hazard.

(4) Constructing and preparing riverine landing sites.

(5) Constructing and preparing of fire support bases.

- (6) Installing obstacle and/or barriers.
- (7) Providing survey control.
- (8) Preparaing helicopter landing zones.
- (9) Maintaining and repairing of canals and waterway systems.
- (10) Detecting and neutralizing mines and booby traps.
- (11) Clearing vegetation and destruction from field and firing fortifications at potential ambush sites.
- (12) Destroying facilities and/or specific locations of value only to the enemy.
- (13) Supporting civic action programs.
- (14) Constructing forward operating base(s) ashore.

7. Base Development Planning. Base development planning may include the necessity to create new dry ground by dredging or installing drainage systems.

CHAPTER IX

SUPPORTING OPERATIONS PLANNING

1. Definition and Authority

a. Operations in support of the JRF may be required. The commander of forces conducting supporting activities will coordinate with the CJRF.

b. The principles in Chapter V regarding air, helicopter, and CAS operations also apply to the conduct of supporting operations.

2. JRF Operations. Supporting operations may include:

a. Amphibious operations. (Joint Pub 3-02)

b. CAS or aerial observation. (Joint Pub 3-09)

c. Reconnaissance/surveillance and demolition. (Joint Pub 3-55)

d. Naval gunfire support. (NWP 22-2)

e. Coastal surveillance. (NWP 13-1)

f. Harbor clearance. (Joint Pub 3-15)

g. Search and rescue. (Joint Pub 3-50; 3-50.2)

h. Unconventional warfare. (Joint Pub 3-05)

i. Those SO listed in Chapter IV when conducted by SOFs external to the MRF.

j. Artillery support. (Joint Pub 3-09)

k. Intelligence support. (Joint Pub 2-0)

l. Engineer support. (Joint Pub 4-04)

m. Air defense support. (Joint Pub 3-01.3)

n. CBR support. (Joint Pub 3-11)

- o. EW support. (Joint Pub 3-51)
 - p. PSYOP deception. (Joint Pub 3-13)
 - q. Suppression of enemy air defenses. (Joint Pub 3-01.4)
3. Logistic Operations. Principles set forth in Chapters VIII and XV apply equally to supporting logistic operations.

CHAPTER X

EMERGENCY ACTIONS, DISASTER CONTROL,
AND COMBAT SEARCH AND RESCUE

1. Effect of Environment and Organization
 - a. Environmental conditions in riverine operations and the unique composition of the JRF may require certain modifications to normal contingency procedures.
 - b. The following paragraphs concern aspects of emergencies, disaster control, and combat search and rescue as they apply to riverine operations.
2. Emergencies Aboard Riverine Craft
 - a. Man Overboard. All craft will be prepared for a man overboard. Frequent drills are required to train personnel to quickly react to a man overboard. Rapid small craft action is normally required in riverine currents in order to be effective. Flexible SOPs for rescuing a crewman must be clearly understood and rehearsed because an entire craft and crew should not normally be placed in jeopardy for a crewman being swept by the current into a known ambush.
 - b. Fire. Depending on the severity of the fire, it may or may not be necessary to debark troops. If it is necessary, rehearsed emergency debarking procedures will be followed and designated craft will assist with debarkation and fire fighting support. The possibility for grounding a craft that has caught on fire should be considered.
 - c. Mechanical Problems. All riverine craft and ships should be prepared to tow other craft and ships in the event of a breakdown.
 - (1) In the event of a breakdown that requires slowing the entire formation, a decision will be made whether to declare the disabled ship a "straggler" or slow the formation. An escort detachment for stragglers may be necessary.
 - (2) Preselected and temporary anchorages may be used in the event a slowed speed of advance detains the whole formation and prevents it from reaching its destination on schedule.

d. Emergency Relocation. An emergency relocation is an extremis relocation of the afloat base of operations forced by enemy action or inclement weather conditions. If forced by enemy fire, it may be necessary to execute a planned withdrawal of shore perimeter defense troops and equipment, disposal of inoperable craft, and emergency destruction of classified material. If a riverine assault operation is in progress, a subsequent rendezvous will be conducted in accordance with instructions given in the OPORD.

3. Disaster Control and Emergency Assistance

a. Procedures. Disaster control and emergency assistance procedures are executed in accordance with current directives and SOPs.

(1) The CJRF is responsible for:

(a) Conducting disaster control measures and operations in areas where the force is located.

(b) Rendering assistance in local emergencies to other US agencies and activities.

(c) Rendering assistance to the friendly local government and population in emergencies.

(2) The CJRF will be prepared to provide disaster control forces, to the extent possible, on the basis of noninterference with essential operations.

b. Coordinating Instructions. The CJRF:

(1) Supports other commanders, as requested, by providing forces and material assistance consistent with the requirements of the mission.

(2) Exercises economy of forces consistent with the mission assigned.

(3) Supports disaster recovery operations of other US and friendly government agencies consistent with the requirements of the mission at hand.

c. Riverine component commanders. The commanders will:

(1) Coordinate plans, training, and operations for evacuation and disaster recovery with foreign

military and civil defense authorities as directed by higher authority.

(2) Provide for own disaster control operations, as appropriate.

d. C2. Control of forces in actual emergencies and in training operations rests with the riverine component commander. During an emergency, additional forces may be provided for temporary augmentation. OPCON of these augmenting forces will normally be given to the commander whose forces are being augmented.

e. Communications. Commercial communications facilities may be used to augment government facilities, as required and available.

4. Combat Search and Rescue. CSAR is a specific task performed by rescue forces to effect the recovery of distressed personnel during wartime or contingency operations.

a. Execution. CSAR operations should be conducted in accordance with Joint Pub 3-50.2, for joint search and rescue.

b. Responsibility. The CJRF assumes specific responsibility for direction of CSAR operations for forces within the riverine AO. The commanders of adjacent joint and Service commands are responsible for conducting CSAR in support of their own operations. This does not alter the mutual responsibility to provide CSAR support to adjacent commands as circumstances may require and operations permit. This mutual support should be coordinated through respective joint/component rescue coordination centers or through exchanged liaison personnel.

CHAPTER XI

TACTICAL GUIDANCE

1. General Considerations. This chapter contains doctrine specifically directed toward riverine assault operations; waterway interdiction; and surveillance, barrier, and security operations.

2. Movement of the Joint Riverine Force

a. The JRF has two types of movement: nontactical movement, such as the relocation of the force to a new base of operations; and tactical movement, including riverine operations. Any movement of the JRF or its subordinate elements must be controlled and coordinated. Standard tactical control measures, such as checkpoints, phase lines, boundaries, and objectives, may be used. The CJRF must ensure that the location and purpose of control measures are understood by all elements of the JRF.

b. Security of the forces during movement is a primary consideration during planning.

c. Enemy threats during movement include water mines, water obstacles, ambushes, and harassing fire. Armed helicopters should be used to escort all water movements, because they can provide reconnaissance, fire support, and communications relay. On-call CAS should be available when required. Whenever possible, waterborne movements should be preceded by reconnaissance and security operations conducted by all available means. Troops should be thoroughly briefed on security plans, with emphasis on counterambush reaction plans and maximum use of security measures.

d. Plans should include:

- (1) Designation of counterambush maneuver elements.
- (2) C2 measures.
- (3) Fire support.
- (4) Security.
- (5) Identification and recognition of committed elements.
- (6) Recovery and reorganization of the committed force.

e. Provisions must be included for security of craft when the ground force elements have been committed to counter-ambush missions. Actions may range from complete commitment of the waterborne force to evasive action and continuing movement. Responsibility for immediate action rests with the commander designated by the CJRF.

f. During water movement, RAC should be organized to provide an advanced guard, including mine countermeasures craft, flank and rear guards, and a main body. This facilitates control and provides tactical integrity of the main body. The objective of the organization for movement is to provide uninterrupted movement and security for the entire force.

3. Joint Riverine Afloat Base Movement

a. The riverine afloat base of operations normally will be relocated as tactically necessary and to better support riverine operations.

b. The limited hydrographic data available on most rivers and tributaries, as well as rapidly shifting depth, sand bars, and mud banks, make river navigation difficult. Strong currents are not unusual. Navigational aids may be few and inaccurately charted; ships should ensure that navigation charts are corrected to include the latest available data. Commanding officers of ships and officers in charge of craft must exercise caution in navigating island waters. Navigation teams must be well trained and highly proficient in piloting.

c. During all movements, each element of the riverine assault force will be escorted by designated RAC. Rivers will be swept for mines along the movement route where a credible threat of mining exists. Ground units may be pre-positioned in high threat areas along the route of advance. Air and artillery support should be available. Ships of the force will take hostile targets ashore under fire only as permitted by the ROE. Caution must be exercised at all times to ensure that any firing does not endanger other friendly craft or troops ashore.

d. RAC will be stationed in accordance with the movement order for each change in location of the riverine base. Escort combat craft may be used for:

(1) Predeployment along the route in locations of greatest threat.

(2) Forward, rear, and flank escort.

(3) Establishment of base defense patrols and clearance of new anchorage areas.

(4) Minesweeping in areas of suspected mining threats.

e. River assault squadron units that are not engaged in escort of ships during movement of the riverine base, will be directed to proceed ahead or astern of the formation to the new base site.

f. An advance force is normally employed during relocation of the riverine base. This force includes reconnaissance, minesweeping, engineer, and infantry elements to reconnoiter, clear, and establish initial defenses at the new base site.

4. Measures to Prevent Mutual Interference

a. Measures to prevent mutual interference should be promulgated by the CJRF. Mutual interference between friendly units, including aircraft, must be prevented by close coordination between units conducting riverine assault operations and waterway interdiction and surveillance and security operations. Information exchanged between the operations control centers should include:

(1) Proposed transits of friendly units through areas assigned to other friendly units and frequent (at least hourly, if possible) position reports of units making the transit.

(2) Proposed OPLANS in areas where overlaps occur.

(3) Other information that will assist friendly units in identifying each other. This coordination may require the establishment of havens and transit lanes.

b. Commanders of forces in adjacent areas, operating within a TAOR, or operating in conjunction with a JRF should be provided copies of all operation orders. If

this is precluded by security requirements, provisions for continuing liaison with these commanders should be made.

c. Commanders should ensure that pre-operations briefings include:

- (1) All available information about friendly units that may be encountered.
- (2) Applicable intelligence reports.
- (3) Challenge and reply codes/deconfliction procedures.
- (4) Light-array sequencing.
- (5) Established havens and transit lanes.
- (6) Chain of OPCON.
- (7) A review of ROE.
- (8) All known environmental information (tides, currents, moon, terrain, etc.).
- (9) Replenishment information.
- (10) Rally points.
- (11) Communications instructions.
- (12) Supporting arms coordination.
- (13) Combat service support arrangements.

d. This information should be updated as additional data become available.

e. Particular caution must be taken near operation area boundaries. All available means should be used to determine the hostile character of any contact before commencing destruction fire. Strict compliance with local ROE is mandatory.

f. Ambushes established by friendly forces must be coordinated with appropriate operations centers.

g. To prevent firing on friendly craft, regulations should be established concerning the movement of craft within the riverine base during darkness. The following considerations apply:

(1) A maritime tactical operations center should be established by the riverine maritime element commander to monitor and/or control waterborne traffic in a designated area. Its location and composition will be suited to the tasking and situation.

(2) Only craft authorized by the maritime tactical operations center to be under way should be under way. All craft should be accompanied by at least one other craft.

(3) Craft authorized to be under way should be prepared to respond immediately to the daily recognition and identification code when challenged.

(4) The maritime TOC should advise all patrol units concerned of any authorized craft movements within the riverine base area.

5. C2 Facilities. JRF component commanders should be located as near to each other as possible for optimum coordination of their actions.

a. Operations Center. The JRF will be configured to provide C2 facilities for participating forces. This JOC provides C3 for all JRF operations. Ships that have subordinate tactical elements of the JRF embarked should provide TOC support for the embarked elements.

b. Similar C2 facilities ashore must be provided if a riverine land base of operations is employed.

c. Other Command Facilities

(1) C2 Craft. These craft are provided as tactical command facilities for subordinate commanders for employment in forward areas.

(2) Aircraft. C2-configured aircraft (fixed- and rotary-wing aircraft) provide platforms for command of riverine operations. The absence of relief in most riverine areas severely limits the capability of commanders to observe and direct the actions of their

forces from the surface. JRF component commanders should have access to airborne command facilities with sufficient communications to control tactical evolutions and coordinate supporting fires.

(3) Amphibious Vehicles. Amphibian C2 vehicles may provide the ground force command posts to be established ashore. Unless LVTC-7s (amphibious assault vehicle-command configured) can be used jointly, manned shipboard operations centers, and C2 boats must be utilized.

(4) Communications. It may be necessary to establish communications relay facilities between deployed forces and the riverine base. Such relay points provide for automatic retransmission or for relay of voice communications. A C2 craft, aircraft, or ground relay station may be used. Secure voice communications should be available between operations centers, C2 boats, and C2 aircraft.

CHAPTER XII
RIVERINE ASSAULT OPERATIONS

1. Scope

a. A riverine assault operation commences when troops begin assault loading to depart the riverine base for an operation and normally terminates when all forces involved have returned to the base.

b. In any assault landing against a hostile or potentially hostile point, several options rest with the assaulting force. In each option, the assault must support and contribute to the attainment of the mission. The phases of the mobile riverine force assault operations are: tactical loading, movement, landing, assault, exploitation operations, and planned withdrawal.

2. 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. Factors that must be considered are:

a. Safety of personnel during loading.

b. Timing.

c. Logistic requirements.

d. Security.

e. Accountability of personnel.

f. Availability of standby craft in the event of a material casualty.

g. Tactical Loading Plan

(1) The tactical loading plan is prepared by JRF subordinate commanders.

(2) Tactical loading of troops into helicopters from either land or afloat bases will be in accordance with established Service doctrine. The small size of helicopter platforms on ships of the mobile riverine force may require use of helicopter loading zones ashore.

(3) When loading assault craft, strict communications security is essential to avoid compromising the operation. Use of visual signals, either flag hoist or signal lights, to coordinate loading should be considered.

h. Loading from a Riverine Land Base of Operations. The tactical loading plan is based on the scheme of maneuver. Staging is organized to support the loading plan. Staging areas for loading will be assigned on pontoons or piers and troops should load only into craft moored alongside pontoons or piers.

i. Loading from an Afloat Base. The procedures for loading from an afloat base into RAC are the same as those from a land base except that:

(1) The staging area is a designated area number on the side of a pontoon or a ship's hull.

(2) Units remain in their assigned areas until directed to load into RAC. The boat team leader of each wave of RAC must be familiar with the route from the loading station to the riverine landing site and must be prepared to lead his unit when it is called away.

j. Safety Precautions. Loading and unloading of troops 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. Where possible, a safety boat equipped with a swimmer in a harness, portable floodlights (for night landings), and life rings attached to lines should be positioned close downstream during loading or unloading operations. Troops and boat crews must put on life preservers prior to loading. All combat harness gear will be unbuckled while loading and unloading. To the maximum extent possible, all troops should have both hands free; they should pass heavy equipment between river assault craft and pontoon piers prior to loading and unloading.

3. Movement of the Assault Force

a. The movement phase of riverine assault operations begins with the start of tactical loading at the riverine base of operations and ends with the arrival of the main body of the assault force in the riverine landing area.

b. During movement to an AO, unit commanders will maintain a readiness posture consistent with enemy capabilities and threat.

c. Tactical Organization for Movement

(1) The tactical organization for movement should parallel the organization for landing to avoid reorganization on arrival at the river landing area.

(2) The maritime elements of the riverine assault force are task organized to provide an advance guard, main body, and rear guard. Essential tasks such as reconnaissance, minesweeping, fire support, troop lift, and escort are assigned to movement groups and units as appropriate.

d. Preparation for Movement. Prior to departing the riverine base, the subordinate maritime element commanders will thoroughly familiarize themselves with the waterways to be transited. All available navigational information, including depths, river and canal widths, bridges and obstructions enroute, tides, and currents will be studied. The latest intelligence, including the enemy threat en route, possible mining and ambush locations, population concentrations, and shoreline characteristics should be obtained. Before each operation, task group/unit commanders will be provided with a detailed and current intelligence estimate of the AO and the movement route. Since independent action is frequently required by individual boat crews, task group/unit commanders will ensure that boat crews are adequately briefed on the topics discussed in this paragraph.

e. Command and Control

(1) During the movement phase, the commander designated by the CJRF exercises tactical control of the forces assigned, normally through the respective participating component commander.

(2) Control measures employed normally include the use of water checkpoints and a movement table to regulate the water movement.

f. Techniques. The following techniques may be applicable during movement to and from the AO:

(1) Escort. Whenever possible during both daylight and night transport movement, an escort should be provided. Escorts may be RAC, river patrol boats, or attack helicopters, depending on the tactical situation. Provision of escorts is the responsibility of the commander of the maritime unit conducting the movement.

(2) Avoiding Patterns. When operations are being conducted over an extended period, times of transits and routes for troop rotation or resupply should be varied, consistent with operational requirements.

g. Reaction to Unforeseen Situations

(1) Target of Opportunity. Waterborne or land targets of opportunity may occur during movements to and from the objective area. ROE may require that authorization be obtained before engaging such targets.

(2) Attack on the Force

(a) If the force is attacked during movement, immediate action will be taken to neutralize the hostile fire. C2 boats and armored troop carriers (with troops embarked) should clear the area of attack quickly, unless the decision is made to assault the enemy. If required, naval gunfire, artillery, and air support will be requested. When the tactical situation permits, a quick-reaction force may be landed to conduct followup operations. If the decision is made to counterattack, RAC will land previously designated counterambush forces.

(b) It is always desirable, and often necessary, to control both banks on which riverine forces operate. However, it is especially important to control the shore opposite the area where 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 occupy the opposite shore to provide the necessary rear security for the landing force making the main attack.

(3) Responsibility. The reaction to unforeseen situations is the responsibility of the maritime 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 rests with the landing force commander.

4. Landing, Assault, Pursuit, and Exploitation Operations. 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 preparation of the landing area, landing, initial ground and waterborne maneuver, and SOs in support of the landing attack. Following the seizure of initial objectives, exploitation operations are conducted by riverine air, ground, maritime, and/or SOF in accordance with the concept of operations.

a. Task Organization. The organization for landing is designed to maintain the tactical integrity of assault units, to provide flexibility in reacting to the situation encountered, and to facilitate control of subsequent maneuver.

b. Landing Plan

(1) Purpose. The landing plan supports the scheme of maneuver. It includes the sequence, time and place of arrival of combat unit(s), combat support and combat service support units in the landing area(s), and plans for reorganization and securing initial objectives.

(2) Landing Areas. Landing areas that encompass one or more riverine sites are selected to avoid prepared hostile defensive positions. Plans for landing in unsecured areas must assume that the units may have to conduct an assault landing. The CJRF selects the landing area on the basis of initial objectives and plans for subsequent operations and the capability of assault craft to support the landing attack. Alternate landing areas are selected whenever practicable. The selection and location of a landing area are influenced by:

- (a) Mission, size, and draft of the waterborne units.
- (b) Enemy situation and capabilities.
- (c) Characteristics of the waterways, adjacent land areas, and airspace.

(d) Available riverine landing sites.

(e) Capabilities and limitations of maritime craft.

(f) Nature of subsequent ground tactical operations.

(3) Riverine Landing Sites. A riverine landing site is a continuous segment of coastline over which troops, equipment, and supplies can be landed by surface means. The selection of riverine landing sites within the landing area is based on similiar criteria as the selection of landing areas. If a landing area cannot support multiple landing sites, several elements may have to use the same site in turn.

(4) Landing. The assault landing is an exacting operation, requiring combat and combat support elements to be landed as rapidly as possible. Every element must be prepared to contribute its combat power in a coordinated effort to seize and defend the landing area. Plans for landing, seizure of initial objectives, and reorganization are prepared concurrently. They include a scheme of maneuver and a fire support plan.

(5) Time. The riverine ground component commander, in coordination with the riverine maritime component commander, recommends the time for the waterborne landing to the CJRF. Consideration must be given to capabilities of the enemy, weather, tides, visibility, characteristics of watercraft being used, availability of fire support and the plan for supporting fires, and the security of the force in transit. Units may land at first light to take advantage of darkness during the water movement and conduct the ground tactical operations in daylight. Units may also land at last light to facilitate landing and consolidation of forces in daylight and then conduct ground tactical operations during darkness. Waterborne landings may be made at night or under other conditions of reduced visibility to gain tactical surprise and reduce the effectiveness of hostile fire. Limitations of night landings are:

- (a) Accurate delivery of units to their landing area is more complicated.
- (b) Air, RAC, and artillery fire support may be less effective.
- (c) Seizure of initial objective, and consolidation and reorganization of forces, if required, may be more difficult and time consuming.

(6) Initial Objectives. Rapid assembly and reorganization ashore are essential following the landing attack. Assignment of initial objectives to subordinate units will facilitate assembly of the units and provide for initial defense of the landing area. Characteristics of initial objectives should include:

- (a) Protection from hostile observation and effective fire.
- (b) Sufficient area security for dispersion.
- (c) Proximity to assault areas.
- (d) Ease of movement in carrying out subsequent ground tactical operations.
- (e) Ease of identification.
- (f) Ability to facilitate the accomplishment of the riverine mission.
- (g) Tactical advantages for the ground force.

(7) Landing Techniques. In the final approach to the riverine landing site, preparatory fires may be delivered by artillery, RAC gunfire, CAS, and naval gunfire. Predesignated fire support craft mark the limits on either flank of the riverine landing site. These craft may beach if conditions permit, in order to deliver more effective fire as the troops land. A C2 craft should be stationed in the vicinity of the transport craft. Escort craft are stationed to protect the transport craft. Escort duties may include establishing patrol barriers up and down stream from the riverine bank site to control waterway approaches and along the opposite bank to protect the rear flank of the JRF.

(a) When the transport craft of the first wave reach positions opposite the riverine landing sites, they turn (independently or on signal) and beach on the shore where troops are landed. After debarkation, the transport craft retract, clear the riverine landing site, 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, RAC may also provide afloat C2 facilities, close fire support, evacuation, and selective resupply.

(b) If available, AAV, e.g., LVTP-7s, may be used to land troops. Depending on the situation, troops may be debarked or stay aboard AAVs to achieve the objective ashore.

(c) After the landing has been completed, RAC may assemble and perform other assigned tasks such as providing patrol, blocking, minesweeping, or fire support operations. If the riverine ground force's task will entail extended operations ashore, all or part of the supporting RAC may be returned to the riverine base.

(8) Scheme of Maneuver. Riverine assault operations are strike operations. Riverine schemes of maneuver are normally designed to fix, entrap, and destroy a hostile force in a given area of operations. 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.

(a) Pressure must be maintained once contact is made, and forces must deploy rapidly to fix the hostile force to an area where maximum fire support can be used. Riverine ground force assault units close with and destroy or capture the hostile force.

(b) Riverine assault operations capitalize on supporting watercraft capabilities and the tactical flexibility inherent in the continuous availability of assault support craft to support tactical maneuver. Riverine craft may:

1. Transport and support units in the assault.
2. Withdraw or redeploy troops.
3. Act as, or in support of, a blocking force.
4. Transport a raiding force.
5. Carry crew-served weapons.
6. Transport reserves.
7. Perform resupply and evacuation.
8. Serve as a C2 platform.
9. Serve as mobile aid stations.
10. Provide direct and indirect fire support.
11. Evacuate EPW, defectors, and detainees.
12. Perform damage control, salvage, and Explosive Ordnance Disposal operations (on a limited basis).

(c) To take maximum advantage of available watercraft and exploit terrain characteristics, planners must consider all possible uses of watercraft and water routes when selecting objectives. They must also determine short-term requirements for watercraft by other units participating in the operations, and provide for pre-positioning, security, and control of such craft.

(9) Reserve Reaction Force

(a) Planning. The retention of a reserve force is highly desirable in all riverine operations. Riverine operations normally have destruction of the enemy forces as their primary mission and do not orient on terrain objectives to the extent that most other operations do. Although the reserve force may be committed to assist other elements of the force, its primary employment should be to capitalize on opportunities to

destroy enemy forces. In this regard, the reserve force can be more appropriately thought of as a reaction force. Reaction operations require flexibility, careful planning, coordination, and reliable communications between all elements. Reaction forces meet established reaction times through planning, rehearsals, and pre-positioning.

(b) Evaluating Requirements. Helicopter reaction forces can deploy directly against located enemy positions and are usually the preferred type. Elements on airborne alert are expensive in terms of resource expenditure; therefore, their use is infrequent even though they are the most responsive type of reaction force. Waterborne reaction forces can be available for rapid and effective commitment in the riverine environment and will often be the only type available. Reaction forces, in the desired condition of readiness, are maintained in assembly areas either at land bases or at afloat bases.

5. Planned Withdrawals. The planned withdrawal phase covers the period between completion of the mission ashore and the completion of unloading upon return to the riverine base of operations. During the backloading phase of the withdrawal, special attention must be given to security measures to protect the forces as the strength ashore decreases. Fire support to cover the withdrawal must be planned, and an adequate reaction force must be designated.

CHAPTER XIII

WATERWAY INTERDICTION, SURVEILLANCE, BARRIER, AND SECURITY OPERATIONS

1. Purpose

a. Waterway interdiction, surveillance, barrier, and security operations can be conducted by specially configured subsurface and surface craft and/or aircraft in the waters and airspace of the riverine area. These operations may be used to gain control of waterways preparatory to subsequent riverine assault operations, or they may be conducted by maritime or air components alone, with ground component elements provided only as a reaction or security element.

b. Waterway interdiction and surveillance and security operations serve five basic purposes:

- (1) Protect friendly LOCs.
- (2) Deny hostile forces the use of waterways.
- (3) Collect intelligence information.
- (4) Perform security missions.
- (5) Enforce population and resource control.

c. To be effective, waterway interdiction and surveillance and security forces should include both surface craft and aircraft. The decision to use surface or subsurface craft, as well as deciding what type of craft to select, will depend on the environment, enemy threat, and assigned mission. The air and surface operations are mutually supporting and may be conducted independently or concurrently. During waterway interdiction, surveillance, and security operations, close coordination is required between airborne and waterborne patrols in the employment of mutually supporting fires.

d. Effectiveness of the combined surface and airborne operation can be aided by rigid enforcement of curfews and traffic/zone restrictions, as appropriate.

e. Air-delivered mines and remote sensors used in conjunction with supporting arms or remotely fired demolitions is one of several effective methods of interdiction offering minimal risk to friendly personnel.

f. Successful accomplishment of waterway interdiction, surveillance, barrier, and security operations may require pacification of the region.

g. A vital aspect of securing riverine AOs is controlling the flow of resources, including those introduced from outside the country, in order to deny the enemy the means to wage war. Isolating the enemy from his support may take away his operational initiative and make his primary task that of supply. This greatly facilitates the clearing of an area by military forces and assists in the identification and elimination of indigenous supporters.

h. Effective control of resources requires that all modes of indigenous transportation be controlled, including those on waterways and rivers. 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, surveillance, and security forces will conduct patrols and inshore surveillance to enforce curfews and prevent enemy infiltration, movement, and resupply along and across the major waterways of the area.

2. Tactical Considerations. An individual waterway interdiction, surveillance, and security operation may be called a patrol, and it consists of two or more craft in execution of a specific operation. This section outlines some doctrinal and tactical considerations. However, these are not all-inclusive, nor do they necessarily apply to all phases of waterway interdiction, surveillance, and security operations.

a. Area Familiarization. Prior to initial patrols, commanders should arrange for area indoctrination and familiarization for the crew and embarked personnel.

b. Secondary Missions. Waterborne and air patrols may be modified at times to accommodate requests for combat support of forces ashore, including blocking and similar operations.

c. Response to Hostile Fire. The response to hostile fire 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.

d. Mutual Support. Joint air and waterborne operations and multiple boat patrols are frequently useful in providing mutual support.

e. Time and Pattern of Patrols. Boats should conduct a random patrol and not establish a pattern, such as passing through the same points on subsequent passes or at regular intervals.

f. Readiness. A high state of combat readiness, appropriate to the area being patrolled, will be maintained at all times.

CHAPTER XIV

ANCILLARY OPERATIONS

1. Scope of Operations

a. Riverine ancillary operations are conducted by the JRF as adjuncts to a riverine assault operation or as a waterway interdiction, surveillance, and security operation. These operations are normally characterized by employment of procedures that require special training and equipment. The capability to conduct these operations is generally limited to specific units, that have been assigned primary mission responsibility within the Service organization.

b. The operations set forth in this chapter represent the minimum capability required by the CJRF to conduct sustained ancillary operations in a riverine environment. The magnitude of a particular operation, the enemy threat, or terrain considerations may make it necessary to augment assigned units and provide specialized units in support.

2. Reconnaissance and Waterway Clearance

a. Determination of Waterway Characteristics. Gathering information regarding waterway characteristics is a prerequisite to the proper use of waterways. Since waterway characteristics constantly change because of seasonal effects, this requirement is continuous throughout the operation. The methods of determining waterway characteristics should be included in training, since gathering reliable information involves techniques that may not be familiar to all personnel. Surface efforts should be coordinated with the aerial reconnaissance plan.

b. Waterway Clearance of Barricades and Obstacles. The JRF must have a capability for clearing navigable waterways that have been obstructed by barricades and obstacles. An orderly and continuing barricade-removal program is required throughout the riverine environment. Close coordination with local officials is recommended before any barricade or obstacle is removed.

3. Joint Riverine Base Security. Measures should be taken to provide an integrated defense for mobile riverine base elements, troop installations, equipment, lines of communication, and nearby friendly installations.

a. Command Responsibility. The CJRF is responsible for the security of the riverine base and for integration of the local defense plan into the overall area security plan. The CJRF may designate a base defense commander for all jointly occupied bases. The base defense commander will exercise OPCON of all forces assigned for purposes of base defense. Plans normally provide for unity of effort and ensure the most efficient use of available means of defense. Units will be tasked according to their respective capabilities.

b. Base Defense Planning. The riverine base of operations should be organized for defense against attack from any direction. Plans should provide flexibility and must position reserves for rapid reaction to any threat. Tasks for ground combat forces and supporting weapons are to detect, engage, and destroy or repel an attacking force. All elements within the base area should be appropriately tasked and/or assigned sectors of responsibility.

(1) The size of the base may limit defense in-depth. Combat outposts and mutually supporting strong points forward of the riverine base main defense positions can be employed to add depth to the defense. Defensive fires should be planned throughout the area. Plans should also include patrols, listening posts, and obstacles.

(2) Plans should be prepared, rehearsed, evaluated, and revised, if necessary, to ensure immediate reaction to any threat.

(3) The ability to disperse is limited in most riverine base areas. This deficiency must be compensated for by increasing the depth of the security area through aggressive patrolling and the use of outposts and airborne observers. Other passive measures such as using camouflage, varying normal routines, and controlling access of noncombatants into the base area should be employed. Remotely monitored ground sensors can also increase the depth of the security area by providing an

effective warning barrier against infiltration attempts. Routines must be altered frequently to prevent the disclosure of information about locations, compositions, and habits of the defender.

c. Riverine Base Defense Areas. A riverine base defense area, which is organized for all-around defense, has a security area, forward defense area, and reserve area. The elements within these areas vary in composition and strength, as determined by the specific mission, capabilities of the hostile force, terrain, location and size of the base area, and the strength and capabilities of forces available.

d. Security Area

(1) A security area is a reconnaissance and surveillance area that extends forward from the forward defense area to the limit of employment of security elements. These elements are far enough forward to:

(a) Provide timely warning of the enemy's approach.

(b) Deny the enemy direct observation and/or fire into the base areas.

(c) Deny the enemy observed mortar fire into the base area.

(2) Sufficient security element personnel assigned to the reconnaissance and surveillance area may prevent unrestricted observation of the base area and the undetected assembly of enemy forces within striking distance of the base, if aggressive patrolling is routinely conducted. The organization of the security elements provides an appropriate balance of available combined and supporting arms. The base operations center controls fire and maneuvers and integrates all units into an effective defense.

e. Forward Defense Area. The forward defense area encompasses positions and forces necessary to engage the enemy in decisive combat to preserve integrity of the riverine base. Within this area, forces are organized to repel and destroy the enemy force and prevent its entry

into the riverine base. The forward defense force provides defense capabilities to overcome the enemy's attack capabilities.

f. Reserve Area. The reserve area is the riverine base itself. For both land and afloat bases, personnel not employed in the security and forward defense areas are assigned sectors within the reserve area. In addition to forces regularly assigned missions as part of the reserve, all units and personnel not assigned a security or defense mission are incorporated into the defense plan to defend installations within assigned sectors.

g. Operations Center. The JRF base operations center coordinates all forms of maneuver (e.g., patrols) and all types of defensive positions with supporting arms and integrates them into an effective defense. Operations, intelligence, appropriate fire support, and other friendly force liaison representatives should be present in the operations center.

h. Defensive Measures. The JRF is vulnerable to virtually all direct and indirect fire weapons, with air artillery mortars, antiarmor and antiair weapons, and recoilless weapons as particularly significant threats. An aggressive plan is required to detect infiltration of these weapons and locate their firing positions. When formulating the plan for defense from direct fire and guided weapons, the CJRF considers likely firing positions, intelligence reports, reports by indigenous personnel, and resources available. The CJRF also plans defensive tactics to minimize casualties and damage and offensive tactics to locate and destroy hostile forces.

i. Defense of an Afloat Base. Although possibly located in hostile territory, the riverine base of operations should be relatively secure before barracks ships arrive. The base area selected should have enough room to moor the afloat force without impeding the normal flow of indigenous commercial and military traffic.

(1) The afloat base ships are subject to a variety of waterborne threats, including swimmers, limpet-type mines, drifting contact mines, suicide attack boats, and drifting boats loaded with explosives. The enemy may also attack by air or with direct and indirect weapons.

(2) Additional considerations in preparing the defensive plan include:

(a) Congestion of personnel and vulnerability of the afloat base as they affect the choice of forces to be used for defense.

(b) Integration of all weapons into a coordinated fire support plan.

(c) Use of surveillance equipment.

(d) Coordination of antiswimmer defense requirements employing multisensor systems, surface-search, radar, night vision sonar, optics, and waterborne sensors in conjunction with explosive weapons, electrical deterrents, and physical barriers.

(e) Designation of a command ship to serve as the control center. Overall communications requirements must be considered when the TOC is selected.

(f) The use of regular boat patrols to control indigenous civilian and military traffic and detect and destroy waterborne attacks by swimmers, drifting mines, or boats.

(g) Contingency plans to provide for situations where tide, current, or weather has an influence on the defense of the afloat base.

(h) Lighting required to perform repair and maintenance tasks.

(i) Establishment and enforcement of a river curfew and a traffic plan to divert or escort river traffic past the base area anchorage.

(j) Use of boat patrols to protect routes of communications and resupply.

(k) Use of aircraft to conduct aerial reconnaissance.

(3) The use of boat patrols may require forces to operate on a continuing or periodic basis to achieve and maintain dominance of designated water routes.

(4) A ship's crew may require augmentation from ground components in unusual cases to act as sentries aboard ship (watch standers) and/or boat patrols. Normally, administrative units of the ground components will be tasked for this purpose. Combat troops should be used only in an emergency situation. Ground component personnel will be briefed concerning:

(a) The overall defensive plan, including locations of friendly forces, ships, and craft.

(b) Location of all embarked personnel during general quarters.

(c) Plans for darkening ship and maintaining watertight integrity.

(d) Specific tide and water conditions that require added security, such as slack tides and periods of reduced visibility.

(e) Detection and reaction plans against special threats with specific instructions on the detection of swimmers, the approach of indigenous craft, and the use of defensive measures.

(f) Fire discipline and control procedures for explosives and individual and crew-served weapons.

j. Security of Berth and Anchorages. A berth is the location of ships and craft secured to a pier or otherwise made fast to an object for a relatively long period of time. An anchorage is the location of ships and craft not under way, whether anchored off a river bank or beached. It is necessary to differentiate between temporary halts during movement and periods spent in ports and riverine bases. In the latter case, the enemy will have more time to prepare any attack, which may consist of swimmers, drifting mines, artillery/mortar fire, or raids. Systematic firing on all suspicious floating debris, use of patrol craft, and detonation of percussion grenades at irregular intervals in the approaches to anchorages may be employed as defensive measures, if not otherwise restricted by the applicable rules of engagement.

(1) Protection against enemy artillery is treated as a counterbattery problem. The ground component is normally tasked to deploy forces ashore to prevent observed fire from being placed on ships and craft of the JRF. Berths and anchorages should be shifted at irregular intervals to avoid preplanned firings.

(2) The adjacent waters should be patrolled by small craft. These craft should operate within sight of one another to provide mutual support in the event of attack.

(3) Protection against air attack is an area defense problem. Airspace control and area air defense should be conducted in accordance with Joint Pub 3-52.

4. Mine Warfare Operations. Riverine mine warfare operations include mining and mine countermeasures when friendly surface operations are vital. Mine countermeasures assume primary importance because of the need to keep key waterways open. When friendly surface operations in certain areas are not vital, it may be tactically advantageous to restrict use of designated waterways and disrupt enemy movement by mining. However, waterway control in the riverine AO is normally maintained by continuous patrol, surveillance, and interdiction. The environment will impose a variety of restrictions and limitations on mine warfare operations in inland waterways.

a. Mine Countermeasures. The first step in mine countermeasures is to assess the mine threat and evaluate countermeasures that might be employed. It is necessary to consider the various environmental characteristics, enemy mining capabilities and tactics, ambush threat, and waterway hydrography. Mine attacks may be conducted against river craft in locations where the banks of waterways afford protection to the enemy. Mining is frequently used in conjunction with ambushes. Conventional naval mines or land mines may be encountered. Mines can be constructed from dud ordnance such as recoilless rifle shells, mortar shells, and bombs. These mines may be either surface or subsurface mines, and they are usually bottom moored and electrically detonated. Time-delay detonation techniques also may be used. Contact drift mines may be encountered, as well as boats or rafts loaded with explosives detonated by time-delay or contact devices.

Because of their simple construction and low cost, pressure-activated mines may be implanted along shallow waterways. Limpet-type mines, which might be attached to the ship or anchor chain by swimmers or drift techniques, constitute a serious threat to an afloat base. Mine countermeasures include all methods that may be used to counter the threat of an enemy mining effort. One of the most effective countermeasures is to interfere with or restrict enemy minelaying activities. Patrol, surveillance, and interdiction activities must be emphasized as preventive measures and should be included in mine countermeasures planning and operations. Countermeasures employed against mines already laid require locating the mines. Classification of mines in the riverine environment is difficult because of waterway characteristics. Therefore, primary emphasis is placed on minesweeping and area clearance. The most effective countermeasures against drifting mines, explosive charges, or swimmer-delivered limpet mines is an alert watch and patrols around the anchorage or base area.

c. Passive Protection. When the threat of drifting mines or explosive charges or swimmer-delivered limpet mines is great, the use of nets and/or booms will provide some protection for anchored ships or craft. However, in swift river currents, passive measures are less effective. Mooring tackle must be extraordinarily heavy because the buildup of floating debris will often carry away even the heaviest equipment. The most effective countermeasure against this type of threat is an alert watch and patrols around the anchorage or base area.

5. Salvage Operations. Salvage operations require highly skilled personnel with specialized equipment. The salvage effort must provide for highly mobile teams that can deploy to remote areas on short notice. A salvage capability is important because without it the number of lost craft is likely to be extraordinarily high. Small craft are especially vulnerable to accidental flooding. Salvage operations may also include the recovery of land and air equipment.

a. Mission of Salvage Units. The mission of salvage units is to provide salvage, repair, diving, and recovery services to the riverine commander. To effectively carry out its mission, the salvage unit must have a mobile lift capability to transport the assigned heavy craft equipment.

b. Salvage Support. Salvage personnel are highly trained and skilled, yet vulnerable, and require area security from the appropriate joint riverine component commander. When requesting salvage support, the commander of the JRF should provide the following information:

- (1) Type of craft or equipment and how sunk.
- (2) Water depth, visibility, tide ranges, and sea state.
- (3) Security and support available.

c. Salvage Plan. Before commencing a salvage operation, the salvage unit prepares, taking into consideration the following factors:

- (1) Should the sunken craft be refloated, removed, or destroyed?
- (2) Can the salvage job be accomplished using locally available assets?
- (3) Can adequate security for the salvage forces be provided?
- (4) Is transportation available to bring the required equipment to the salvage site?

6. Cover and Deception. Riverine cover and deception operations undertake to deceive the enemy to enhance the ability of the JRF to accomplish its mission.

a. Need for Cover and Deception Operations. The need for cover and deception operations in a riverine area is based on the following factors:

- (1) Surprise is essential to a well-planned military operation. Cover and deception provide a means of achieving the tactical advantage of surprise.
- (2) In a riverine area, the JRF may be under constant surveillance by enemy agents with the capability to exploit communication systems.

b. Planning Cover and Deception Operations

(1) Cover and deception planning should be conducted concurrently and in coordination with riverine assault, waterway interdiction, and surveillance plans. Similiar analysis is required for both the operations plan and the cover and deception plan.

(2) The units participating in cover and deception operations should be tasked to assist with the planning.

c. Security. Security is paramount in any cover and deception operation. Distribution of the cover and deception plan should be limited to those with a specified need to know.

7. UW and Direct Action Operations

a. JRF UW and DA operations are normally conducted within enemy or enemy-controlled territory by specialized military and paramilitary forces. Resources assigned to the JRF to conduct UW and/or DA operations normally operate clandestinely and are capable of performing the following missions:

(1) Interdict enemy lines of communication.

(2) Destroy or sabotage enemy craft, base areas, and caches.

(3) Collect intelligence.

(4) Implant and recover sensors.

(5) Disrupt enemy political infrastructure.

(6) Assist with evasion and escape and CSAR of friendly forces.

(7) Conduct special reconnaissance.

(8) Conduct foreign internal defense.

b. The nature of UW and DA operations requires that particular emphasis be given to the mutual planning process to ensure that operations are generated in support of the overall mission. UW and DA operations are closely coordinated with conventional operations being conducted in the same or adjacent areas

c. Security is of prime importance during the planning, execution, and, in many instances, after a UW and DA operation. Distribution of UW and DA OPLANS and annexes are normally held to an absolute minimum and include only those commands that will be required to support or coordinate the activities involved.

8. Psychological Operations

a. PSYOP are of major importance to joint riverine operations. PSYOP personnel and assets can use riverine platforms for dissemination of materials and messages within remote riverine areas. PSYOP are intended to influence the behavior of hostile, neutral, or friendly foreign groups on behalf of the riverine forces objective. PSYOP activities (i.e., posters, leaflets, TV, radio and loudspeakers broadcasts) should be considered a means by which the goals of civic actions associated with riverine forces are communicated to the indigenous populace.

b. Initial military operations disrupt commerce and inconvenience or even endanger large segments of the local population. The populace usually has been thoroughly propagandized by the enemy force. Therefore, indigenous and foreign military forces will likely be greeted with hostility, suspicion, and at best, passive resistance.

c. To obtain the support of the civil population, the words, deeds, and actions of the military force must be carefully considered for their effect on the populace. The creation of a favorable image of the national government and its military forces may foster improved cooperation of the civilian population.

d. The responsibility for conduct of PSYOP rests with commanders at all echelons. Policy direction, propaganda materials, and guidance as to themes, target groups, intelligence, and specified programs are normally provided by higher headquarters. Local commanders should adapt the materials available to achieve the best effect in their own areas.

9. Civil Affairs

a. CA operations are activities intended to gain essential civilian cooperation and support or reduce civilian interference in attainment of the military

objective. They affect the relationship between the commander's military forces and the indigenous civil authorities and people. These operations may require military forces to perform some or all of the functions normally performed by the indigenous government. CA is the responsibility of the commander, and his relationship with the local civil authorities may require him to establish both personal and organizational contacts. Joint CA operations should be planned and conducted in accordance with Joint Pub 3-57, "Doctrine for Joint Civil Affairs".

b. Military civic action is one of the major activities of CA in a riverine area. It consists primarily of encouraging the indigenous military forces to participate in projects useful to the local population. US forces may also advise or engage in direct civic action. The role of US forces should be primarily that of providing skills and mutual assistance not generally available to the host or foreign country's civilian participants. Such action serves to improve the image of the friendly military forces in the eyes of the population, as well as alleviate or eliminate some of their basic grievances.

CHAPTER XV

LOGISTICS

1. Logistics Support Provided to the JRF. Logistic support provided by external forces must be responsive to the needs of the JRF. A system must be established with the capability of performing the following functions:

- a. Provision and transportation of supplies and equipment to locations designated by the JRF component commanders.
- b. Evacuation of casualties beyond the medical capability of the JRF.
- c. Operation of maintenance and salvage facilities over and above those authorized by the components of the JRF.
- d. Evacuation of POWs and refugees beyond the capability organic to the JRF, or providing humane conditions to enemy POWs or refugees in the event evacuation is not immediately possible.

2. Logistics Support Provided by the Mobile Riverine Force

a. Basic Consideration. The basic consideration of logistic support provided by the JRF is to make the assault elements of the force self-sufficient as long as possible, in relation to the operation.

(1) The prescribed load for individual RAC assigned to a riverine assault element should include food, water, and ammunition for embarked troops. Resupply of the assault craft in the AOs will depend largely on the duration of planned operations, as well as the total lift capability of resupply craft.

(2) Waterborne craft and aircraft are the normal means of resupply.

(3) RAC or assault helicopters should be assigned to resupply craft when transiting especially dangerous portions of the resupply route. The withdrawal of surface craft from assault operations for this purpose will temporarily reduce the fire support capability of the force.

b. Supply and Maintenance Functions. The close and constant association of ground and maritime components during joint riverine operations lends itself to the establishment and operation of joint facilities that include, but are not limited to, supply, maintenance, and services support.

APPENDIX A

U.S. NAVY RIVERINE ASSETS

Graphics for appendix A normally placed here.

APPENDIX B

U.S. ARMY RIVERINE ASSETS

APPENDIX C

U.S. COAST GUARD RIVERINE ASSETS

APPENDIX D

US MARINE CORPS RIVERINE/WARFARE ASSETS

1. Purpose and Scope. This appendix to provides information on the application and capabilities of USMC forces in riverine operations. This appendix contains an explains the basic USMC organization for combat and the concept and capabilities for employment of USMC forces in riverine operations. For more detailed information on USMC doctrine, tactics, techniques, and procedures for planning and executing riverine operations, see NWP 13 (Rev A/FMFM 7-5), "Doctrine for Navy/Marine Corps Joint Riverine Operations" and FMFM 7-5A, "Marine Air-Ground Task Force (MAGTF) Riverine Operations".

2. Organization

a. Marine Air-Ground Task Force. USMC riverine forces are fully integrated combined arms MAGTFs tailored to accomplish specific missions. MAGTFs are capable of functioning as self-sustaining uni-Service forces under the operational control of unified, subordinate unified, or joint task force commanders. This tailored force exploits the combat power inherent in closely integrated air and ground operations and allows the MAGTF commander to focus the point of effort and strike the enemy at his weakness. The central operational concept for employing a MAGTF is that it is most effective in battle when used as a strategically mobile, combined arms force under a single commander. It provides a balance of combat, combat support, combat service support, and/or elements. The MAGTF is structured and equipped for expeditionary operations and has organic weapon systems, amphibious vehicles, and boats that can be used to exploit the marginal terrain encountered in a riverine environment.

b. Elements of the MAGTF. Although the size and composition of a MAGTF will vary with the tactical situation and the assigned mission, it will normally consist of four major components as described in Figure D-1.

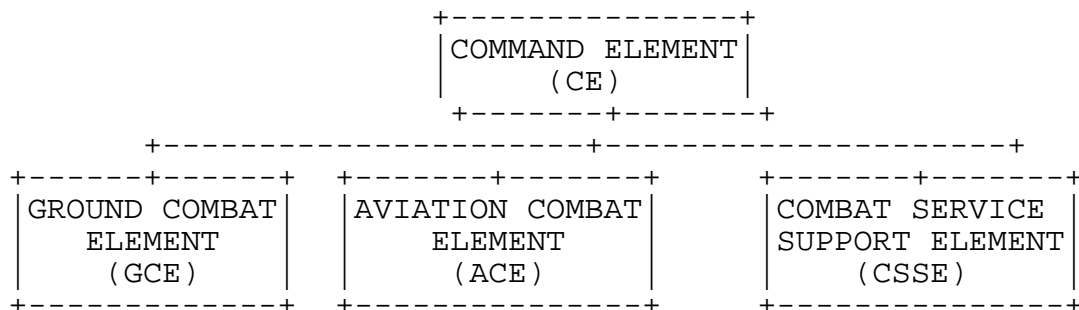


Figure D-1. Organization of Marine Air-Ground Task Forces

(1) Command Element. The CE is the MAGTF headquarters. It is composed of the commander, the general or executive and special staff sections, the headquarters section, and requisite communications and service support facilities, including the SRI Group or its detachment thereof. The SRI Group provides the command, control, and coordination essential for effective planning and execution of riverine operations.

(2) Ground Combat Element. The GCE may be composed of combat, combat support, and organic combat service support units organized to conduct riverine operations. It is constructed around an infantry organization and varies in size from a unit smaller than a battalion to one or more Marine divisions, based on the tactical situation and the mission of the MAGTF.

(3) Aviation Combat Element. The ACE may be composed of those aviation units (including air control agencies), combat, combat support, and organic combat service support units organized to provide aviation support required by the situation. Aviation support may include all, or a portion of, the functions of USMC aviation in varying degrees based on the tactical situation and size of the MAGTF and its mission. The functions of aviation include: air reconnaissance, anti-air warfare, assault support, offensive air support, EW, and control of aircraft and missiles. The ACE is organized around an aviation headquarters and varies in size from an aviation detachment to one or more Marine aircraft wings.

(4) Combat Service Support Element. The CSSE is organized to provide the full range of combat service support functions and capabilities necessary to support the MAGTF. The combat service support functions that may be provided include: supply, maintenance, transportation, general engineering, health services, and services. The CSSE may vary in size from a combat service support detachment to a force service support group.

c. Types of MAGTFs. There are four types of MAGTFs that may be formed to conduct riverine operation (Figure D-2):

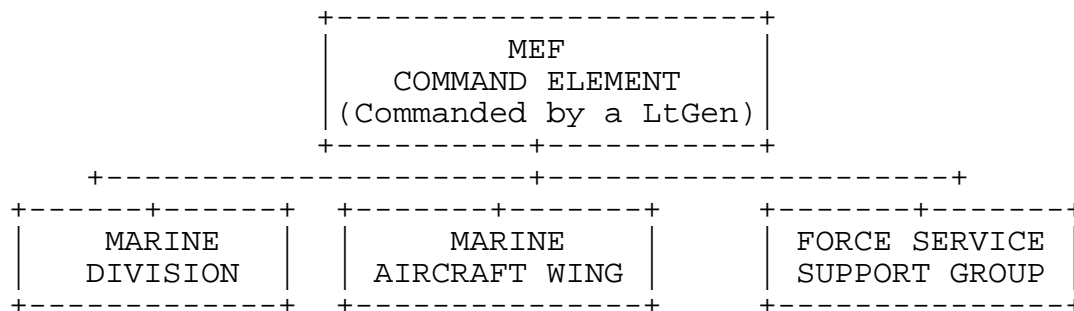


Figure D-2. Example of a Marine Expeditionary Force

(1) Marine Expeditionary Force. A MEF is the largest (30,000 to 60,000 Marines and sailors) and most powerful of the MAGTFs. It may range in size from one to multiple Marine divisions and aircraft wings, together with a force service support group. A MEF is capable of conducting sustained independent riverine operations against the most capable adversarial threat. The MEF is supported by a Naval Construction Regiment. The MEF deploys with 60 days of sustainment.

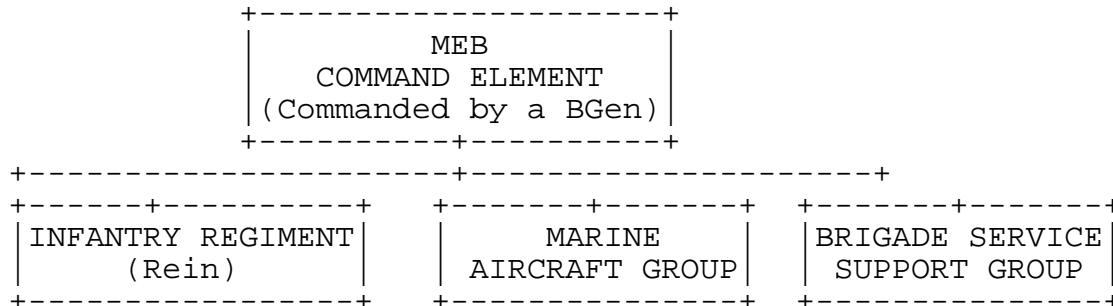


Figure D-3. Example of a Marine Expeditionary Brigade

(2) Marine Expeditionary Brigade. The MEB, with 4,000 to 18,000 Marines and sailors, is normally built around a reinforced infantry regiment, an aircraft group, and a brigade service support group. It is capable of rapid deployment by amphibious shipping or strategic or tactical airlift. The MEB is supported by a naval mobile construction battalion. It deploys with up to 30 days of sustainment.

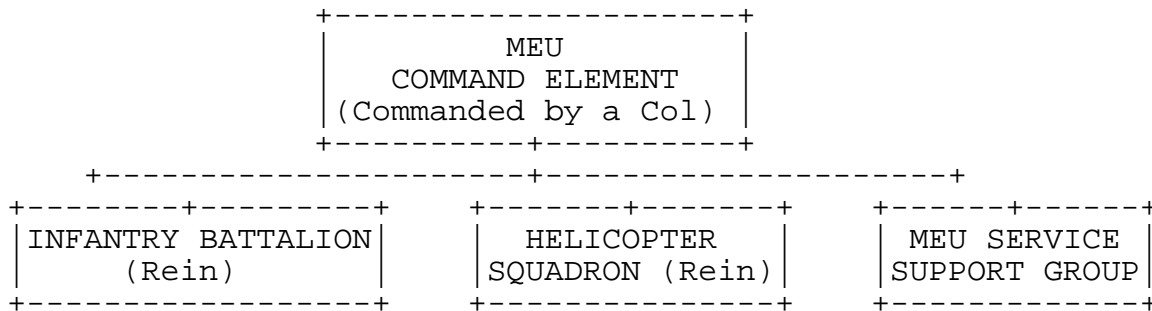


Figure D-4. Example of a Marine Expeditionary Unit

(3) Marine Expeditionary Unit. The MEU, with 1,000 to 4,000 Marines and sailors, is normally composed of a reinforced infantry battalion, a helicopter squadron reinforced with deployed and CONUS on-call fixed-wing assets, and a service support group. The MEU is routinely forward deployed embarked aboard the ships of an Amphibious Ready Group and is uniquely organized and equipped to initiate and conduct short-notice riverine operations. The MEU is task organized, trained, and equipped to conduct a wide variety of conventional and specialized operations. Foremost is its capability to conduct long-range raids from over the horizon without electronic emissions, during periods of darkness, and under adverse weather or sea conditions. For sustained operations ashore, the MEU may serve as the forward element of a MEB. The MEU can also deploy on short notice by a mix of tactical and strategic airlift. The MEU is supported by a naval mobile construction detachment. MEUs deployed in amphibious shipping normally carry 15 days of sustainment.

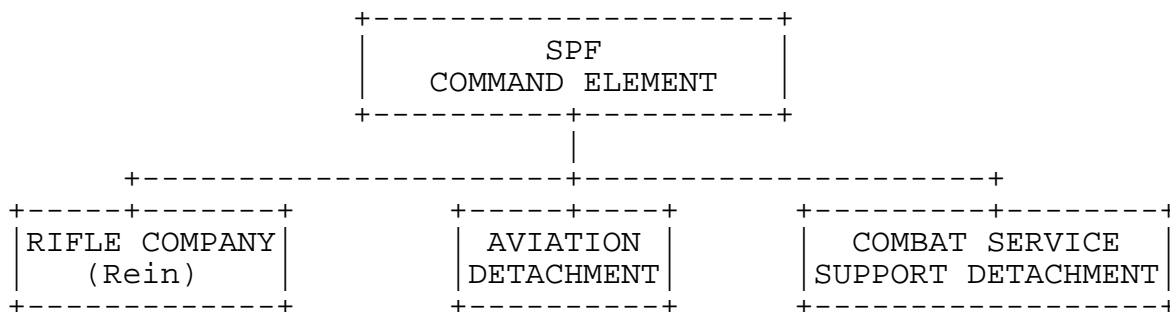


Figure D-5. Example of a Special Purpose Force

(4) Special Purpose Forces. These forces are small, task organized MAGTFs configured to accomplish missions for which the MEF, MEB, and MEU are not appropriate. They can be configured, trained, and equipped to conduct a wide variety of conventional and other operations within the riverine environment. They can be deployed by a variety of means, including amphibious or commercial ships, tactical or strategic airlift, or by organic USMC aviation assets. These forces are normally composed of Marines highly trained in day or night operations, including insert/extract, raid, and strike operations. They may possess extensive surveillance and reconnaissance capabilities, including unmanned aerial vehicles, radio reconnaissance, and counterintelligence assets, as required. These forces' can be employed in a variety of missions, including mobile training teams, security assistance operations, and small independent action forces within the riverine environment.

3. MAGTF Employment

a. General. MAGTFs are trained and equipped with weapon systems, vehicles, and watercraft that can be employed in the riverine environment. Although there is an inherent capability in these forces, the full capability and flexibility of their combat power in riverine operations is better exploited when employed as part of a Navy-USMC mobile riverine force.

b. Concept of Employment. A MAGTF embarked aboard the ships of an ARG is uniquely organized and equipped to initiate and conduct short-notice riverine operations. A low profile in the host nation can be maintained by specifically tailoring the riverine force to the mission. The remaining forces, equipment, and support can be kept aboard an amphibious seabase. Upon establishing an initial lodgement in the riverine area, the riverine force can be reinforced by forces and equipment from sources external to the ARG/MAGTF should it become necessary to expand the scope of the operations.

(1) Initial Phase of Employment

(a) The MRF, using assets currently organic to the ARG/MAGTF, will primarily conduct operations to protect friendly lines of communications and deny the use of the riverine area to hostile

forces through surveillance, interdiction, raids, and/or aggressive reconnaissance, combat, and security patrols. The MRF will also be able to conduct limited PSYOP (through words and actions) and small-scale military civic action projects (expedient road and/or bridge repair or construction, minor carpentry, drainage or irrigation improvement, medical or dental assistance, etc.).

(b) The MRF's capability to achieve control of a hostile riverine area and its adjoining land areas will initially be limited because the only survivable waterborne troop-carriers and C2 craft are the amphibious vehicles and craft presently organic to the ARG/MAGTF. Lack of specialized mine countermeasures craft, armed escort craft, and fire support craft will also impose operational constraints. These initial limitations can be offset by using innovative techniques and tactics that capitalize on the capabilities of organic amphibious vehicles, landing craft, raiding craft, and airborne platforms. For example:

1. Troop-laden AAVs can operate in the riverine environment under their own power or be transported in landing craft, splashed, and swum ashore to provide for rapid maneuver of the ground combat element.
2. Light armored infantry with LAVs can also be rapidly positioned in an inland riverine environment via landing craft.
3. Barge-mounted artillery, LAVs (mortar variants) embarked aboard landing craft, and organic infantry mortars fired from floating platforms can provide expedient fire support.
4. Helicopters can be used to provide airborne command posts, evacuate casualties, lift reaction or raid forces, provide supporting fires, resupply critical

items, provide aerial observation and adjustment of supporting fires, conduct visual reconnaissance or surveillance, and relay communications.

5. Radio battalion collection teams and/or radio reconnaissance teams embarked aboard airborne or waterborne platforms can provide an enhanced signals intelligence collection capability.

6. AAV and LAV command vehicles can operate in the riverine environment under their own power or be embarked aboard landing craft to provide MRF C2.

7. Remote piloted vehicles can assist in surveillance, reconnaissance, and intelligence gathering and relay of communications.

8. Mine hunting from airborne or waterborne platforms, coupled with aggressive patrolling to restrict minelaying, can be effective mine countermeasures.

9. AV8B HARRIERS can provide CAS.

(2) Subsequent Phases of Employment

(a) After friendly LOCs have been secured and hostile use of the riverine area has been denied as necessary, the MRF could be reinforced with assets that are external to the ARG MAGTF, and the scope of riverine operations may be expanded to include operations to achieve and maintain complete control of the riverine area and its adjoining land areas. This would involve isolating the riverine area, seizing key terrain, finding and destroying hostile forces, and increasing the scope of PSYOP and military civic action projects. Control of the riverine area may also involve the use of combined action forces.

(b) The MRF may require reinforcement with additional assets, including:

1. Ground, aviation, and combat service support forces and equipment.
2. SOF, including SEALs, special boat units, civil affairs and PSYOP units.
3. Specialized watercraft for C2 mine countermeasures, armed escort, and fire support craft.
4. Armored troop-carrying craft.
5. Naval construction forces.
6. Carrier-based aircraft support.
7. Naval gunfire support ships.

4. Summary. MAGTFs, supported by amphibious ships and landing craft, can conduct sea-based riverine operations. Innovative use of organic equipment will be required to compensate for the initial lack of specialized riverine craft. Once established in the riverine area, the MAGTF can provide the infrastructure for the phased introduction of external forces and equipment to facilitate measured increases in the scope of operations.

Remaining pages through D-14 are blank in this file. Figures are present in the printed version.

GLOSSARY

PART I -- ABBREVIATIONS AND ACRONYMS

| | |
|--------|--|
| AAV | assault amphibian vehicles |
| ACE | Aviation Combat Element |
| AI | air interdiction |
| AO | area of operations |
| AOR | area of responsibility |
| ARG | Amphibious Ready Group |
| ASPB | assault support patrol boat |
| C2 | command and control |
| CA | civil affairs |
| CAS | close air support |
| CCB | command and control boat |
| CE | command element |
| CJRF | commander, joint riverine force |
| COCOM | Combatant Command (command authority) |
| COMSEC | communications security |
| CSAR | combat search and rescue |
| CSSE | Combat Service Support Element |
| CT | counterterrorism |
| DA | direct action |
| ECCM | e l e c t r o n i c counter-countermeasures |
| EW | electronic warfare |
| FID | foreign internal defense |
| GCE | Ground Combat Element |
| JOC | joint operations center |
| JRF | joint riverine force |
| LAV | light armored vehicle |
| LOC | lines of communications |
| MAGTF | Marine Air-Ground Task Force |
| MATC | mini-armored troop carrier |
| MEB | Marine Expeditionary Brigade |
| MEF | Marine Expeditionary Force |
| MEU | Marine Expeditionary Unit |
| MRF | Mobile Riverine Force |
| NSW | naval special warfare |

| | |
|-------------|---|
| OPCON | operational control |
| OPLAN | operation plan |
| OPORD | operation order |
| OPSEC | operations security |
| PBR | patrol boat, river |
| POW | prisoner of war |
| PSYOP | psychological operations |
| RAC | riverine assault craft |
| ROE | rules of engagement |
| RRC | Rigid Raiding Craft |
| SBD | special boat detachment |
| SBU | special boat unit |
| SEAL | sea-air-land |
| SOF | special operations forces |
| SOP | standing operating procedure |
| SPECBOATRON | special boat squadron |
| SPF | Special Purpose Force |
| SR | special reconnaissance |
| SRI | Surveillance Reconnaissance Intelligence |
| TAOR | tactical area of responsibility |
| TOC | tactical operations center |
| UW | unconventional warfare |

PART II -- DEFINITIONS*

assault craft gunfire.* Direct and indirect fire provided to forces ashore by naval craft.

command and control craft.* Craft equipped to provide C2 facilities for field units and river assault craft.

counterterrorism. Offensive measures taken to prevent, deter, and respond to terrorism. Also called CT. (Joint Pub 1-02)

direct action mission. In special operations, a specified act involving operations of an overt, covert, clandestine or low visibility nature conducted primarily by a sponsoring power's special operations forces in hostile or denied areas. (Joint Pub 1-02).

direct action operations.** Short-duration strikes and other small scale offensive actions principally taken by special operations forces to seize, destroy, or inflict damage on a specified target; or to destroy, capture, or recover designated personnel or material. In the conduct of these operations, special operations forces may employ raid, ambush, or direct assault tactics; emplace mines and other munitions; conduct standoff attacks by fire from air, ground, or maritime platforms; provide terminal guidance for precision guided munitions; and conduct independent sabotage. Also called DA.

foreign internal defense. Participation by civilian and military agencies of a government in any of the action programs taken by another government to free and protect its society from subversion, lawlessness, and insurgency. (Joint PUB 1-02)

joint force. A general term applied to a force which is composed of significant elements of the Army, the Navy or the Marine Corps, and the Air Force, or two or more of these Services, operating under a single commander authorized to exercise unified command or operational control over joint forces. (Joint Pub 1-02)

joint force commander.** A general term applied to a commander authorized to exercise Combatant Command (command authority) or operational control over a joint force. Also called JFC.

joint riverine force.* A joint or single-Service force trained and equipped to conduct riverine operations.

mini-armored troop carrier.* An assault support craft which provides troop transport, combat support, and combat service support to the assault elements of the MRF. Also called MATC.

mobile riverine base.* A group of ships, barges, and craft operating in a riverine area as a base for a joint riverine force, or elements thereof. Also called MRB.

naval special warfare.* A specific term describing a designated naval warfare specialty and covering operations generally accepted as being unconventional in nature, and in many cases, covert or clandestine in character. These operations include utilization of specially trained forces assigned to conduct unconventional warfare, psychological operations, beach and coastal reconnaissance, operational deception operations, counterinsurgency operations, coastal and river interdiction, and certain special tactical intelligence collection operations in addition to those intelligence functions normally retained for planning and conducting special operations in a hostile environment.

naval special warfare group.* The Navy organizations to which most naval special warfare forces are assigned for some operational and all administrative purposes. It consists of a group headquarters with command and control, communications, and support staff, SEAL teams, special boat squadrons and subordinate special boat units, and SEAL delivery vehicle teams. The group is the source of all deployed naval special warfare forces and administratively supports the naval special warfare units assigned to the theater CINCs. The group staff provides general operational direction and coordinates the activities of its subordinate units. A naval special warfare group is capable of task-organizing to meet a wide variety of requirements. Also called NSWG.

naval special warfare task group.* Elements that provide command, control, and communications for naval special warfare units deployed in support of fleet commanders, special operations commands of unified and subordinate unified commands, and joint special operations task forces. Also called NSWTG.

patrol boat, riverine.* A high speed, armed, and lightly armored patrol boat used to conduct riverine interdiction and surveillance operations. Also called PBR.

rally point. An area selected for regrouping of forces before continuing; it may be predesignated. Also RP.

riverine area. An inland or coastal area comprising both land and water, characterized by limited land lines of communication, with extensive water surface and/or inland waterways that provide natural routes for surface transportation and communications. (Joint Pub 1-02).

riverine assault craft.* A generic term applied to the family of riverine warfare craft. These craft include, but are not limited to: the patrol boat riverine, mini-armored troop carrier, landing craft utility, landing craft medium, landing craft air cushion, rubber raiding craft, rigid inflatable boat, and combat rubber raiding craft. The inventory may include specifically designed US built or indigenous craft. Also called RAC.

riverine assault support elements.* The assault craft elements of the mobile riverine force which provides combat support and combat service support to the assault elements of the riverine ground force.

riverine assault operations.* Those strike operations conducted in a riverine area.

riverine forces.* Forces specifically task organized, equipped, and trained to operate in and exploit the unique characteristics of a riverine area.

riverine landing area.* A segment of a waterway that includes one or more riverine landing sites. Both banks of the waterway may be included in the riverine landing area.

riverine landing point.* A point within a riverine landing site where one riverine assault craft can land.

riverine landing site.* A specified location along a waterway where one or more riverine craft can embark or disembark troops, supplies, or equipment.

riverine operation.** An operation conducted by forces organized to cope with and exploit the unique characteristics of a riverine area; to locate and destroy hostile forces; and/or to achieve or maintain control of the riverine area. Joint riverine operations combine ground, maritime, air and special operations, as appropriate, and are suited to the nature of the specific riverine area in which operations are to be conducted.

riverine patrol operation.* Maritime operation conducted in a riverine environment that typically includes surveillance, interdiction, blocking, and security, and is characterized by the primary employment of maritime forces.

sea-air-land team. A group of officers and individuals specially trained and equipped for conducting unconventional and paramilitary operations and to train personnel of allied nations in such operations including surveillance and reconnaissance in and from restricted waters, rivers, and coastal areas. Commonly referred to as SEAL team. (Joint Pub 1-02)

special boat detachment.* An element of a special boat unit, consisting of combatant craft and assigned crewmen. Also called SBD.

special boat squadron.* Naval command that operates assigned craft in support of naval special warfare operations as directed; develops, tests, and evaluates operational procedures, techniques, and equipment; improves and documents tactics in coastal and restricted water warfare; maintains assigned craft and crews in readiness to conduct or support naval special warfare; conducts coastal and riverine patrol and surveillance; conducts harassment and interdiction of maritime lines of communications; and conducts operations to assist in the training of fleet units in anti-patrol boat tactics. Special boat squadrons are an arm of the naval special warfare groups comprised of several commissioned special boat units, each with complementary warfare mission areas. Also called SPECBOATRON.

special boat unit.* Those US Navy forces organized, trained, and equipped to conduct or support naval special warfare and joint special operations with coastal and riverine patrol boats and other surface combatant craft designed primarily for special operations support. Also called SBU.

special operations. Operations conducted by specially trained, equipped, and organized DOD forces against strategic or tactical targets in pursuit of national military, political, economic, or psychological objectives. These operations may be conducted during periods of peace or hostilities. They may support conventional operations, or they may be prosecuted independently when the use of conventional forces is either inappropriate or infeasible (Joint Pub 1-02).

special reconnaissance operations.** Reconnaissance and surveillance actions conducted by special operations forces to obtain or verify, by visual observation or other collection methods, information concerning the capabilities, intentions, and activities of an actual or potential enemy, or to secure data concerning the meteorological, hydrographic, geographic, or demographic characteristics of a particular area. These operations include target acquisition, area assessment, and post-strike reconnaissance. Also called SR.

suppression of enemy air defenses. That activity which neutralizes, destroys or temporarily degrades enemy air defenses in a specific area by physical attack and/or electronic warfare. Also called SEAD. (Joint Pub 1-02)

tactical area of responsibility. A defined area of land for which responsibility is specifically assigned to the commander of the area as a measure for control of assigned forces and coordination of support. Commonly referred to as TAOR (Joint Pub 1-02).

unconventional warfare. A broad spectrum of military and paramilitary operations conducted in enemy-held, enemy-controlled, or politically sensitive territory. Unconventional warfare includes, but is not limited to, the interrelated fields of guerrilla warfare, evasion and escape, subversion, sabotage, and other operations of a low visibility, covert or clandestine nature. These interrelated aspects of unconventional warfare may be prosecuted singly or collectively by predominantly indigenous personnel, usually supported and directed in varying degrees by (an) external source(s) during all conditions of war or peace. (Joint Pub 1-02).

* Unless identified as extracted from Joint Pub 1-02, terminology herein is not standardized within the Department of Defense and is applicable only in the context of this document.

** Upon final approval of this publication, this term will be included in Joint Pub 1-02.

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